



stonebranch

Universal Controller 7.4.x

Triggers and Forecasts

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Triggers



Using Triggers



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The information on these pages also is located in the [Universal Controller 7.3.x Triggers and Calendars.pdf](#).

Triggers Overview

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Triggers

A trigger specifies times and/or events that trigger the launching of one or more tasks.

When a trigger is satisfied, Universal Controller launches the tasks specified in the trigger. Each trigger can have an unlimited number of tasks associated with it. All of the specified tasks are run each time the trigger is satisfied. If you want to specify dependencies such as "run Task B only if Task A fails," create a [Workflow](#), which is a series of inter-connected tasks.

A built-in [trigger variable](#) is available for returning the trigger name. Additional [built-in variables](#) are supported for specific trigger types.

Trigger Types

Trigger Type	Usage
--------------	-------

Agent File Monitor	Trigger one or more tasks based on the creation, deletion, or change of a file on a particular machine.
Application Monitor	Trigger one or more tasks based on the status of one or more application resources.
Composite	Trigger one or more tasks based on multiple file monitoring, task monitoring, variable monitoring, and/or email monitoring events.
Cron	Specify dates and times, using Cron syntax, at which a task will be triggered.
Email Monitor	Trigger one or more Email Monitor tasks.
Manual	Launch task(s) immediately, while setting or overriding the value of one or more user-defined variables specified in the task(s).
Task Monitor	Trigger one or more tasks based on the conditions specified in an associated Task Monitor task.
Temporary	Set up a one-time trigger for a task, based on a single date and time.
Time	Specify dates and times at which a task will be triggered.
Universal Monitor	Trigger one or more Universal Monitor tasks.
Variable Monitor	Trigger one or more tasks based on the conditions specified in an associated Variable Monitor task.

Creating a Trigger

There are multiple ways to create a trigger:

1. On the [All Triggers](#) or [Active Triggers](#) list, click the **New** drop-down list and select a trigger type. A Trigger Details pop-up displays that lets you enter / select information for a new trigger.
2. On the Triggers list for a specific [trigger type](#), click the **New** icon. A Trigger Details pop-up displays that lets you enter / select information for a new trigger.
3. In the empty (except for default values) [Trigger Details](#) that displays below the trigger list for a specific trigger type, enter / select information for a new trigger. If the Trigger Details displays information for an existing trigger, click the **New** button to clear the Trigger Details and enter / select information for a new trigger.
4. Create a [copy](#) of a trigger by clicking the **Copy** button in the Trigger Details and renaming the trigger.

For detailed information on creating a trigger for a specific trigger type, click that trigger type in the [Trigger Types](#) table, above.

All Triggers / Active Triggers Lists

To display a list of all currently defined triggers for all trigger types, from the [Automation Center](#) navigation pane select **Triggers > All Triggers**. The All Triggers list displays.

To display a list of all currently defined and enabled triggers for all trigger types, from the [Automation Center](#) navigation pane select **Triggers > Active Triggers**. The Active Triggers list displays.

Note

The All Triggers list and the Active Triggers list display the same columns of information about triggers.

Name	Type	Description	Enabled	Restriction Noun(s)	Restriction Qualifier(s)	Next Scheduled Time	Updated By	Updated
stonebranch-applicationmonitortrigger-01	Application Monitor		⊘	Day	Year		ops.admin	2014-06-13 14:49:14 -0400
stonebranch-applicationmonitortrigger-02	Application Monitor		⊘	Day	Year		ops.admin	2014-06-13 14:49:21 -0400
stonebranch-applicationmonitortrigger-03	Application Monitor		⊘	Day	Year		ops.admin	2014-06-13 14:49:26 -0400
stonebranch-applicationmonitortrigger-04	Application Monitor		⊘	Day	Year		ops.admin	2014-06-13 14:49:30 -0400
stonebranch-applicationmonitortrigger-05	Application Monitor		⊘	Day	Year		ops.admin	2014-06-13 14:49:34 -0400
stonebranch-compositetrigger-01	Composite		⊘	Day	Year		ops.admin	2016-03-04 14:36:09 -0500
stonebranch-compositetrigger-02	Composite		⊘	Day	Year		ops.admin	2015-06-17 15:31:47 -0400
stonebranch-compositetrigger-03	Composite		⊘	Day	Year		ops.admin	2015-06-15 15:20:15 -0400
stonebranch-compositetrigger-04	Composite		⊘	Day	Year		ops.admin	2015-06-15 15:20:25 -0400
stonebranch-compositetrigger-05	Composite		⊘	Day	Year		ops.admin	2015-06-15 15:20:42 -0400
stonebranch-crontrigger-01	Cron		⊘	Day	Year		keith.miller	2018-07-23 22:10:53 -0400
stonebranch-crontrigger-02	Cron		⊘	Day	Year		ops.admin	2014-06-13 14:25:57 -0400
stonebranch-crontrigger-03	Cron		⊘	Day	Year		keith.miller	2018-07-23 22:10:48 -0400
stonebranch-crontrigger-04	Cron		⊘	Day	Year		ops.admin	2014-06-13 14:26:06 -0400
stonebranch-crontrigger-05	Cron		⊘	Day	Year		ops.admin	2015-02-06 12:31:56 -0500
stonebranch-filemonitortrigger-01	Agent File Monitor		⊘	Day	Year		ops.admin	2016-04-19 00:40:41 -0400
stonebranch-filemonitortrigger-02	Agent File Monitor		⊘	Day	Year		ops.admin	2014-06-13 14:46:48 -0400
stonebranch-filemonitortrigger-03	Agent File Monitor		⊘	Day	Year		ops.admin	2014-06-13 14:46:53 -0400
stonebranch-filemonitortrigger-04	Agent File Monitor		⊘	Day	Year		ops.admin	2014-06-13 14:46:57 -0400
stonebranch-filemonitortrigger-05	Agent File Monitor		⊘	Day	Year		ops.admin	2015-02-06 12:33:28 -0500
stonebranch-manualtrigger-01	Manual		⊘	Day	Year		ops.admin	2016-04-18 14:11:35 -0400
stonebranch-manualtrigger-02	Manual		⊘	Day	Year		ops.admin	2016-04-18 14:11:35 -0400
stonebranch-manualtrigger-03	Manual		⊘	Day	Year		ops.admin	2014-06-13 14:44:44 -0400
stonebranch-manualtrigger-04	Manual		⊘	Day	Year		ops.admin	2014-06-13 14:44:48 -0400
stonebranch-manualtrigger-05	Manual		⊘	Day	Year		ops.admin	2014-06-13 14:44:52 -0400
stonebranch-manualtrigger-06	Manual		⊘	Day	Year		mdavis	2016-04-13 10:31:40 -0400
stonebranch-taskmonitortrigger-01	Task Monitor		⊙	Day	Year		ops.admin	2014-06-24 18:08:54 -0400
stonebranch-taskmonitortrigger-02	Task Monitor		⊘	Day	Year		ops.admin	2014-06-13 14:47:49 -0400
stonebranch-taskmonitortrigger-03	Task Monitor		⊘	Day	Year		ops.admin	2014-06-13 14:47:53 -0400
stonebranch-taskmonitortrigger-04	Task Monitor		⊘	Day	Year		ops.admin	2014-06-13 14:47:58 -0400
stonebranch-taskmonitortrigger-05	Task Monitor		⊘	Day	Year		ops.admin	2014-06-13 14:48:02 -0400
stonebranch-temporarytrigger-01	Temporary		⊘	Day	Year		ops.admin	2014-10-16 10:50:00 -0400
stonebranch-temporarytrigger-02	Temporary		⊘	Day	Year		ops.admin	2014-06-13 14:45:36 -0400
stonebranch-temporarytrigger-03	Temporary		⊘	Day	Year		ops.admin	2014-06-13 14:45:41 -0400

All Triggers / Active Triggers Lists Information

The following table provides a description of the default columns that display on the All Triggers and Active Triggers lists.

For information about customizing this list, including filtering, sorting, searching, and other list features, see [Record Lists](#).

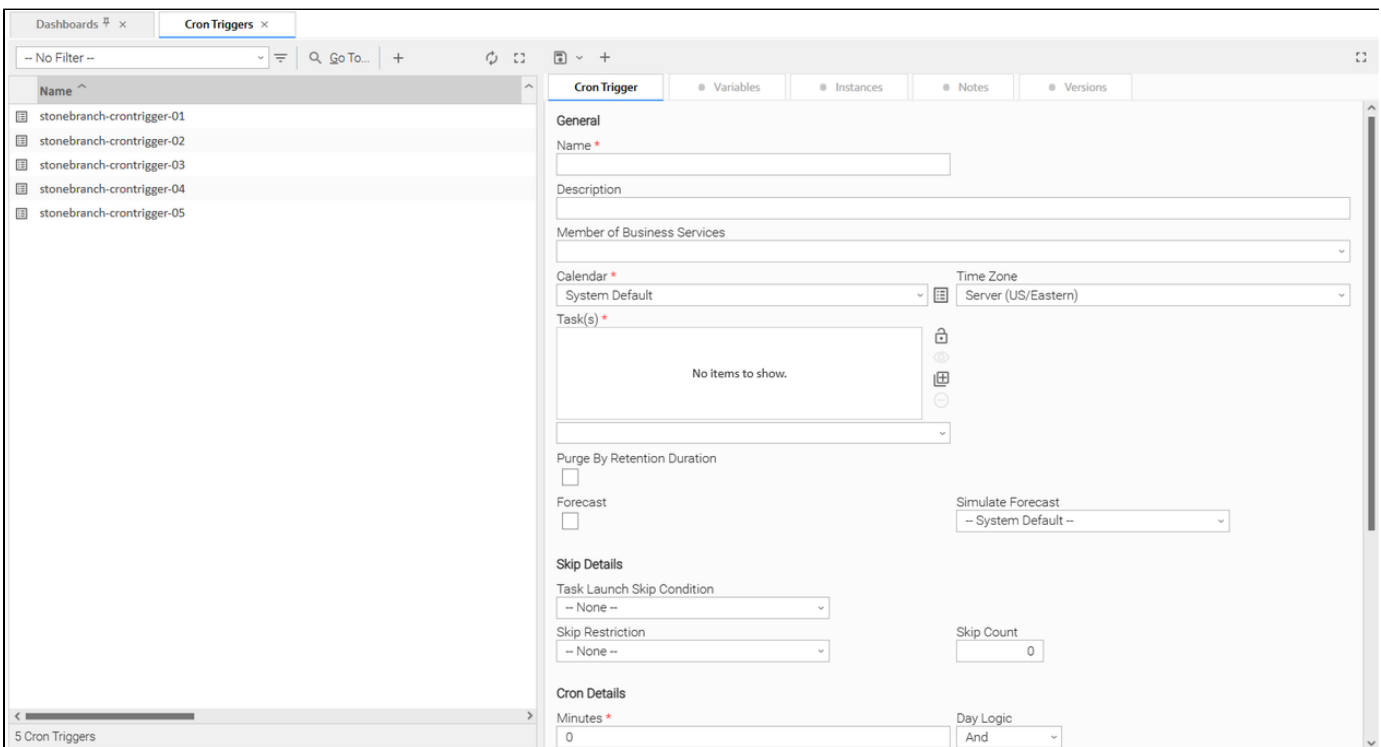
Column	Description
Name	Name used within the Controller to identify this trigger. It can contain a maximum of 255 alphanumeric characters. It is the responsibility of the user to develop a workable naming scheme for triggers.
Type	User-defined; type of trigger. Options: <ul style="list-style-type: none"> • Composite • CRON • Time • Temporary • Manual • Email Monitor • Agent File Monitor • Task Monitor • Variable Monitor • Application Monitor
Description	Description of this record. (Maximum = 255 characters.)
Next Scheduled Time	System-supplied; for time-based triggers. If Status = Enabled , the next date and time this trigger will be satisfied. See Displaying Trigger Forecast Information .

Enabled	<p>User-defined; indication of whether the trigger is enabled (checked) or disabled (not checked). The user enables and disables the trigger by clicking the Enable Trigger / Disable Trigger buttons. Only enabled triggers are processed by the Controller.</p> <div style="border: 1px solid #ccc; padding: 10px; margin: 10px 0;"> <p>Note If the Confirm Enable/Disable Trigger Command Universal Controller system property is set to yes, a confirmation pop-up displays if a user selects to enable or disable a trigger.</p> </div>
Updated By	User that triggered or last updated this trigger.
Updated	Date and time this trigger was triggered or last updated.

<Trigger Type> Triggers List

If you select **Triggers** > **<Trigger Type>** from the [Automation Center](#) navigation pane, a triggers list for that selected trigger type displays.

For example:



<Trigger Type> Triggers List Information

The default columns that display on a <Trigger Type> Triggers list are specific to that type of trigger.

Trigger Details

When you click the Details icon for a trigger in a Triggers List, the Trigger Details displays all currently defined information for that trigger.

Cron Trigger Details: stonebranch-contrigger-01
- [] x

Enable Trigger Now... List Qualifying Times...

Cron Trigger
Variables
Instances
Notes
Versions

General

Name * Version

Description

Member of Business Services

Calendar * Time Zone

Task(s) *

Purge By Retention Duration

Forecast Simulate Forecast

Status

Status

Disabled By Disabled Time

Skip Details

Task Launch Skip Condition

Skip Restriction Skip Count

Cron Details

Minutes * Day Logic

Hours *

Day of Month *

Month *

Day of Week *

Cron Criteria

Restrictions

Special Restriction

For information on Details for a specific trigger type, click the appropriate link in Trigger Types, above.

For information on how to access additional details - such as [Metadata](#) and complete [database Details](#) - for triggers (or any type of record), see [R records](#).

User-Defined Fields

You can define two fields that will display in the General Information section of the trigger Details for every existing and new task and task instance.

To define a user-defined field:

1. Enter a value in either (or both) of the following Universal Controller system properties:
[User Defined Trigger Field 1 Label](#)
[User Defined Trigger Field 2 Label](#)
2. To specify whether or not a user-defined field is required, enter a value in the appropriate Universal Controller system property:
[User Defined Trigger Field 1 Required](#)
[User Defined Trigger Field 2 Required](#)
3. Re-login or click your browser refresh button to see the field(s) in every trigger Details. In either case, all unsaved changes will be lost, including any open application tabs.

Note

The [Custom Field 1](#) and [Custom Field 2](#) built-in variables resolve to the current values of these user-defined fields.

URLs in User-Defined Fields

You can enter a URL in a user-defined field in any trigger Details. Format: [http://](#), [https://](#), and [ftp://](#) are supported. For example: <https://www.stonebranch.com>.

An icon, which links to the URL resource, will automatically display next to the field. If you select that user-defined field as a column in the triggers list for that trigger type, the URL displays as a link in that column for that trigger. When you click the field icon or the URL link in the column, the URL resource will open in a new browser tab.

Daylight Saving Time

For [Cron](#) and [Time](#) triggers, the Controller handles the switch to and from Daylight Saving Time as described below.

How the time change is handled differs between [interval-based times](#) (such as "every 15 minutes") and [absolute times](#) (such as "2:30 a.m.>").

Interval-Based Times

For interval-based time Cron and Time triggers, the behavior is the same.

When Time Moves Forward

An interval-based time Cron or Time trigger defined to run at a time that is being skipped due to the time change will also be "skipped," as shown in the following example; the time zone is Eastern (EST) and the time changes from 2 a.m. EST to 3 a.m. on March 12. In this case, the 15 minute interval trigger will run at the following times:

```
Sunday, March 12, 2017 00:00:00 EST -0500
Sunday, March 12, 2017 00:15:00 EST -0500
Sunday, March 12, 2017 00:30:00 EST -0500
Sunday, March 12, 2017 00:45:00 EST -0500
Sunday, March 12, 2017 01:00:00 EST -0500
Sunday, March 12, 2017 01:15:00 EST -0500
Sunday, March 12, 2017 01:30:00 EST -0500
Sunday, March 12, 2017 01:45:00 EST -0500
Sunday, March 12, 2017 03:00:00 EDT -0400
Sunday, March 12, 2017 03:15:00 EDT -0400
Sunday, March 12, 2017 03:30:00 EDT -0400
Sunday, March 12, 2017 03:45:00 EDT -0400
```

When Time Moves Back

A Time or Cron trigger defined to run at a time that is being repeated due to the time change will also be repeated, as shown in the following example; the time zone is Eastern (EST) and the time changes from 2 a.m. EST to 1 a.m. on November 5. In this case, the 15 minute interval trigger will run at the following times:

```

Sunday, November 05, 2017 00:00:00 EDT -0400
Sunday, November 05, 2017 00:15:00 EDT -0400
Sunday, November 05, 2017 00:30:00 EDT -0400
Sunday, November 05, 2017 00:45:00 EDT -0400
Sunday, November 05, 2017 01:00:00 EDT -0400
Sunday, November 05, 2017 01:15:00 EDT -0400
Sunday, November 05, 2017 01:30:00 EDT -0400
Sunday, November 05, 2017 01:45:00 EDT -0400
Sunday, November 05, 2017 01:00:00 EST -0500
Sunday, November 05, 2017 01:15:00 EST -0500
Sunday, November 05, 2017 01:30:00 EST -0500
Sunday, November 05, 2017 01:45:00 EST -0500
Sunday, November 05, 2017 02:00:00 EST -0500
Sunday, November 05, 2017 02:15:00 EST -0500
Sunday, November 05, 2017 02:30:00 EST -0500
Sunday, November 05, 2017 02:45:00 EST -0500
Sunday, November 05, 2017 03:00:00 EST -0500
Sunday, November 05, 2017 03:15:00 EST -0500
Sunday, November 05, 2017 03:30:00 EST -0500
Sunday, November 05, 2017 03:45:00 EST -0500

```

Absolute Times

For absolute time Cron and Time triggers, the behavior is different.

Cron Trigger

Basic Behavior

The behavior of the Cron trigger follows the standard Cron behavior as described in the man page for Cron.

Each line has five time and date fields, followed by a user name if this is the system `crontab` file, followed by a command. Commands are executed by `cron(8)` when the minute, hour, and month of year fields match the current time, and at least one of the two day fields (day of month, or day of week) match the current time. This means that non-existent times, such as "missing hours" during daylight saving conversion, will never match, causing jobs scheduled during the "missing times" not to be run. Similarly, times that occur more than once (again, during daylight savings conversion) will cause matching jobs to be run twice.

When Time Moves Forward

A Cron trigger defined to run at a time that is being skipped due to the time change will also be skipped.

For example: A trigger is defined for every Sunday at 2:30 a.m. On March 12, 2017, the time changes from 2 a.m. EST to 3 a.m., so on March 12 the 2:30 a.m. run is skipped and runs the following Sunday at 2:30 a.m.

When Time Moves Back

A Cron trigger defined to run at a time that is being repeated due to the time change will also be repeated.

For example: A trigger is defined for every Sunday at 1:30 a.m. On November 5, 2017, the time changes from 2 a.m. EDT to 1 a.m., so on November 5 the 1:30 a.m. run is repeated, as shown below:

```

Sunday, November 05, 2017 01:30:00 EDT -0400
Sunday, November 05, 2017 01:30:00 EST -0500

```

Time Trigger

When Time Moves Forward

A Time trigger defined to run at a time that is being skipped due to the time change will run as though the time did not change; however, the recorded run time will be one hour later.

For example: A trigger is defined for every Sunday at 2:30 a.m. On March 12, 2017, the time changes from 2 a.m. EST to 3 a.m. EST, so on March 12 the 2:30 a.m. run fires at 3:30. The following Sunday, and henceforth, it runs at 2:30 a.m., as shown below:

```
Sunday, March 05, 2017 02:30:00 EST -0500
Sunday, March 12, 2017 03:30:00 EDT -0400
Sunday, March 19, 2017 02:30:00 EDT -0400
Sunday, March 26, 2017 02:30:00 EDT -0400
```

When Time Moves Back

A Time trigger defined to run at a time that is being repeated due to the time change will not be repeated.

For example: A trigger is defined for every Sunday at 1:30 a.m. On November 5, 2017, the time changes from 2 a.m. EDT to 1 a.m. EST, so on November 5 the 1:30 a.m. run fires once, as shown below:

```
Sunday, October 29, 2017 01:30:00 EDT -0400
Sunday, November 05, 2017 01:30:00 EDT -0400
Sunday, November 12, 2017 01:30:00 EST -0500
Sunday, November 19, 2017 01:30:00 EST -0500
Sunday, November 26, 2017 01:30:00 EST -0500
```

Additional Information

The following pages provide additional information for triggers:

- [Enabling and Disabling Triggers](#)
- [Copying Triggers](#)
- [Triggering with Variables](#)
- [Triggering by Date and Time](#)
- [Displaying Trigger Forecast Information](#)

Cron Trigger

- [Overview](#)
- [Cron Syntax](#)
 - [Cron Fields](#)
 - [Cron Special Characters](#)
 - [Cron Criteria Examples](#)
- [Creating a Cron Trigger](#)
 - [Cron Trigger Details](#)
- [Scheduling a Time Interval](#)
- [Generating a List of Qualifying Times](#)

Overview

The Cron trigger, similar to the [Time trigger](#), allows you to specify dates and times at which a task will be triggered.

With both Cron and Time triggers, you can define:

- Simple date and times, such as "every weekday at 12:00 a.m."
- Specific dates and times, such as "March 15 at 12:00 a.m."
- A series of dates and times, such as "every Friday at every hour."
- A mixture of specific dates/times and a series, such as "every Monday at 9 a.m."
- Complex dates and times, such as "every 3 hours between 8 a.m. and 5 p.m. on the last business day of the year."

(Read [Daylight Saving Time](#) for details about how Universal Controller handles Daylight Saving Time.)

It is recommended that you use a Cron trigger, rather than a Time trigger, if you want to schedule non-standard time intervals for a triggering a task (see [Cron Trigger#Scheduling a Time Interval](#), below).

Cron Syntax

The Cron trigger uses standard Cron syntax. Once the Cron trigger is entered into the system, the Controller interprets it and processes it as it would any other trigger. The trigger is satisfied when the current date and time match all the values specified in the Minutes, Hours, Day of Month, Month, and Day of Week fields.

Cron Fields

The following table identifies the allowed values for the time and date fields that are used to specify the Cron Criteria in the Cron Trigger Details.

Field Name	Required	Allowed Values	Allowed Special Characters
Minutes	Yes	0-59	*/,-
Hours	Yes	0-23	*/,-
Day of Month	Yes	1-31	*/,-
Month	Yes	1-12 or JAN-DEC	*/,-
Day of Week	Yes	0-7 or SUN (0 or 7)-SAT	*/,-

Note

The day when a Cron trigger launches can be specified by two fields: [Cron Trigger#Day of Month](#) and [Cron Trigger#Day of Week](#). If both fields are restricted (that is, they both are not *), the trigger launches based on the [Cron Trigger#Day Logic](#) field value. If [Cron Trigger#Day Logic](#) is set to **Or**, when either Day field matches, the trigger can launch. For example: 30 4 1,20 * 5 would cause the trigger to launch at 4:30 a.m. on the 1st and 20th of each month, as well as on every Friday. If, however, [Cron Trigger#Day Logic](#) is set to **And**, the trigger would launch at 4:30 a.m. only on days that are the 1st or 20th which are also a Friday.

Cron Special Characters

Asterisk (*)	An asterisk indicates that the expression matches for all values of the field. For example, using * in the Month field indicates every month.
Slash (/)	A slash describes an increment of ranges. For example, 5-50/15 in the Minutes field indicate the fifth minute of the hour and every 15 minutes thereafter until the 50th minute (5,20,35,50).
Hyphen (-)	Defines a range of numbers, which are two numbers separated by a hyphen. The specified range is inclusive. For example, 9-17 in the Hours field means from 9 a.m. to 5 p.m., inclusive.
Comma (,)	Separates items in a list. A list is a set of numbers or ranges separated by commas. For example, 1,5-9,18-20 in the Hours field indicate the following hours 1,5,6,7,8,9,18,19,20.

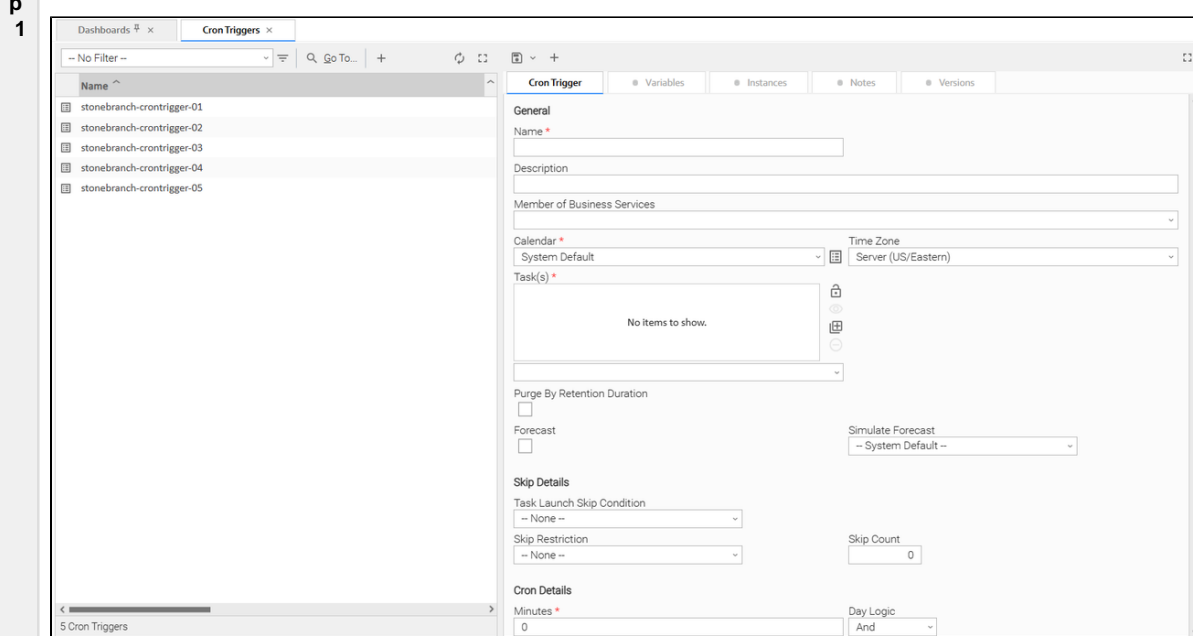
Cron Criteria Examples

Cron Criteria	Description
0 3 30 4,6,9,11 5	At 3 a.m. on the 30th of the month, for months with exactly 30 days, if the 30th is a Friday.
0 3 31 * 0	At 3 a.m. on the 31st of the month if the 31st is a Sunday.
0 3 22-28 * 0	At 3 a.m. on the 4th Sunday of every month.
0 5-19/7 * * *	Every 7 hours between 5 a.m. and 7 p.m., daily.
0 5,12,19 * * 1,3	Every 7 hours between 5 a.m. to 7 p.m. on Monday and Wednesday.
0 9-17 * * Mon-Fri	Every hour between 9 a.m. and 5 p.m. from Monday to Friday.
0 2-11/3 * * *	Every 3 hours between 2 a.m. and 11 a.m., daily.
0 3 29 2 *	At 3 a.m. on February 29th.
30 1-3,17 * * 1,3,5	At 30 minutes past the hours of 1 a.m., 2 a.m., 3 a.m., and 5 p.m. on Monday, Wednesday, and Friday.

Creating a Cron Trigger

S From the [Automation Center](#) navigation pane, select **Triggers > Cron Triggers**. The Cron Triggers list displays.


t To the right of the list, Cron Trigger Details for a new Cron trigger displays.




S Enter/select Details for a new Cron trigger, using the [field descriptions](#) below as a guide.

- t**
- Required fields display an asterisk (*) after the field name.
 - Default values for fields, if available, display automatically.

e To display more of the Details fields on the screen, you can either:

- p**
- Use the scroll bar.
 - Temporarily [hide the list](#) above the Details.
 - Click the  button above the list to display a pop-up version of the Details.

S Click a  button. The trigger is added to the database, and all buttons and tabs in the Trigger Details are enabled.

t [Enable the trigger\(s\)](#) as desired.

e

p

3

S

t

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p

4

Note

To [open](#) an existing record on the list, either:

- Click a record in the list to display its record Details below the list. (To clear record Details below the list, click the **New** button that displays above and below the Details.)
- Clicking the [Details icon](#) next to a record name in the list, or right-click a record in the list and then click **Open** in the [Action menu](#) that displays, to display a pop-up version of the record Details.
- Right-click a record in the a list, or open a record and right-click in the record Details, and then click **Open In Tab** in the [Action menu](#) that displays, to display the record Details under a new tab on the record list page (see [Record Details as Tabs](#)).

Cron Trigger Details

The following Cron Trigger Details is for an existing Cron trigger. See the [field descriptions](#), below, for a description of the fields that display in the Cron Trigger Details.

Cron Trigger Details: stonebranch-contrigger-01

Enable Trigger Now... List Qualifying Times...

Cron Trigger Variables Instances Notes Versions

General

Name * stonebranch-contrigger-01 Version 14

Description

Member of Business Services

Calendar * System Default Time Zone Server (US/Eastern)

Task(s) * stonebranch-windowstask-01

Purge By Retention Duration

Forecast Simulate Forecast -- System Default --

Status

Status Disabled

Disabled By Disabled Time

Skip Details

Task Launch Skip Condition Active

Skip Restriction -- None -- Skip Count 0

Cron Details

Minutes * 0 Day Logic And

Hours * 20

Day of Month * *

Month * *

Day of Week * *

Cron Criteria 0 20 ***

Restrictions

Special Restriction

Cron Trigger Details Field Descriptions

The following table describes the fields, buttons, and tabs that display in the Cron Trigger Details.

Field Name	Description
General	This section contains general information about the trigger.
Name	Name used within the Controller to identify this trigger. It can contain a maximum of 255 alphanumeric characters. It is the responsibility of the user to develop a workable naming scheme for triggers.
Version	System-supplied; version number of the current record, which is incremented by the system every time a user updates a record. Click the Versions tab to view previous versions. For details, see Record Versioning .
Description	Description of this record. (Maximum = 255 characters.)
Member of Business Services	User-defined; Allows you to select one or more Business Services that this record belongs to. (You also can Check All or Uncheck All Business Services for this record.) You can select up to 62 Business Services for any record type, and enter a maximum of 2048 characters for each Business Service. If the Business Service Visibility Restricted Universal Controller system property is set to true, depending on your assigned (or inherited) Permissions or Roles , Business Services available for selection may be restricted.
Calendar	Calendar that defines the business days, holidays, and other special days that determine the run dates for the task(s) specified in the trigger. Select a Calendar from the drop-down list of all existing Calendars. To display detailed information about a selected calendar, click the Details icon next to the Calendar field.
Time Zone	User-defined; allows you to specify the time zone that will be applied to the time(s) specified in the trigger. For example, if you specify 23:00 and a time zone of Canada/Central, the task will run at 11:00 p.m. Central Canada time.
Task(s)	Name of the task(s) being triggered when this trigger is satisfied. When selecting tasks from the Details, click on the lock icon to unlock the field and select tasks .
Purge By Retention Duration	Specification for whether triggered task instances can be purged by retention duration .
Exclude Backup	If Purge By Retention Duration is selected; Specification for whether qualifying task instances can be excluded from the backup when being purged by retention duration.
Retention Duration	If Purge By Retention Duration is selected; Minimum retention duration for the selected Retention Duration Unit before triggered task instances can qualify for purge. If Retention Duration Unit = Days, valid values are 1 to 366. If Retention Duration Unit = Hours, valid values are 1 to 24.
Retention Duration Unit	If Purge By Retention Duration is selected; Retention duration unit. Options: <ul style="list-style-type: none"> • Hours • Days

Execution User	Read-only; Execution user that has been selected (via the Assign Execution User action) to override the execution user of task instances being launched by the trigger.
Forecast	<p>If checked, the Controller calculates the date and time when this trigger will be satisfied for the next number of days, as specified in the Forecast Period In Days Universal Controller system property.</p> <p>The Controller writes the forecasting entries to the Forecasts List.</p> <div style="border: 1px solid #FFD700; padding: 10px; margin-top: 10px;"> <p>Note If this field is checked on a trigger and the trigger is promoted, it will not be checked for that trigger on the target system.</p> </div>
Simulate Forecast	<p>Enables the override of the System Default Trigger Simulate Forecast Universal Controller system property specification for whether or not to simulate forecasting of a trigger. By enabling trigger forecast simulation, it allows you to enable a trigger to generate forecast records without the trigger launching the specified task(s) at the next scheduled time.</p> <p>Options:</p> <ul style="list-style-type: none"> • -- System Default -- <ul style="list-style-type: none"> • Use the system default for enabling / disabling trigger forecast simulation as specified by System Default Trigger Simulate Forecast. • True <ul style="list-style-type: none"> • Enable trigger forecast simulation. • False <ul style="list-style-type: none"> • Disable trigger forecast simulation. <p>At the next scheduled time the controller will only log a message similar to the following.</p> <div style="border: 1px solid #ADD8E6; padding: 5px; margin-top: 5px;"> <pre>Trigger simulation: Trigger [Time] "trigger-name" with id trigger-uuid launching task "task-name" with id task-uuid using trigger variables {...}. Next scheduled trigger time "Sat Apr 01 11:02:00 EDT 2023".</pre> </div>
Status	This section contains information about the current status of the trigger.
Status	System-defined; Specification for whether the trigger is Enabled or Disabled. The user enables and disables the trigger by clicking the Enable / Disable buttons. Only enabled triggers are processed by the Controller.
Next Scheduled Time	System-supplied; for time-based triggers. If Status = Enabled, the next date and time this trigger will be satisfied. See Displaying Trigger Forecast Information .
Enabled By	System-supplied. If Status = Enabled, ID of the user who most recently enabled this trigger.
Disabled By	System-supplied; If Status = Disabled, ID of the user who most recently disabled this trigger. (By default, all new triggers are disabled.)
Enabled Time	System-supplied. If Status = Enabled, Date and time that the trigger was enabled.
Disabled Time	System-supplied. If Status = Disabled, Date and time that the trigger was disabled.
Skip Details	This section contains detailed information about skipping the trigger.

<p>Task Launch Skip Condition</p>	<p>User-defined; Controls when launching a task for the trigger will be skipped.</p> <p>Default is the value of the Trigger Task Launch Skip Condition Default Universal Controller system property.</p> <p>Options:</p> <ul style="list-style-type: none"> • -- None -- Do not skip the task launch. • Active Skip the task launch if a previous instance is still active. • Active By Trigger Skip the task launch if a previous instance launched by the trigger is still active. <p>Task Launch Skip Condition is not applicable when using the Trigger Now... command and will be ignored.</p>
<p>Skip Restriction</p>	<p>User-defined; Specification for when this trigger should skip and not launch the task(s).</p> <p>Options:</p> <ul style="list-style-type: none"> • - - None - - No skip restrictions • Before Trigger will skip if the current date and time is before the specified Skip Before Date and Skip Before Time values. • After Trigger will skip if the current date and time is after the specified Skip After Date and Skip After Time values. • Span Trigger will skip if the date and time qualifies based upon the specified Skip After Date, Skip After Time, Skip Before Date, and Skip After Date values. <div style="border: 1px solid #f0e68c; padding: 10px; margin: 10px 0;"> <p>Note</p> <p>If Skip After Date and Skip After Time are prior to the Skip Before Date and Skip Before Time, the Span is a "between" period. In this case, if the triggered time is after the Skip After Date and Skip After Time as well as before the Skip Before Date and Skip Before Time, the Trigger will skip and not launch the configured Task(s).</p> <p>If the Skip Before Date and Skip Before Time are prior to the Skip After Date and Skip After Time, the Span is a "not between" period. In this case, if the triggered time is either after the Skip After Date and Skip After Time or before the Skip Before Date and Skip Before Time, then the trigger will skip and not launch the configured Task(s).</p> </div> <ul style="list-style-type: none"> • On Trigger will skip on any of the dates specified in the Skip Date List. <p>Default is - - None - -.</p>
<p>Skip Count</p>	<p>User-defined; Allows you to specify that the Controller should skip the next <i>N</i> times this task is triggered.</p> <p>Skip Count is not applicable when using the Trigger Now... command and will be ignored.</p>
<p>Skip Before Date</p>	<p>If Skip Restriction is Before or Span; Date before which the Trigger will skip.</p>
<p>Skip Before Time</p>	<p>If Skip Restriction is Before or Span; Time before which the Trigger will skip on the specified Skip Before Date.</p>
<p>Skip After Date</p>	<p>If Skip Restriction is After or Span; Date after which the Trigger will Skip.</p>
<p>Skip After Time</p>	<p>If Skip Restriction is After or Span; Time after which the Trigger will skip on the specified Skip After Date.</p>

Skip Date List	If Skip Restriction is On; List of dates on which the trigger will skip.
Cron Details	This section contains assorted detailed information about the trigger.
Minutes	Time in minutes, using standard Cron syntax.
Hours	Time in hours, using standard Cron syntax. (See also Daylight Saving Time .)
Day of Month	Day of the month, using standard Cron syntax.
Month	Required. Month, using standard Cron syntax.
Day of Week	Day of the week, using standard Cron syntax.
Cron Criteria	System-supplied; summary of the Cron specifications. Also displays in the Cron Criteria column on the Cron Triggers list .
Day Logic	Specification for whether to And the Day of Month with the Day of Week criteria or to Or the Day of Month with the Day of Week criteria.
Restrictions	This section specifies any restrictions that apply to the trigger.
Special Restriction	<p>Enable this field in order to specify additional parameters that tell the Controller how to handle exceptions, such as when the trigger is satisfied on a holiday or non-business day. You can specify simple and/or complex restrictions.</p> <p>For example, you can specify a Simple Restriction that disables the trigger if it is satisfied on a holiday identified in the calendar and/or a Complex Restriction that disables the trigger on the last business day of every month.</p>
Action	<p>If Special Restriction is enabled, allows you to select an action to take on a non-business day or holiday (see Situation field).</p> <p>Options:</p> <ul style="list-style-type: none"> • Do Not Trigger • Next Day (run on the next day) • Next Business Day (run on the next business day, as defined in the calendar) • Previous Day (run on the previous day) • Previous Business Day (run on the previous business day, as defined in the calendar)
Simple Restriction	If enabled, allows you to specify an action (see Action field) such as Do Not Trigger on a non-business day or holiday (see Situation field). For example, do not trigger on a non-business day.
Situation	<p>If Simple Restriction is enabled, allows you to select the situation that causes the system to initiate the action specified in the Action field.</p> <p>Options:</p> <ul style="list-style-type: none"> • On Non Business Day • On Holiday

Complex Restriction	If enabled, allows you to specify a set of parameters that determine one or more situations when this trigger should not be satisfied. Used in conjunction with the following fields: Restriction Mode , Restriction Adjective , Restriction Noun , Restriction Qualifier . For example, you may specify that you do not want to satisfy this trigger on the last business day of the year or the first day of each month.
Restriction Mode	If both Simple Restriction and Complex Restriction are enabled, specifies whether you want to use both restriction types (AND) or one or the other (OR). Options: <ul style="list-style-type: none">• And• Or
Restriction Adjective	If Complex Restriction is enabled, the type of selection. Options: <ul style="list-style-type: none">• Every• 1st• 2nd• 3rd• 4th• Last• Nth Example: The last business day of the month.
Restriction Noun(s)	If Complex Restriction is enabled, the day(s) you want to select. Options: <ul style="list-style-type: none">• Sunday through Saturday• Day• Business Day• Custom Day Example: The last Business Day and Sunday of the month.
Restriction Qualifier(s)	If Complex Restriction is enabled, the period(s) you are selecting from. Options: <ul style="list-style-type: none">• Jan - Dec• Month• Year• Week• Quarter• Custom period Example: The last Day of Quarter, Year, and January.
Restriction Nth Amount	If Restriction Adjective is Nth, allows you to specify the value of N. If Restriction Qualifier is Week, Restriction Nth Amount must be <= 7.
Metadata	This section contains Metadata information about this record.
UUID	Universally Unique Identifier of this record.
Updated By	Name of the user that last updated this record.
Updated	Date and time that this record was last updated.

Created By	Name of the user that created this record.
Created	Date and time that this record was created.
Buttons	This section identifies the buttons displayed above and below the Trigger Details that let you perform various actions.
Save	Saves a new task record in the Controller database.
Save & New	Saves a new record in the Controller database and redisplay empty Details so that you can create another new record.
Save & View	Saves a new record in the Controller database and continues to display that record.
New	Displays empty (except for default values) Details for creating a new record.
Update	Saves updates to the record.
Enable	Activates this trigger and writes your User ID to the Enabled By field.
Disable	Deactivates this trigger.
Trigger Now...	<p>Immediately triggers all the tasks specified in this trigger.</p> <p>Optionally, you also can select to:</p> <ul style="list-style-type: none"> • Launch the task(s) specified in the trigger with one or more variables. • Launch the task(s) specified in the trigger by a specified date and time. • Launch the task(s) specified in the trigger but place them in Held status; they will not run until they are released. <div style="border: 1px solid #f0e68c; padding: 10px; margin-top: 10px;"> <p>Note</p> <p>If you click Trigger Now... for an Enabled trigger that does not have an assigned Execution User, the trigger will launch its task(s) under the context of the Enabled By user.</p> <p>If you click Trigger Now... for a Disabled trigger that does not have an assigned Execution User, the trigger will launch its task(s) under the context of your user name and ID.</p> <p>If you click Trigger Now... for an Enabled or Disabled trigger that has an assigned Execution User, the trigger will launch its task(s) under the context of the assigned Execution User.</p> </div>
List Qualifying Times	Lets you generate a list of future dates and times that the trigger will trigger the specified task (see Generating a List of Qualifying Times , below).
Copy	Creates a copy of this trigger, which you are prompted to rename.
Delete	Deletes the current record.
Refresh	Refreshes any dynamic data displayed in the Details.
Close	For pop-up view only; closes the pop-up view of this trigger.
Tabs	This section identifies the tabs across the top of the Trigger Details that provide access to additional information about the trigger.

Variables	Lists all user-defined variables associated with this record; that is, variables that have been defined for this specific record.
Instances	Lists all task instances that were triggered directly by this trigger.
Notes	Lists all notes associated with this record.
Versions	Stores copies of all previous versions of the current record. See Record Versioning .

Scheduling a Time Interval

A Cron trigger lets you schedule a time interval for how often a task will be triggered. You also can select a time frame that restricts the time during which the trigger is active, so that a task will be triggered only at the time intervals within that time frame.


The time interval for a Cron trigger resets at the end of the day; when the 24-hour clock expires, the time interval count begins again at 12 a.m. on the next specified day. Therefore, if you select a time interval for multiple days, the task will be triggered at the same times each day.

Although you also can use a [Time trigger](#) to schedule a time interval for a task to be triggered on multiple days, you should use a Cron trigger if the time interval is not one by which the 24-hour clock is even divisible (2, 3, 4, 6, 8, and 12), such as in the [Cron criteria examples](#), above. Using a Time trigger to schedule this type of time interval could produce unexpected results, since the time interval for a Time trigger does not reset at the end of the day. It continues into the next day, regardless of the 24-hour clock (see [Scheduling a Time Interval with a Time Trigger](#)).

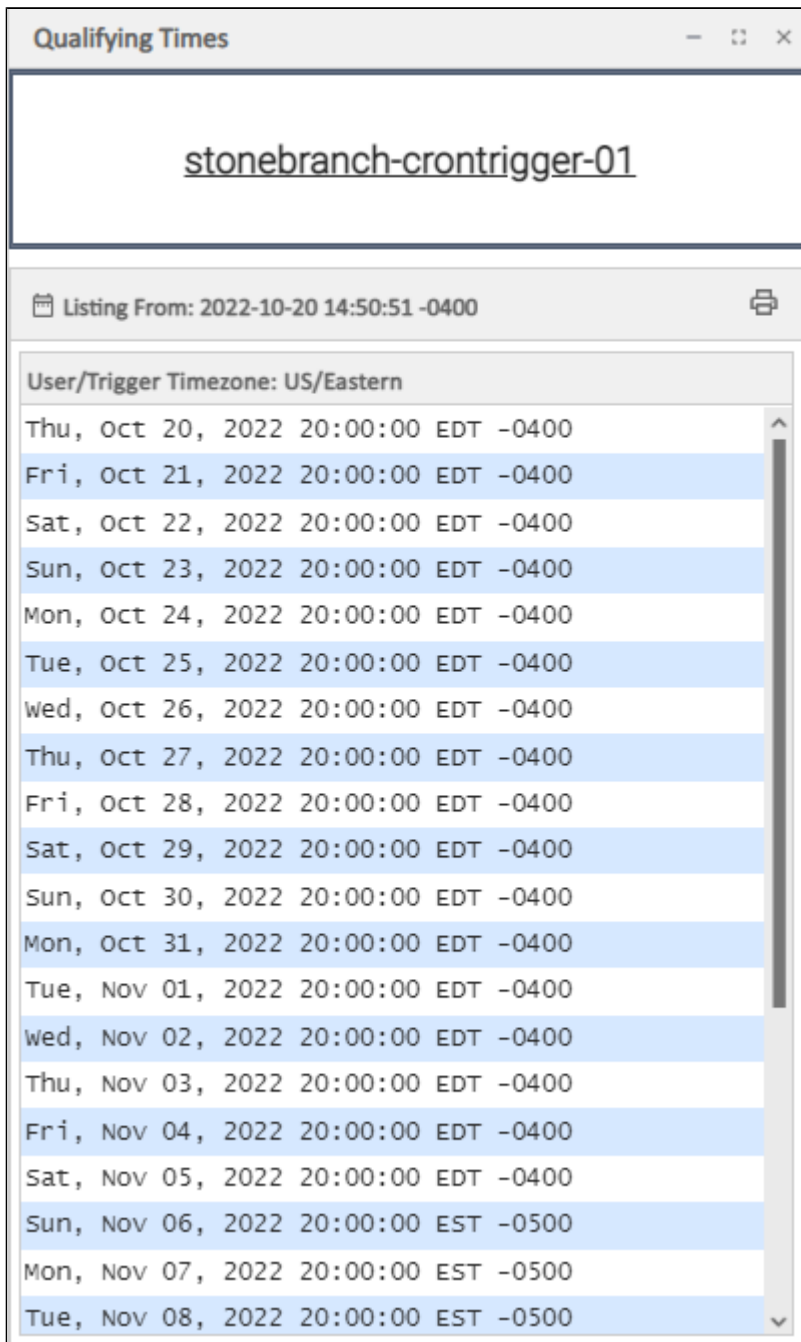
Conversely, if you want to trigger a task on multiple days at a time interval without regard to the time of day, and the interval is not one by which the 24-hour clock is even divisible, you must use a Time trigger, which will not reset at the end of the day. For example, if you want to trigger a task every 5 hours, from Monday to Friday, without regard to the time of day, a Time trigger will allow you to trigger the task on Monday at 12 a.m., 5 a.m., 10 a.m., 3 p.m., 8 p.m. and then next (5 hours later) on Tuesday at 1 a.m.. This time interval scheduling cannot be accomplished with a Cron trigger.

Generating a List of Qualifying Times

The Controller allows you to generate a list of future dates and times that a trigger will trigger the specified task.

Step 1	Click the Cron Trigger#List Qualifying Times button in the Cron Trigger Details. The List Qualifying Times Input dialog displays.
	
Step 2	Select a Number of Dates/Times (1 - 1000) that you want to list. The default is 30.
Step 3	Select a Start Date from when you want the list to begin.

Step 4 Click the **Submit** button to generate the list. For example:



The screenshot shows a window titled "Qualifying Times" with a close button. The main content area displays the identifier stonebranch-crontrigger-01. Below this, a status bar indicates "Listing From: 2022-10-20 14:50:51 -0400" with a printer icon. A table lists the qualifying times, with the header "User/Trigger Timezone: US/Eastern". The table contains 19 rows of data, alternating between white and light blue background colors. The times range from October 20, 2022, to November 8, 2022, at 20:00:00. The timezone changes from EDT to EST on November 6, 2022.

User/Trigger Timezone: US/Eastern	
Thu, Oct 20, 2022 20:00:00 EDT	-0400
Fri, Oct 21, 2022 20:00:00 EDT	-0400
Sat, Oct 22, 2022 20:00:00 EDT	-0400
Sun, Oct 23, 2022 20:00:00 EDT	-0400
Mon, Oct 24, 2022 20:00:00 EDT	-0400
Tue, Oct 25, 2022 20:00:00 EDT	-0400
wed, Oct 26, 2022 20:00:00 EDT	-0400
Thu, Oct 27, 2022 20:00:00 EDT	-0400
Fri, Oct 28, 2022 20:00:00 EDT	-0400
Sat, Oct 29, 2022 20:00:00 EDT	-0400
Sun, Oct 30, 2022 20:00:00 EDT	-0400
Mon, Oct 31, 2022 20:00:00 EDT	-0400
Tue, Nov 01, 2022 20:00:00 EDT	-0400
wed, Nov 02, 2022 20:00:00 EDT	-0400
Thu, Nov 03, 2022 20:00:00 EDT	-0400
Fri, Nov 04, 2022 20:00:00 EDT	-0400
Sat, Nov 05, 2022 20:00:00 EDT	-0400
Sun, Nov 06, 2022 20:00:00 EST	-0500
Mon, Nov 07, 2022 20:00:00 EST	-0500
Tue, Nov 08, 2022 20:00:00 EST	-0500

Time Trigger

- [Overview](#)
- [Creating a Time Trigger](#)
 - [Time Trigger Details](#)
 - [Time Trigger Details Field Descriptions](#)
- [Scheduling a Time Interval](#)
 - [Restrict Times](#)
- [Generating a List of Qualifying Times](#)

Overview

The Time trigger, similar to the [Cron trigger](#), allows you to specify dates and times at which a task will be triggered.

With both Time and Cron triggers, you can define:

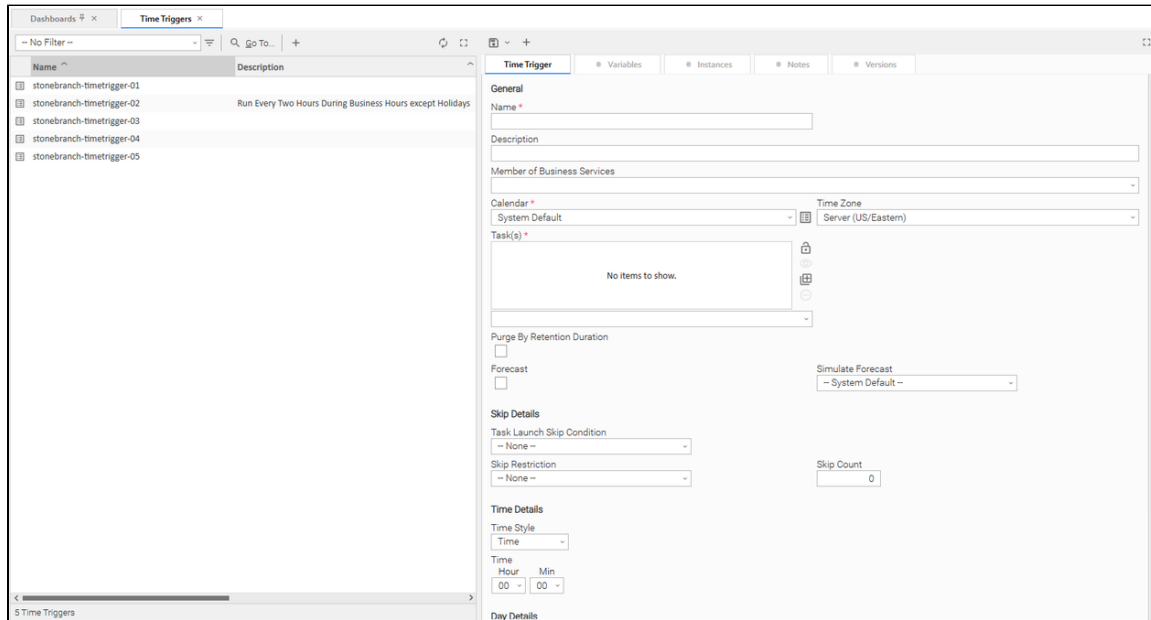
- Simple date and times, such as "every weekday at 12:00 a.m."
- Specific dates and times, such as "March 15 at 12:00 a.m."
- A series of dates and times, such as "every Friday at every hour."
- A mixture of specific dates/times and a series, such as "every Monday at 9 a.m."
- Complex dates and times, such as "every 3 hours between 8 a.m. and 5 p.m. on the last business day of the year."

(Read [Daylight Saving Time](#) for details about how Universal Controller handles Daylight Saving Time.)

If you want to schedule time intervals for triggering a task on multiple days, use the trigger type (Time or a Cron) that allows you to most accurately select the scheduling parameters (see [Time Trigger#Scheduling a Time Interval](#), below).

Creating a Time Trigger

- S** From the [Automation Center](#) navigation pane, select **Triggers > Time Triggers**. The Time Triggers list displays.
- t** To the right of the list, Time Trigger Details for a new Time trigger displays.
- e**
- p**
- 1**




Step 2


Enter/select Details for a new Time trigger, using the [field descriptions](#) below as a guide.

- Required fields display an asterisk (*) after the field name.
- Default values for fields, if available, display automatically.

To display more of the Details fields on the screen, you can either:

- Use the scroll bar.
- Temporarily [hide the list](#) above the Details.
- Click the  button above the list to display a pop-up version of the Details.

Step 3

Click a  button. The trigger is added to the database, and all buttons and tabs in the Trigger Details are enabled.

Step 4

[Enable the trigger\(s\)](#) as desired.

Note

To [open](#) an existing record on the list, either:

- Click a record in the list to display its record Details below the list. (To clear record Details below the list, click the **New** button that displays above and below the Details.)
- Clicking the [Details icon](#) next to a record name in the list, or right-click a record in the list and then click **Open** in the [Action menu](#) that displays, to display a pop-up version of the record Details.
- Right-click a record in the a list, or open a record and right-click in the record Details, and then click **Open In Tab** in the [Action menu](#) that displays, to display the record Details under a new tab on the record list page (see [Record Details as Tabs](#)).

Time Trigger Details

The following Time Trigger Details is for an existing Time trigger. See the [field descriptions](#) below for a description of the fields that display in the Time Trigger Details.

General

Name * stonebranch-timetrigger-01 Version 16

Description

Member of Business Services

Calendar * stonebranch-calendar-01 Time Zone Server (US/Eastern)

Task(s) * stonebranch-timertask-01 stonebranch-workflow-01

Purge By Retention Duration

Forecast Simulate Forecast -- System Default --

Status

Status Disabled Disabled By Disabled Time

Skip Details

Task Launch Skip Condition -- None -- Skip Restriction -- None -- Skip Count 0

Time Details

Time Style Time Time Hour 13 Min 00

Day Details

Day Style Simple Daily Business Days Specific Day(s) Tuesday

Restrictions

Special Restriction Simple Restriction Situation On Holiday Action Next Business Day Complex Restriction

Time Trigger Details Field Descriptions

The following table describes the fields, buttons, and tabs that display in the Time Trigger Details.

Field Name	Description
General	This section contains general information about the trigger.
Name	Name used within the Controller to identify this trigger. It can contain a maximum of 255 alphanumeric characters. It is the responsibility of the user to develop a workable naming scheme for triggers.
Version	System-supplied; version number of the current record, which is incremented by the system every time a user updates a record. Click the Versions tab to view previous versions. For details, see Record Versioning .
Description	Description of this record. (Maximum = 255 characters.)
Member of Business Services	User-defined; Allows you to select one or more Business Services that this record belongs to. (You also can Check All or Uncheck All Business Services for this record.) You can select up to 62 Business Services for any record type, and enter a maximum of 2048 characters for each Business Service. If the Business Service Visibility Restricted Universal Controller system property is set to true, depending on your assigned (or inherited) Permissions or Roles , Business Services available for selection may be restricted.
Calendar	Calendar that defines the business days, holidays, and other special days that determine the run dates for the task(s) specified in the trigger. Select a Calendar from the drop-down list of all existing Calendars. To display detailed information about a selected calendar, click the Details icon next to the Calendar field.
Time Zone	User-defined; allows you to specify the time zone that will be applied to the time(s) specified in the trigger. For example, if you specify 23:00 and a time zone of Canada/Central, the task will run at 11:00 p.m. Central Canada time.
Task(s)	Name of the task(s) being triggered when this trigger is satisfied. When selecting tasks from the Details, click on the lock icon to unlock the field and select tasks .
Purge By Retention Duration	Specification for whether triggered task instances can be purged by retention duration .
Exclude Backup	If Purge By Retention Duration is selected; Specification for whether qualifying task instances can be excluded from the backup when being purged by retention duration.
Retention Duration	If Purge By Retention Duration is selected; Minimum retention duration for the selected Retention Duration Unit before triggered task instances can qualify for purge. If Retention Duration Unit = Days, valid values are 1 to 366. If Retention Duration Unit = Hours, valid values are 1 to 24.

Retention Duration Unit	<p>If Purge By Retention Duration is selected; Retention duration unit.</p> <p>Options:</p> <ul style="list-style-type: none"> • Hours • Days
Execution User	<p>Read-only; Execution user that has been selected (via the Assign Execution User action) to override the execution user of task instances being launched by the trigger.</p>
Forecast	<p>If checked, the Controller calculates the date and time when this trigger will be satisfied for the next number of days, as specified in the Forecast Period In Days Universal Controller system property.</p> <p>The Controller writes the forecasting entries to the Forecasts List.</p> <div style="border: 1px solid #ccc; padding: 10px; margin-top: 10px;"> <p>Note If this field is checked on a trigger and the trigger is promoted, it will not be checked for that trigger on the target system.</p> </div>
Simulate Forecast	<p>Enables the override of the System Default Trigger Simulate Forecast Universal Controller system property specification for whether or not to simulate forecasting of a trigger.</p> <p>By enabling trigger forecast simulation, it allows you to enable a trigger to generate forecast records without the trigger launching the specified task(s) at the next scheduled time.</p> <p>Options:</p> <ul style="list-style-type: none"> • -- System Default -- <ul style="list-style-type: none"> • Use the system default for enabling / disabling trigger forecast simulation as specified by System Default Trigger Simulate Forecast. • True <ul style="list-style-type: none"> • Enable trigger forecast simulation. • False <ul style="list-style-type: none"> • Disable trigger forecast simulation. <p>At the next scheduled time the controller will only log a message similar to the following.</p> <div style="border: 1px solid #ccc; padding: 10px; margin-top: 10px;"> <pre>Trigger simulation: Trigger [Time] "trigger-name" with id trigger-uid launching task "task-name" with id task-uid using trigger variables {...}. Next scheduled trigger time "Sat Apr 01 11:02:00 EDT 2023".</pre> </div>
Status	<p>This section contains information about the current status of the trigger.</p>
Status	<p>System-defined; Specification for whether the trigger is Enabled or Disabled. The user enables and disables the trigger by clicking the Enable / Disable buttons. Only enabled triggers are processed by the Controller.</p>
Next Scheduled Time	<p>System-supplied; for time-based triggers. If Status = Enabled, the next date and time this trigger will be satisfied. See Displaying Trigger Forecast Information.</p>
Enabled By	<p>System-supplied. If Status = Enabled, ID of the user who most recently enabled this trigger.</p>
Disabled By	<p>System-supplied; If Status = Disabled, ID of the user who most recently disabled this trigger. (By default, all new triggers are disabled.)</p>
Enabled Time	<p>System-supplied. If Status = Enabled, Date and time that the trigger was enabled.</p>

Disabled Time	System-supplied. If Status = Disabled, Date and time that the trigger was disabled.
Skip Details	This section contains detailed information about skipping the trigger.
Task Launch Skip Condition	<p>User-defined; Controls when launching a task for the trigger will be skipped.</p> <p>Default is the value of the Trigger Task Launch Skip Condition Default Universal Controller system property.</p> <p>Options:</p> <ul style="list-style-type: none"> • -- None -- Do not skip the task launch. • Active Skip the task launch if a previous instance is still active. • Active By Trigger Skip the task launch if a previous instance launched by the trigger is still active. <p>Task Launch Skip Condition is not applicable when using the Trigger Now... command and will be ignored.</p>
Skip Restriction	<p>User-defined; Specification for when this trigger should skip and not launch the task(s).</p> <p>Options:</p> <ul style="list-style-type: none"> • -- None -- No skip restrictions • Before Trigger will skip if the current date and time is before the specified Skip Before Date and Skip Before Time values. • After Trigger will skip if the current date and time is after the specified Skip After Date and Skip After Time values. • Span Trigger will skip if the date and time qualifies based upon the specified Skip After Date, Skip After Time, Skip Before Date, and Skip After Date values. <div style="border: 1px solid #ccc; padding: 10px; margin: 10px 0;"> <p>Note</p> <p>If Skip After Date and Skip After Time are prior to the Skip Before Date and Skip Before Time, the Span is a "between" period. In this case, if the triggered time is after the Skip After Date and Skip After Time as well as before the Skip Before Date and Skip Before Time, the Trigger will skip and not launch the configured Task(s).</p> <p>If the Skip Before Date and Skip Before Time are prior to the Skip After Date and Skip After Time, the Span is a "not between" period. In this case, if the triggered time is either after the Skip After Date and Skip After Time or before the Skip Before Date and Skip Before Time, then the trigger will skip and not launch the configured Task(s).</p> </div> <ul style="list-style-type: none"> • On Trigger will skip on any of the dates specified in the Skip Date List. <p>Default is -- None --.</p>
Skip Count	<p>User-defined; Allows you to specify that the Controller should skip the next <i>N</i> times this task is triggered.</p> <p>Skip Count is not applicable when using the Trigger Now... command and will be ignored.</p>
Skip Before Date	If Skip Restriction is Before or Span; Date before which the Trigger will skip.
Skip Before Time	If Skip Restriction is Before or Span; Time before which the Trigger will skip on the specified Skip Before Date .
Skip After Date	If Skip Restriction is After or Span; Date after which the Trigger will Skip.

Skip After Time	If Skip Restriction is After or Span; Time after which the Trigger will skip on the specified Skip After Date .
Skip Date List	If Skip Restriction is On; List of dates on which the trigger will skip.
Time Details	This section contains assorted detailed information about the trigger.
Time Style	Specifies whether this trigger is for a specific time or a series of times. Options: <ul style="list-style-type: none"> • Time - Triggers the task at a specific time. <ul style="list-style-type: none"> • Required field: Time. • Time Interval - Triggers the task at specific intervals of times. <ul style="list-style-type: none"> • Required fields: Time Interval, Time Interval Units. • Optional fields: Enable Offset, Restrict Times.
Time	Required if Time Style = Time; time of the trigger in hours and minutes, using 24-hour time. For example, 01:45 means trigger the task at 1:45 a.m.; 13:45 means trigger the task at 1:45 p.m. (See also Daylight Saving Time .)
Time Interval	Required if Time Style = Time Interval; number of Time Interval Units . For example, for a Time Interval of every three hours, specify 3 in this field and select Hours in the Time Interval Units field. <div style="border: 1px solid #ccc; padding: 10px; margin: 10px 0;"> <p>Note See Time Trigger#Scheduling a Time Interval, below, for information on using a Time Trigger to schedule a time interval for triggering a task.</p> <p>Also see Time Trigger Minimum Frequency In Seconds Universal Controller system property to the define the minimum time interval that must be used.</p> </div>
Time Interval Units	Required if Time Style = Time Interval; Type of time interval. Used in conjunction with the Time Interval field. For example, for a Time Interval of every three hours, specify 3 in the Time Interval field and select Hours in this field. Options: <ul style="list-style-type: none"> • Seconds • Minutes • Hours
Enable Offset	If Time Style = Time Interval, allows you to define (in the Initial Time Offset field) a starting time, in minutes offset from the hour, for the trigger to run.
Initial Time Offset (hh:mm)	If Enable Offset is selected, allows you to define a starting time, in minutes offset from the hour. The default value (*) lets you select a starting hour (0 to 23) other than the next hour. For example: <ul style="list-style-type: none"> • If you want the task to run every 30 minutes at the :15 and :45 minute mark, you would select Time Interval = 30, Time Interval Units = minutes, and Initial Time Offset = *:15. • If you want the task to run every 30 minutes at the :15 and :45 minute mark starting at 6:15 p.m., you would select Time Interval = 30, Time Interval Units = minutes, and Initial Time Offset = 18:15.
Day Details	This section contains assorted detailed information about the trigger day.

<p>Day Style</p>	<p>Allows you to indicate when this trigger will be run:</p> <p>Options:</p> <ul style="list-style-type: none"> • Simple Trigger is run every day, on business days, or on one or more specific days, depending on what you select in the Daily, Business Days, and Specific Day(s) fields (see below). • Complex Trigger is run on one or more days selected by a formula specified using the Date Adjective, Date Noun(s), and Date Qualifier(s) fields (see below). • Every Trigger is run at an interval of a specified number of days (see Day Interval, below) starting on a specified date (see Interval Start, below).
<p>Daily</p>	<p>If Day Style = Simple, allows you to specify that the trigger is active every day of the week.</p>
<p>Business Days</p>	<p>If Day Style = Simple, allows you to specify that the trigger is active on the business days specified in the calendar selected in the Calendar field.</p>
<p>Specific Day(s)</p>	<p>If Day Style = Simple, allows you to specify one or more specific days of the week that the trigger is active in the calendar selected in the Calendar field.</p>
<p>Date Adjective</p>	<p>If Day Style = Complex, allows you to specify which in a series of days you want to select. Used in conjunction with the Date Noun(s) and the Date Qualifier(s) fields.</p> <p>For example, to specify "the 2nd Monday and Friday of January and December," select Date Adjective = Nth, Nth Amount = 2, Date Noun(s) = Monday, Friday, Date Qualifier(s) = Jan, Dec.</p> <p>Options:</p> <ul style="list-style-type: none"> • Every • 1st • 2nd • 3rd • 4th • Last • Nth
<p>Nth Amount</p>	<p>If Date Adjective = Nth, allows you to specify the value of N.</p>
<p>Date Noun(s)</p>	<p>If Day Style = Complex, allows you to specify the type of days that you want to select. Used in conjunction with the Date Adjective and the Date Qualifier(s) fields.</p> <p>For example, to specify "the 2nd Monday and Friday of January and December," select Date Adjective = Nth, Nth Amount = 2, Date Noun(s) = Monday, Friday, Date Qualifier(s) = Jan, Dec.</p> <p>This drop-down menu is populated as follows:</p> <ul style="list-style-type: none"> • Sunday through Saturday • Day = any day • Business Day = The business days specified in the calendar selected in the Calendar field. • Any Custom Days specified in the calendar selected in the Calendar field.

Date Qualifier(s)	<p>If Day Style = Complex, allows you to specify the period for your selection formula. Used in conjunction with the Date Noun(s) and Date Adjective fields.</p> <p>For example, to specify "the 2nd Monday and Friday of January and December," select Date Adjective = Nth, Nth Amount = 2, Date Noun(s) = Monday, Friday, Date Qualifier(s) = Jan, Dec.</p> <p>Options:</p> <ul style="list-style-type: none"> • January through December • Month • Year • Week • Quarter • Custom Period (see Creating Custom Days)
Date Adjustment	<p>If Day Style = Complex, allows you to adjust your date setting by a less or plus number of Days or Business Days.</p> <p>For example, to specify the 2nd to last day of the month (last day of the month less one day), select Date Adjective = Last, Date Noun(s) = Day, Date Qualifier(s) = Month, Date Adjustment = Less, Adjustment Amount = 1, and Adjustment Type = Day.</p> <p>Options:</p> <ul style="list-style-type: none"> • None • Less • Plus <p>Default is None.</p>
Adjustment Amount	<p>Required if Day Adjustment = Less or Plus; Allows you to specify the number of Days or Business Days to adjust your date setting. Maximum is 366. Default is 1.</p>
Adjustment Type	<p>If Day Adjustment = Less or Plus, allows you to specify the type of day by which to adjust your date setting.</p> <p>Options:</p> <ul style="list-style-type: none"> • Day • Business Day
Day Interval	<p>If Day Style = Every, allows you to specify the interval (in days) at which this trigger will run.</p>
Interval Start	<p>If Day Style = Every, allows you to specify the first day of the interval on which this trigger will run.</p>
Restrictions	<p>This section specifies any restrictions that apply to the trigger.</p>
Restrict Times	<p>If Time Style = Time Interval, period during which the trigger is active. Enable this field and specify the start and end times in the Enabled Start and Enabled End fields.</p>
Enabled Start	<p>If Restrict Times is enabled, allows you to specify the start time of the period during which the trigger should be active. Use 24-hour time.</p>
Enabled End	<p>If Restrict Times is enabled, allows you to specify the end time of the period during which the trigger should be active. Use 24-hour time.</p>
Adjust Interval To Enabled Start	<p>If Restrict Times is enabled; Specification for whether to always begin at the Enabled Start, regardless of the time interval, or to begin based on the actual interval. If Adjust Interval To Enabled Start is not selected, the start time and end time specify only the time frame/window during which the trigger is active; they do not modify the actual time interval (see Restrict Times).</p>

Special Restriction	<p>Enable this field in order to specify additional parameters that tell the Controller how to handle exceptions, such as when the trigger is satisfied on a holiday or non-business day. You can specify simple and/or complex restrictions.</p> <p>For example, you can specify a Simple Restriction that disables the trigger if it is satisfied on a holiday identified in the calendar and /or a Complex Restriction that disables the trigger on the last business day of every month.</p>
Simple Restriction	<p>If enabled, allows you to specify an action (see Action field) such as Do Not Trigger on a non-business day or holiday (see Situation field). For example, do not trigger on a non-business day.</p>
Situation	<p>If Simple Restriction is enabled, allows you to select the situation that causes the system to initiate the action specified in the Action field.</p> <p>Options:</p> <ul style="list-style-type: none"> • On Non Business Day • On Holiday
Action	<p>If Special Restriction is enabled, allows you to select an action to take on a non-business day or holiday (see Situation field).</p> <p>Options:</p> <ul style="list-style-type: none"> • Do Not Trigger • Next Day (run on the next day) • Next Business Day (run on the next business day, as defined in the calendar) • Previous Day (run on the previous day) • Previous Business Day (run on the previous business day, as defined in the calendar)
Complex Restriction	<p>If enabled, allows you to specify a set of parameters that determine one or more situations when this trigger should not be satisfied. Used in conjunction with the following fields: Restriction Mode, Restriction Adjective, Restriction Noun, Restriction Qualifier. For example, you may specify that you do not want to satisfy this trigger on the last business day of the year or the first day of each month.</p>
Restriction Mode	<p>If both Simple Restriction and Complex Restriction are enabled, specifies whether you want to use both restriction types (AND) or one or the other (OR).</p> <p>Options:</p> <ul style="list-style-type: none"> • And • Or
Restriction Adjective	<p>If Complex Restriction is enabled, the type of selection.</p> <p>Options:</p> <ul style="list-style-type: none"> • Every • 1st • 2nd • 3rd • 4th • Last • Nth <p>Example: The last business day of the month.</p>

Restriction on Noun(s)	<p>If Complex Restriction is enabled, the day(s) you want to select.</p> <p>Options:</p> <ul style="list-style-type: none"> • Sunday through Saturday • Day • Business Day • Custom Day <p>Example: The last Business Day and Sunday of the month.</p>
Restriction on Qualifier(s)	<p>If Complex Restriction is enabled, the period(s) you are selecting from.</p> <p>Options:</p> <ul style="list-style-type: none"> • Jan - Dec • Month • Year • Week • Quarter • Custom period <p>Example: The last Day of Quarter, Year, and January.</p>
Restriction on Nth Amount	<p>If Restriction Adjective is Nth, allows you to specify the value of N.</p> <p>If Restriction Qualifier is Week, Restriction Nth Amount must be ≤ 7.</p>
Metadata	This section contains Metadata information about this record.
UUID	Universally Unique Identifier of this record.
Updated By	Name of the user that last updated this record.
Updated	Date and time that this record was last updated.
Created By	Name of the user that created this record.
Created	Date and time that this record was created.
Buttons	This section identifies the buttons displayed above and below the Trigger Details that let you perform various actions.
Save	Saves a new task record in the Controller database.
Save & New	Saves a new record in the Controller database and redisplay empty Details so that you can create another new record.
Save & View	Saves a new record in the Controller database and continues to display that record.
New	Displays empty (except for default values) Details for creating a new record.
Update	Saves updates to the record.
Enable	Activates this trigger and writes your User ID to the Enabled By field.
Disable	Deactivates this trigger.

Trigger Now...	<p>Immediately triggers all the tasks specified in this trigger.</p> <p>Optionally, you also can select to:</p> <ul style="list-style-type: none"> • Launch the task(s) specified in the trigger with one or more variables. • Launch the task(s) specified in the trigger by a specified date and time. • Launch the task(s) specified in the trigger but place them in Held status; they will not run until they are released. <div style="border: 1px solid #f0e68c; padding: 10px; margin-top: 10px;"> <p>Note</p> <p>If you click Trigger Now... for an Enabled trigger that does not have an assigned Execution User, the trigger will launch its task(s) under the context of the Enabled By user.</p> <p>If you click Trigger Now... for a Disabled trigger that does not have an assigned Execution User, the trigger will launch its task(s) under the context of your user name and ID.</p> <p>If you click Trigger Now... for an Enabled or Disabled trigger that has an assigned Execution User, the trigger will launch its task(s) under the context of the assigned Execution User.</p> </div>
List Qualifying Times	<p>Lets you generate a list of future dates and times that the trigger will trigger the specified task (see Generating a List of Qualifying Times, below).</p>
Copy	<p>Creates a copy of this trigger, which you are prompted to rename.</p>
Delete	<p>Deletes the current record.</p>
Refresh	<p>Refreshes any dynamic data displayed in the Details.</p>
Close	<p>For pop-up view only; closes the pop-up view of this trigger.</p>
Tabs	<p>This section identifies the tabs across the top of the Trigger Details that provide access to additional information about the trigger.</p>
Variables	<p>Lists all user-defined variables associated with this record; that is, variables that have been defined for this specific record.</p>
Instances	<p>Lists all task instances that were triggered directly by this trigger.</p>
Notes	<p>Lists all notes associated with this record.</p>
Versions	<p>Stores copies of all previous versions of the current record. See Record Versioning.</p>

Scheduling a Time Interval

A Time trigger [time interval](#) lets you specify how often a task will be triggered, but for triggering a task on multiple days, you may not be able to specify the same time every day that the task will be triggered. This could produce unexpected results.

By default, a time interval count begins at 12 a.m.. If you schedule a time interval for a task to be triggered on multiple days, the task will be triggered at the first specified time interval, and then again whenever the time interval is reached. When the 24-hour clock expires, the time interval count does not reset to 12 a.m.; it continues into the next day. If the time interval is not one by which the 24-hour clock is even divisible (2, 3, 4, 6, 8, and 12), the task will be triggered at different times than on the first day.

Note

See [Daylight Saving Time](#) for information on how it impacts time intervals.

For example, if you want a task to be triggered at the same time every 4 hours from Monday to Friday, a Time trigger will trigger the task on Monday at 4 a.m., 8 a.m., 12 p.m., 4 p.m., 8 p.m., and Tuesday at 12 a.m.. 4 hours later, at 4 a.m. - it will again start triggering the task every 4 hours. Since the time interval (4) divides evenly into 24, the task is triggered at the same time every day, and results will be as expected.

However, if you want a task to be triggered every 7 hours from Monday to Friday, a Time trigger will trigger the task on Monday at 7 a.m., 2 p.m., and 9 p.m., and then - 7 hours later - Tuesday at 4 a.m. The time interval "rolls over" to the next day. It does not restart at 12:00 a.m. when the 24-hour clock expires, and so the task will not be triggered at the same time every day. The same results will occur if you use [Restrict Times](#), below, for the time interval.

Therefore, for scheduling time intervals by which the 24-hour clock is not evenly divisible, it is recommended that instead you use a [Cron trigger](#).

For example:

Time Details

Time Style

Time Interval Enable Offset

Time Interval Units

Restrict Times

If you are triggering a task on a time interval, the [Time Trigger#Restrict Times](#) field lets you select a time frame during which the trigger is active. The task will be triggered at the specified time interval only when the time interval occurs during the specified Restrict Times.

For example, if you want a task to be triggered every 4 hours from Monday to Friday and only between the hours of 8 a.m. (Enabled Start) and 7 p.m. (Enabled End), a Time trigger will check the time on Monday at 4 a.m., 8 a.m., 12 p.m., 4 p.m., 8 p.m., and Tuesday at 12 a.m., but only will trigger the task at 8:00 a.m., 12 p.m., and 4 p.m. (the only three 4-hour interval times between 8 a.m. and 7 p.m.). On Tuesday at 12 a.m., it will continue checking the time every 4 hours and will trigger the task at the same times it did on Monday.

However, if you want a task to be triggered every 7 hours from Monday to Friday and only between the hours of 8 a.m. and 7 p.m., a Time trigger will check the time on Monday at 12 a.m., 7 a.m., 2 p.m., and 9 p.m., but only will trigger the task at 2 p.m. (the only 7-hour interval time between 8 a.m. and 7 p.m.). On Monday at 9 p.m., it will continue checking the time every 7 hours, beginning on Tuesday at 4 a.m., and will trigger the task on Tuesday at 11 a.m. and 6 p.m. (both of which are 7-hour interval times between 8 a.m. and 7 p.m.).

For example:

Restrictions

Restrict Times

Enabled Start Adjust Interval To Enabled Start
Hour Min

Enabled End
Hour Min

Special Restriction

Generating a List of Qualifying Times

The Controller allows you to generate a list of future dates and times that a trigger will trigger the specified task.

Step 1 Click the [Time Trigger#List Qualifying Times](#) button in the Time Trigger Details. The List Qualifying Times Input dialog displays.



The screenshot shows a dialog box titled "List Qualifying Times...". Inside the dialog, there are two main sections. The first section is labeled "Number of Dates/Times" and contains a text input field with the number "30" entered. The second section is labeled "Start Date" and contains three dropdown menus: the first shows "2022", the second shows "Oct", and the third shows "20". To the right of the "20" dropdown is a small calendar icon. At the bottom center of the dialog is a "Submit" button.

Step 2 Select a Number of Dates/Times (1 - 1000) that you want to list. The default is 30.

Step 3 Select a Start Date from when you want the list to begin.

Step 4

Click the **Submit** button to generate the list. For example:

The screenshot shows a web application window titled "Qualifying Times". The main content area displays the text stonebranch-timettrigger-01. Below this, there is a section titled "Listing From: 2022-10-20 14:54:49 -0400" with a print icon. The main data area is titled "User/Trigger Timezone: US/Eastern" and contains a list of dates and times, alternating between light blue and white background colors. The list starts with "Tue, Oct 25, 2022 13:00:00 EDT -0400" and ends with "Tue, Mar 07, 2023 13:00:00 EST -0500".

User/Trigger Timezone: US/Eastern	
Tue, Oct 25, 2022 13:00:00 EDT -0400	
Tue, Nov 01, 2022 13:00:00 EDT -0400	
Tue, Nov 08, 2022 13:00:00 EST -0500	
Tue, Nov 15, 2022 13:00:00 EST -0500	
Tue, Nov 22, 2022 13:00:00 EST -0500	
Tue, Nov 29, 2022 13:00:00 EST -0500	
Tue, Dec 06, 2022 13:00:00 EST -0500	
Tue, Dec 13, 2022 13:00:00 EST -0500	
Tue, Dec 20, 2022 13:00:00 EST -0500	
Tue, Dec 27, 2022 13:00:00 EST -0500	
Tue, Jan 03, 2023 13:00:00 EST -0500	
Tue, Jan 10, 2023 13:00:00 EST -0500	
Tue, Jan 17, 2023 13:00:00 EST -0500	
Tue, Jan 24, 2023 13:00:00 EST -0500	
Tue, Jan 31, 2023 13:00:00 EST -0500	
Tue, Feb 07, 2023 13:00:00 EST -0500	
Tue, Feb 14, 2023 13:00:00 EST -0500	
Tue, Feb 21, 2023 13:00:00 EST -0500	
Tue, Feb 28, 2023 13:00:00 EST -0500	
Tue, Mar 07, 2023 13:00:00 EST -0500	

Manual Trigger

- [Overview](#)
- [Creating a Manual Trigger and Triggering One or More Tasks](#)
 - [Manual Trigger Details](#)
 - [Manual Trigger Details Field Descriptions](#)
- [Entering Variables](#)
 - [Using the Trigger with Variables Menu Option](#)
 - [Using the Variables Tab](#)

Overview

The Manual trigger allows you to launch a task immediately, while setting or overriding the value of one or more user-defined variables specified in the task.

Use a Manual trigger if you want to manually launch a task but cannot use the **Launch Task** or **Trigger Now** buttons because you have to set or override one or more variables. For example, you might choose to use a Manual trigger to launch a "generic" Workflow that you run occasionally with a slight variation in specific details. In this case, you will launch the Workflow and pass in the appropriate details using variables.

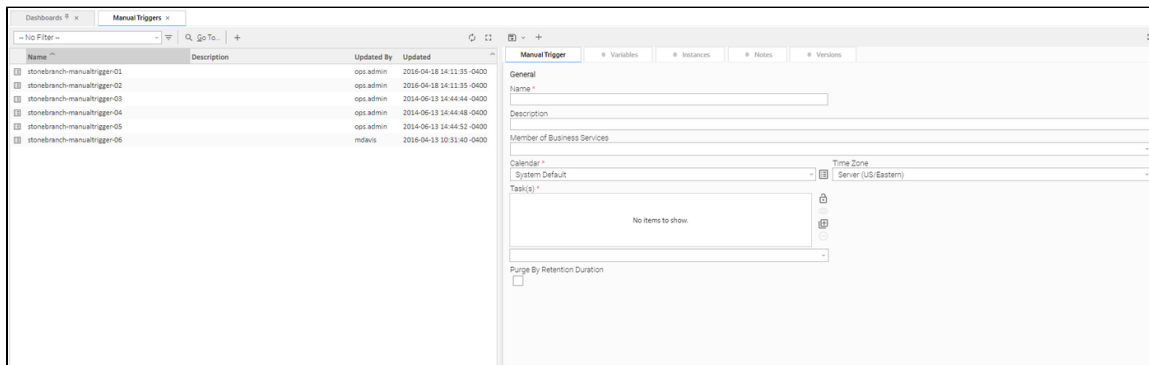
You can use the Manual trigger to set values to pre-existing variables or create new variables. The variable values you enter here override all others. However, the change in value only persists while this launched task instance(s) is running. Future executions of the task(s), unless they are launched by a Manual trigger, will use the [standard methods for resolving user-defined variables](#).

The audit message created when you use a Manual trigger is the same as **Trigger Now**.

Creating a Manual Trigger and Triggering One or More Tasks

Step 1 From the [Automation Center](#) navigation pane, select **Triggers > Manual Triggers**. The Manual Triggers list displays.


To the right of the list, Manual Trigger Details for a new Manual trigger displays.




Step 2 Enter/select Details for a new Manual trigger, using the [field descriptions](#) below as a guide.

- Required fields display an asterisk (*) after the field name.
- Default values for fields, if available, display automatically.

To display more of the Details fields on the screen, you can either:

- Use the scroll bar.
- Temporarily [hide the list](#) above the Details.
- Click the  button above the list to display a pop-up version of the Details.

Step 3 Click a  button. The trigger is added to the database, and all buttons and tabs in the Trigger Details are enabled.

Enable the trigger(s) as desired.

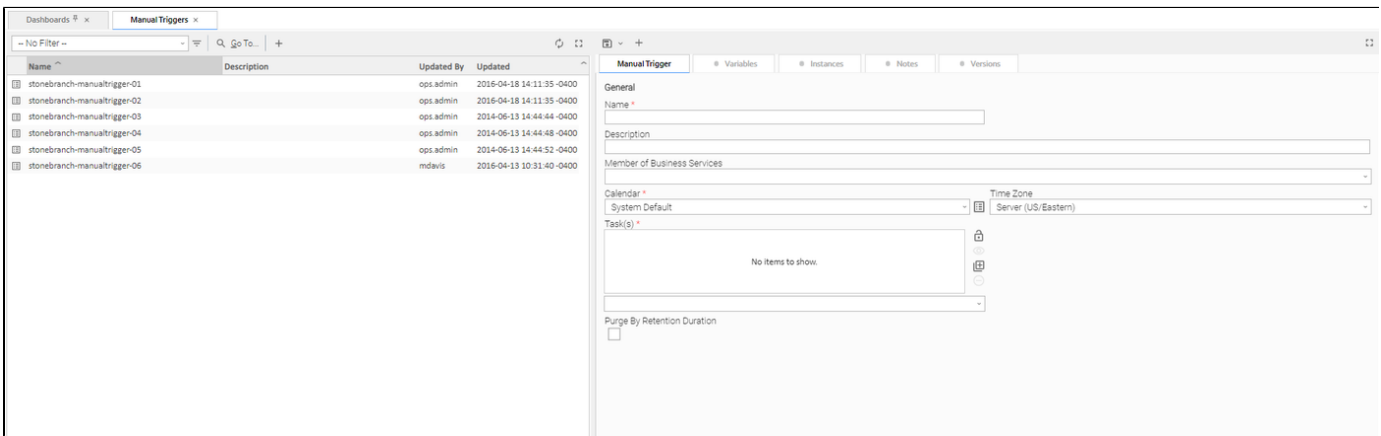
Note

To [open](#) an existing record on the list, either:

- Click a record in the list to display its record Details below the list. (To clear record Details below the list, click the **New** button that displays above and below the Details.)
- Clicking the [Details icon](#) next to a record name in the list, or right-click a record in the list and then click **Open** in the [Action menu](#) that displays, to display a pop-up version of the record Details.
- Right-click a record in the a list, or open a record and right-click in the record Details, and then click **Open In Tab** in the [Action menu](#) that displays, to display the record Details under a new tab on the record list page (see [Record Details as Tabs](#)).

Manual Trigger Details

The following Manual Trigger Details is for an existing Manual trigger. See the [field descriptions](#), below, for a description of the fields that display in the Manual Trigger Details.



Manual Trigger Details Field Descriptions

The following table describes the fields, buttons, and tabs that display in the Manual Trigger Details.

Field Name	Description
General	This section contains general information about the trigger.
Name	Name used within the Controller to identify this trigger. It can contain a maximum of 255 alphanumeric characters. It is the responsibility of the user to develop a workable naming scheme for triggers.
Version	System-supplied; version number of the current record, which is incremented by the system every time a user updates a record. Click the Versions tab to view previous versions. For details, see Record Versioning .
Description	Description of this record. (Maximum = 255 characters.)
Member of Business Services	User-defined; Allows you to select one or more Business Services that this record belongs to. (You also can Check All or Uncheck All Business Services for this record.) You can select up to 62 Business Services for any record type, and enter a maximum of 2048 characters for each Business Service.

	If the Business Service Visibility Restricted Universal Controller system property is set to true, depending on your assigned (or inherited) Permissions or Roles , Business Services available for selection may be restricted.
Calendar	<p>Calendar that defines the business days, holidays, and other special days that determine the run dates for the task(s) specified in the trigger.</p> <p>Select a Calendar from the drop-down list of all existing Calendars. To display detailed information about a selected calendar, click the Details icon next to the Calendar field.</p>
Time Zone	User-defined; allows you to specify the time zone that will be applied to the time(s) specified in the trigger. For example, if you specify 23:00 and a time zone of Canada/Central, the task will run at 11:00 p.m. Central Canada time.
Task(s)	Name of the task(s) being triggered when this trigger is satisfied. When selecting tasks from the Details, click on the lock icon to unlock the field and select tasks .
Purge By Retention Duration	Specification for whether triggered task instances can be purged by retention duration .
Exclude Backup	If Purge By Retention Duration is selected; Specification for whether qualifying task instances can be excluded from the backup when being purged by retention duration.
Retention Duration	<p>If Purge By Retention Duration is selected; Minimum retention duration for the selected Retention Duration Unit before triggered task instances can qualify for purge.</p> <p>If Retention Duration Unit = Days, valid values are 1 to 366.</p> <p>If Retention Duration Unit = Hours, valid values are 1 to 24.</p>
Retention Duration Unit	<p>If Purge By Retention Duration is selected; Retention duration unit.</p> <p>Options:</p> <ul style="list-style-type: none"> • Hours • Days
Execution User	Read-only; Execution user that has been selected (via the Assign Execution User action) to override the execution user of task instances being launched by the trigger.
Metadata	This section contains Metadata information about this record.
UUID	Universally Unique Identifier of this record.
Updated By	Name of the user that last updated this record.
Updated	Date and time that this record was last updated.
Created By	Name of the user that created this record.
Created	Date and time that this record was created.
Buttons	This section identifies the buttons displayed above and below the Trigger Details that let you perform various actions.
Save	Saves a new task record in the Controller database.
Save & New	Saves a new record in the Controller database and redisplay empty Details so that you can create another new record.
Save & View	Saves a new record in the Controller database and continues to display that record.

New	Displays empty (except for default values) Details for creating a new record.
Update	Saves updates to the record.
Trigger Now	<p>Immediately triggers all the tasks specified in this trigger.</p> <p>Optionally, you also can select to:</p> <ul style="list-style-type: none"> • Launch the task(s) specified in the trigger with one or more variables. • Launch the task(s) specified in the trigger by a specified date and time. • Launch the task(s) specified in the trigger but place them in Held status; they will not run until they are released. <div style="border: 1px solid #f0e68c; padding: 10px; margin-top: 10px;"> <p>Note</p> <p>If you click Trigger Now... for an Enabled trigger that does not have an assigned Execution User, the trigger will launch its task(s) under the context of the Enabled By user.</p> <p>If you click Trigger Now... for a Disabled trigger that does not have an assigned Execution User, the trigger will launch its task(s) under the context of your user name and ID.</p> <p>If you click Trigger Now... for an Enabled or Disabled trigger that has an assigned Execution User, the trigger will launch its task(s) under the context of the assigned Execution User.</p> </div>
Copy	Creates a copy of this trigger, which you are prompted to rename.
Delete	Deletes the current record.
Refresh	Refreshes any dynamic data displayed in the Details.
Close	For pop-up view only; closes the pop-up view of this trigger.
Tabs	This section identifies the tabs across the top of the Trigger Details that provide access to additional information about the trigger.
Variables	Lists all user-defined variables associated with this record; that is, variables that have been defined for this specific record.
Instances	Lists all task instances that were triggered directly by this trigger.
Notes	Lists all notes associated with this record.
Versions	Stores copies of all previous versions of the current record. See Record Versioning .

Entering Variables

Two methods are available for entering variables:

1. Use the **Trigger With Variables Action menu** item.
2. Use the **Variables** tab and **Trigger Now** button.

If you want to preserve information about the variables you are setting or overriding (the name and value), or if you want to specify default values, use the Variables tab. If you set up a Manual trigger with default values in the Variables tab, any values you set using the Trigger With Variables popup window override the values in the Variables tab. Each method is described below.

Using the Trigger with Variables Menu Option

S t e p 1	Select a trigger from the Manual Triggers list.
S t e p 2	Access the Action menu .
S t e p 2	Select Trigger Now With Variables . A Trigger Now pop-up window displays that lets you set or override the values of up to 10 variables that will be used in the execution of the task(s) named in the Manual trigger. These can be existing or new variables. Any existing variables are automatically populated in the window.
S t e p 3	Click Submit to launch the tasks named in the trigger. The variable information in the Trigger Now pop-up is passed into the task instance (s) where referenced and the contents of the pop-up are deleted.

Using the Variables Tab

Step 1	Click the Variables tab.
Step 2	Use the New button to add the variables you want to set.
Step 3	When you are finished, click the Manual Trigger tab and then click the Trigger Now button to launch the tasks named in the trigger.

Temporary Trigger

- [Overview](#)
- [Creating a Temporary Trigger](#)
 - [Temporary Trigger Details](#)
 - [Temporary Trigger Details Field Descriptions](#)

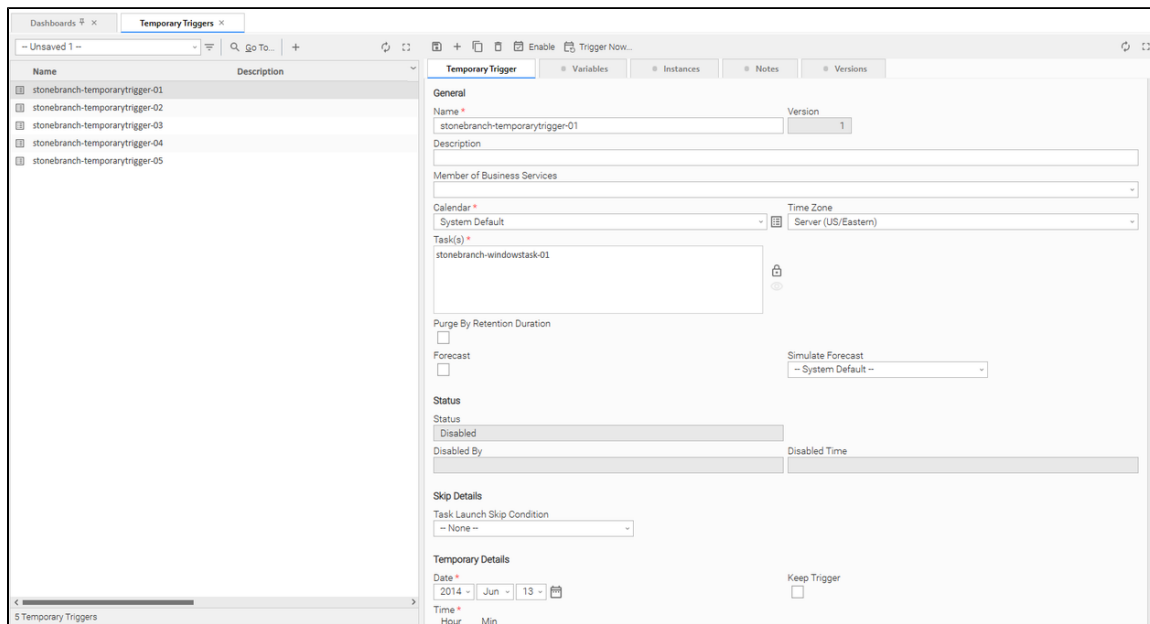
Overview

The Temporary trigger allows you to set up a one-time trigger for a task, based on a single date and time. You will use this trigger if you want to set up a task to run once at some time in the future.

Creating a Temporary Trigger

S t e p 1	From the Automation Center navigation pane, select Triggers > Temporary Triggers . The Temporary Triggers list displays.
--	--


To the right of the list, Temporary Trigger Details for a new Temporary trigger displays.




Step 2 Enter/select Details for a new Temporary trigger, using the [field descriptions](#) below as a guide.

- Required fields display an asterisk (*) after the field name.
- Default values for fields, if available, display automatically.

To display more of the Details fields on the screen, you can either:

- Use the scroll bar.
- Temporarily [hide the list](#) above the Details.
- Click the  button above the list to display a pop-up version of the Details.

Step 3 Click a  button. The trigger is added to the database, and all buttons and tabs in the Trigger Details are enabled.

Step 4 [Enable the trigger\(s\)](#) as desired.

Note

To [open](#) an existing record on the list, either:

- Click a record in the list to display its record Details below the list. (To clear record Details below the list, click the **New** button that displays above and below the Details.)
- Clicking the [Details icon](#) next to a record name in the list, or right-click a record in the list and then click **Open** in the [Action menu](#) that displays, to display a pop-up version of the record Details.
- Right-click a record in the a list, or open a record and right-click in the record Details, and then click **Open In Tab** in the [Action menu](#) that displays, to display the record Details under a new tab on the record list page (see [Record Details as Tabs](#)).

Temporary Trigger Details

The following Temporary Trigger Details is for an existing Temporary trigger. See the [field descriptions](#), below, for a description of the fields that display in the Temporary Trigger Details.

Temporary Trigger Details: stonebranch-temporarytrigger-01
- ☐ ×

Enable Trigger Now...

Temporary Trigger
Variables
Instances
Notes
Versions

General

Name * Version

Description

Member of Business Services

Calendar * Time Zone

Task(s) *

Purge By Retention Duration

Forecast Simulate Forecast

Status

Status

Disabled By Disabled Time

Skip Details

Task Launch Skip Condition

Temporary Details

Date *

Time *

Keep Trigger

Temporary Trigger Details Field Descriptions

The following table describes the fields, buttons, and tabs that display in the Temporary Trigger Details.

Field Name	Description
General	This section contains general information about the trigger.
Name	Name used within the Controller to identify this trigger. It can contain a maximum of 255 alphanumeric characters. It is the responsibility of the user to develop a workable naming scheme for triggers.
Version	

	System-supplied; version number of the current record, which is incremented by the system every time a user updates a record. Click the Versions tab to view previous versions. For details, see Record Versioning .
Description	Description of this record. (Maximum = 255 characters.)
Member of Business Services	<p>User-defined; Allows you to select one or more Business Services that this record belongs to. (You also can Check All or Uncheck All Business Services for this record.)</p> <p>You can select up to 62 Business Services for any record type, and enter a maximum of 2048 characters for each Business Service.</p> <p>If the Business Service Visibility Restricted Universal Controller system property is set to true, depending on your assigned (or inherited) Permissions or Roles, Business Services available for selection may be restricted.</p>
Calendar	<p>Calendar that defines the business days, holidays, and other special days that determine the run dates for the task(s) specified in the trigger.</p> <p>Select a Calendar from the drop-down list of all existing Calendars. To display detailed information about a selected calendar, click the Details icon next to the Calendar field.</p>
Time Zone	User-defined; allows you to specify the time zone that will be applied to the time(s) specified in the trigger. For example, if you specify 23:00 and a time zone of Canada/Central, the task will run at 11:00 p.m. Central Canada time.
Task(s)	Name of the task(s) being triggered when this trigger is satisfied. When selecting tasks from the Details, click on the lock icon to unlock the field and select tasks .
Purge By Retention Duration	Specification for whether triggered task instances can be purged by retention duration .
Exclude Backup	If Purge By Retention Duration is selected; Specification for whether qualifying task instances can be excluded from the backup when being purged by retention duration.
Retention Duration	<p>If Purge By Retention Duration is selected; Minimum retention duration for the selected Retention Duration Unit before triggered task instances can qualify for purge.</p> <p>If Retention Duration Unit = Days, valid values are 1 to 366.</p> <p>If Retention Duration Unit = Hours, valid values are 1 to 24.</p>
Retention Duration Unit	<p>If Purge By Retention Duration is selected; Retention duration unit.</p> <p>Options:</p> <ul style="list-style-type: none"> • Hours • Days
Execution User	Read-only; Execution user that has been selected (via the Assign Execution User action) to override the execution user of task instances being launched by the trigger.
Forecast	If checked, the Controller calculates the date and time when this trigger will be satisfied for the next number of days, as specified in the Forecast Period In Days Universal Controller system property.

	<p>The Controller writes the forecasting entries to the Forecasts List.</p> <div style="border: 1px solid #ccc; padding: 10px; margin: 10px 0;"> <p>Note If this field is checked on a trigger and the trigger is promoted, it will not be checked for that trigger on the target system.</p> </div>
Simulate Forecast	<p>Enables the override of the System Default Trigger Simulate Forecast Universal Controller system property specification for whether or not to simulate forecasting of a trigger. By enabling trigger forecast simulation, it allows you to enable a trigger to generate forecast records without the trigger launching the specified task(s) at the next scheduled time.</p> <p>Options:</p> <ul style="list-style-type: none"> • -- System Default -- <ul style="list-style-type: none"> • Use the system default for enabling / disabling trigger forecast simulation as specified by System Default Trigger Simulate Forecast. • True <ul style="list-style-type: none"> • Enable trigger forecast simulation. • False <ul style="list-style-type: none"> • Disable trigger forecast simulation. <p>At the next scheduled time the controller will only log a message similar to the following.</p> <div style="border: 1px solid #ccc; padding: 5px; margin: 10px 0;"> <pre>Trigger simulation: Trigger [Time] "<i>trigger-name</i>" with id <i>trigger-uuid</i> launching task "<i>task-name</i>" with id <i>task- uuid</i> using trigger variables {...}. Next scheduled trigger time "Sat Apr 01 11:02:00 EDT 2023".</pre> </div>
Status	This section contains information about the current status of the trigger.
Status	System-defined; Specification for whether the trigger is Enabled or Disabled. The user enables and disables the trigger by clicking the Enable / Disable buttons. Only enabled triggers are processed by the Controller.
Next Scheduled Time	System-supplied; for time-based triggers. If Status = Enabled, the next date and time this trigger will be satisfied. See Displaying Trigger Forecast Information .
Enabled By	System-supplied. If Status = Enabled, ID of the user who most recently enabled this trigger.
Disabled By	System-supplied; If Status = Disabled, ID of the user who most recently disabled this trigger. (By default, all new triggers are disabled.)
Enabled Time	System-supplied. If Status = Enabled, Date and time that the trigger was enabled.
Disabled Time	System-supplied. If Status = Disabled, Date and time that the trigger was disabled.
Skip Details	This section contains detailed information about skipping the trigger.
Task Launch Skip Condition	<p>User-defined; Controls when launching a task for the trigger will be skipped.</p> <p>Default is the value of the Trigger Task Launch Skip Condition Default Universal Controller system property.</p> <p>Options:</p> <ul style="list-style-type: none"> • -- None -- Do not skip the task launch. • Active Skip the task launch if a previous instance is still active. • Active By Trigger Skip the task launch if a previous instance launched by the trigger is still active. <p>Task Launch Skip Condition is not applicable when using the Trigger Now... command and will be ignored.</p>

Temporary Details	This section contains assorted detailed information about the trigger.
Date	Date you want the trigger to be satisfied.
Time (hh.mm)	Required. Specifies the time of the trigger in hours and minutes. For example, 01:45 means trigger the task at 1:45 a.m.; 13:45 means trigger the task at 1:45 p.m.
Keep Trigger	If checked, indication that the Temporary Trigger should be Disabled, rather than Deleted, after the Next Scheduled Time.
Metadata	This section contains Metadata information about this record.
UUID	Universally Unique Identifier of this record.
Updated By	Name of the user that last updated this record.
Updated	Date and time that this record was last updated.
Created By	Name of the user that created this record.
Created	Date and time that this record was created.
Buttons	This section identifies the buttons displayed above and below the Trigger Details that let you perform various actions.
Save	Saves a new task record in the Controller database.
Save & New	Saves a new record in the Controller database and redisplay empty Details so that you can create another new record.
Save & View	Saves a new record in the Controller database and continues to display that record.
New	Displays empty (except for default values) Details for creating a new record.
Update	Saves updates to the record.
Enable	Activates this trigger and writes your User ID to the Enabled By field.
Disable	Deactivates this trigger.
Trigger Now...	<p>Immediately triggers all the tasks specified in this trigger.</p> <p>Optionally, you also can select to:</p> <ul style="list-style-type: none"> • Launch the task(s) specified in the trigger with one or more variables. • Launch the task(s) specified in the trigger by a specified date and time. • Launch the task(s) specified in the trigger but place them in Held status; they will not run until they are released. <div style="border: 1px solid #ccc; padding: 10px; margin-top: 10px;"> <p>Note</p> <p>If you click Trigger Now... for an Enabled trigger that does not have an assigned Execution User, the trigger will launch its task(s) under the context of the Enabled By user.</p> <p>If you click Trigger Now... for a Disabled trigger that does not have an assigned Execution User, the trigger will launch its task(s) under the context of your user name and ID.</p> <p>If you click Trigger Now... for an Enabled or Disabled trigger that has an assigned Execution User, the trigger will launch its task(s) under the context of the assigned Execution User.</p> </div>
Copy	Creates a copy of this trigger, which you are prompted to rename.

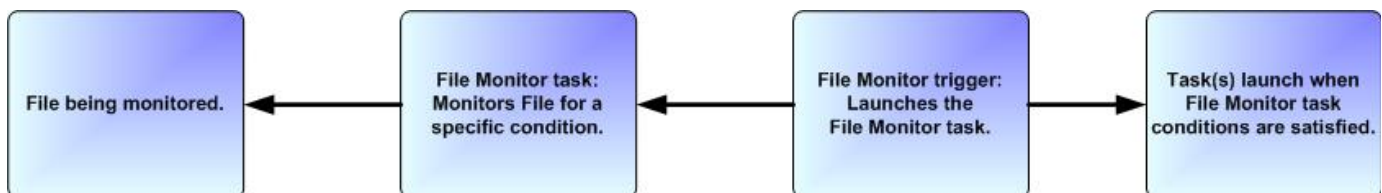
Delete	Deletes the current record.
Refresh	Refreshes any dynamic data displayed in the Details.
Close	For pop-up view only; closes the pop-up view of this trigger.
Tabs	This section identifies the tabs across the top of the Trigger Details that provide access to additional information about the trigger.
Variables	Lists all user-defined variables associated with this record; that is, variables that have been defined for this specific record.
Instances	Lists all task instances that were triggered directly by this trigger.
Notes	Lists all notes associated with this record.
Versions	Stores copies of all previous versions of the current record. See Record Versioning .

Agent File Monitor Trigger

- [Overview](#)
- [Built-In Variables](#)
- [Prerequisites](#)
- [Creating an Agent File Monitor Trigger](#)
 - [Agent File Monitor Trigger Details](#)
 - [Agent File Monitor Trigger Details Field Descriptions](#)

Overview

The Agent File Monitor trigger allows you to trigger one or more tasks based on the creation, deletion, or change of a file on a particular machine, as specified by a selected [Agent File Monitor task](#), as illustrated below. For a detailed description, see [Launching an Agent File Monitor Task Using an Agent File Monitor Trigger](#).



Note

Using an Agent File Monitor trigger to trigger an Agent File Monitor task that is monitoring for the creation of one or more files ([Monitor Type = Exists](#)) will disable the trigger. You should instead specify ([Monitor Type = Create](#)) and check [Trigger on Existence](#).

Built-In Variables

The built-in variables outlined below can be used to pass data where appropriate:

- [Task and Task Instance Variables](#)
- [Agent File Monitor Variables](#)

Prerequisites

Before you can use an Agent File Monitor Trigger, you need the following:

- A [Windows, Linux/Unix, or z/OS](#) agent, which will execute the Agent File Monitor task.
- An [Agent File Monitor task](#), which watches for the creation, deletion, change, existence, or non-existence of a file.

Note

Any changes made to an Agent File Monitor task are not recognized by its respective Agent File Monitor Triggers until those Triggers are disabled and re-enabled.

Creating an Agent File Monitor Trigger

Step 1 From the [Automation Center](#) navigation pane, select **Triggers > Agent File Monitor Triggers**. The Agent File Monitor Triggers list displays.


To the right of the list, Agent File Monitor Trigger Details for a new Agent File Monitor trigger displays.

The screenshot shows the 'Agent File Monitor Triggers' interface. On the left, there is a table with columns: Name, Description, Enabled, and Agent File Monitor. The table lists five triggers with names like 'stonebranch-filemonitortrigger-01' through '05'. On the right, the 'Agent File Monitor Trigger' details form is visible. It includes sections for General (Name, Description), Member of Business Services, Calendar (System Default), Time Zone (Server (US/Eastern)), Task(s) (No items to show), Purge By Retention Duration, Skip Details (Task Launch Skip Condition, Skip Restriction, Skip Count), Agent File Monitor Details (Agent File Monitor), and Restrictions (Restrict Times, Special Restriction).


Step 2 Enter/select Details for a new Agent File Monitor trigger, using the [field descriptions](#) below as a guide.

- Required fields display an asterisk (*) after the field name.
- Default values for fields, if available, display automatically.

To display more of the Details fields on the screen, you can either:

- Use the scroll bar.
- Temporarily [hide the list](#) above the Details.
- Click the  button above the list to display a pop-up version of the Details.

Step 3

Click a  button. The trigger is added to the database, and all buttons and tabs in the Trigger Details are enabled.

Step 4

[Enable the trigger\(s\)](#) as desired.

Note

To [open](#) an existing record on the list, either:

- Click a record in the list to display its record Details below the list. (To clear record Details below the list, click the **New** button that displays above and below the Details.)

- Clicking the [Details icon](#) next to a record name in the list, or right-click a record in the list and then click **Open** in the [Action menu](#) that displays, to display a pop-up version of the record Details.
- Right-click a record in the a list, or open a record and right-click in the record Details, and then click **Open In Tab** in the [Action menu](#) that displays, to display the record Details under a new tab on the record list page (see [Record Details as Tabs](#)).

Agent File Monitor Trigger Details

The following Agent File Monitor Trigger Details is for an existing Agent File Monitor trigger. See the [field descriptions](#), below, for a description of the fields that display in the Agent File Monitor Trigger Details.

Agent File Monitor Trigger Details: stonebranch-filemonitortrigger-01
- ☰ ×

Enable Trigger Now... ↻

Agent File Monitor Trigger
• Variables
• Instances
• Notes
• Versions

General

Name * Version

Description

Member of Business Services

Calendar * Time Zone

Task(s) * 🔒

Purge By Retention Duration

Status

Status

Disabled By Disabled Time

Skip Details

Task Launch Skip Condition

Skip Restriction Skip Count

Agent File Monitor Details

Agent File Monitor *

Restrictions

Restrict Times

Special Restriction

Agent File Monitor Trigger Details Field Descriptions

The following table describes the fields, buttons, and tabs that display in the Agent File Monitor Trigger Details.

--	--

Field Name	Description
General	This section contains general information about the trigger.
Name	Name used within the Controller to identify this trigger. It can contain a maximum of 255 alphanumeric characters. It is the responsibility of the user to develop a workable naming scheme for triggers.
Version	System-supplied; version number of the current record, which is incremented by the system every time a user updates a record. Click the Versions tab to view previous versions. For details, see Record Versioning .
Description	Description of this record. (Maximum = 255 characters.)
Member of Business Services	User-defined; Allows you to select one or more Business Services that this record belongs to. (You also can Check All or Uncheck All Business Services for this record.) You can select up to 62 Business Services for any record type, and enter a maximum of 2048 characters for each Business Service. If the Business Service Visibility Restricted Universal Controller system property is set to true, depending on your assigned (or inherited) Permissions or Roles , Business Services available for selection may be restricted.
Calendar	Calendar that defines the business days, holidays, and other special days that determine the run dates for the task(s) specified in the trigger. Select a Calendar from the drop-down list of all existing Calendars. To display detailed information about a selected calendar, click the Details icon next to the Calendar field.
Time Zone	User-defined; allows you to specify the time zone that will be applied to the time(s) specified in the trigger. For example, if you specify 23:00 and a time zone of Canada/Central, the task will run at 11:00 p.m. Central Canada time.
Task(s)	Name of the task(s) being triggered when this trigger is satisfied. When selecting tasks from the Details, click on the lock icon to unlock the field and select tasks .
Purge By Retention Duration	Specification for whether triggered task instances can be purged by retention duration .
Exclude Backup	If Purge By Retention Duration is selected; Specification for whether qualifying task instances can be excluded from the backup when being purged by retention duration.
Retention Duration	If Purge By Retention Duration is selected; Minimum retention duration for the selected Retention Duration Unit before triggered task instances can qualify for purge. If Retention Duration Unit = Days, valid values are 1 to 366. If Retention Duration Unit = Hours, valid values are 1 to 24.
Retention Duration Unit	If Purge By Retention Duration is selected; Retention duration unit. Options: <ul style="list-style-type: none"> • Hours • Days

Execution User	Read-only; Execution user that has been selected (via the Assign Execution User action) to override the execution user of task instances being launched by the trigger.
Status	This section contains information about the current status of the trigger.
Status	System-defined; Specification for whether the trigger is Enabled or Disabled. The user enables and disables the trigger by clicking the Enable / Disable buttons. Only enabled triggers are processed by the Controller.
Next Scheduled Time	System-supplied; for time-based triggers. If Status = Enabled, the next date and time this trigger will be satisfied. See Displaying Trigger Forecast Information .
Enabled By	System-supplied. If Status = Enabled, ID of the user who most recently enabled this trigger.
Disabled By	System-supplied; If Status = Disabled, ID of the user who most recently disabled this trigger. (By default, all new triggers are disabled.)
Enabled Time	System-supplied. If Status = Enabled, Date and time that the trigger was enabled.
Disabled Time	System-supplied. If Status = Disabled, Date and time that the trigger was disabled.
Skip Details	This section contains detailed information about skipping the trigger.
Task Launch Skip Condition	<p>User-defined; Controls when launching a task for the trigger will be skipped.</p> <p>Default is the value of the Trigger Task Launch Skip Condition Default Universal Controller system property.</p> <p>Options:</p> <ul style="list-style-type: none"> • -- None -- Do not skip the task launch. • Active Skip the task launch if a previous instance is still active. • Active By Trigger Skip the task launch if a previous instance launched by the trigger is still active. <p>Task Launch Skip Condition is not applicable when using the Trigger Now... command and will be ignored.</p>
Skip Restriction	<p>User-defined; Specification for when this trigger should skip and not launch the task(s).</p> <p>Options:</p> <ul style="list-style-type: none"> • -- None -- No skip restrictions • Before Trigger will skip if the current date and time is before the specified Skip Before Date and Skip Before Time values. • After Trigger will skip if the current date and time is after the specified Skip After Date and Skip After Time values. • Span Trigger will skip if the date and time qualifies based upon the specified Skip After Date, Skip After Time, Skip Before Date, and Skip After Date values. <div style="border: 1px solid orange; padding: 10px; margin-top: 10px;"> <p>Note</p> <p>If Skip After Date and Skip After Time are prior to the Skip Before Date and Skip Before Time, the Span is a "between" period. In this case, if the triggered time is after the Skip After Date and Skip After Time as well as before the Skip Before Date and Skip Before Time, the Trigger will skip and not launch the configured Task(s).</p> </div>

If the Skip Before Date and Skip Before Time are prior to the Skip After Date and Skip After Time, the Span is a "not between" period. In this case, if the triggered time is **either** after the Skip After Date and Skip After Time **or** before the Skip Before Date and Skip Before Time, then the trigger will skip and not launch the configured Task(s).

- On
Trigger will skip on any of the dates specified in the [Skip Date List](#).

Default is - - None - -.

Skip Count	User-defined; Allows you to specify that the Controller should skip the next <i>N</i> times this task is triggered. Skip Count is not applicable when using the Trigger Now... command and will be ignored.
Skip Before Date	If Skip Restriction is Before or Span; Date before which the Trigger will skip.
Skip Before Time	If Skip Restriction is Before or Span; Time before which the Trigger will skip on the specified Skip Before Date .
Skip After Date	If Skip Restriction is After or Span; Date after which the Trigger will Skip.
Skip After Time	If Skip Restriction is After or Span; Time after which the Trigger will skip on the specified Skip After Date .
Skip Date List	If Skip Restriction is On; List of dates on which the trigger will skip.
Agent File Monitor Details	This section contains assorted detailed information about the trigger.
Agent File Monitor	Required; Agent File Monitor task being executed. Enter a task name, select a task from the drop-down list, or click the Task Details icon to create a new task. If a task already is specified in this field, click the Task Details icon to view the Details of that task.
Running Monitor	System-supplied; Name of the currently running task instance of the specified Agent File Monitor task that was launched by this enabled trigger.
Restrictions	This section specifies any restrictions that apply to the trigger.
Restrict Times	Period during which the trigger is active. Enable this field and specify the start and end times in the Enabled Start and Enabled End fields.
Enabled Start	If Restrict Times is enabled, allows you to specify the start time of the period during which the trigger should be active. Use 24-hour time.
Enabled End	If Restrict Times is enabled, allows you to specify the end time of the period during which the trigger should be active. Use 24-hour time.
Special Restriction	Enable this field in order to specify additional parameters that tell the Controller how to handle exceptions, such as when the trigger is satisfied on a holiday or non-business day. You can specify simple and/or complex restrictions.

	<p>For example, you can specify a Simple Restriction that disables the trigger if it is satisfied on a holiday identified in the calendar and /or a Complex Restriction that disables the trigger on the last business day of every month.</p>
Action	<p>If Special Restriction is enabled, allows you to select an action to take on a non-business day or holiday (see Situation field).</p> <p>Options:</p> <ul style="list-style-type: none"> • Do Not Trigger • Next Day (run on the next day) • Next Business Day (run on the next business day, as defined in the calendar) • Previous Day (run on the previous day) • Previous Business Day (run on the previous business day, as defined in the calendar)
Simple Restriction	<p>If enabled, allows you to specify an action (see Action field) such as Do Not Trigger on a non-business day or holiday (see Situation field). For example, do not trigger on a non-business day.</p>
Situation	<p>If Simple Restriction is enabled, allows you to select the situation that causes the system to initiate the action specified in the Action field.</p> <p>Options:</p> <ul style="list-style-type: none"> • On Non Business Day • On Holiday
Complex Restriction	<p>If enabled, allows you to specify a set of parameters that determine one or more situations when this trigger should not be satisfied. Used in conjunction with the following fields: Restriction Mode, Restriction Adjective, Restriction Noun, Restriction Qualifier. For example, you may specify that you do not want to satisfy this trigger on the last business day of the year or the first day of each month.</p>
Restriction Mode	<p>If both Simple Restriction and Complex Restriction are enabled, specifies whether you want to use both restriction types (AND) or one or the other (OR).</p> <p>Options:</p> <ul style="list-style-type: none"> • And • Or
Restriction Adjective	<p>If Complex Restriction is enabled, the type of selection.</p> <p>Options:</p> <ul style="list-style-type: none"> • Every • 1st • 2nd • 3rd • 4th • Last • Nth <p>Example: The last business day of the month.</p>
Restriction Noun(s)	<p>If Complex Restriction is enabled, the day(s) you want to select.</p> <p>Options:</p> <ul style="list-style-type: none"> • Sunday through Saturday • Day • Business Day • Custom Day <p>Example: The last Business Day and Sunday of the month.</p>

Restriction Qualifier(s)	<p>If Complex Restriction is enabled, the period(s) you are selecting from.</p> <p>Options:</p> <ul style="list-style-type: none"> • Jan - Dec • Month • Year • Week • Quarter • Custom period <p>Example: The last Day of Quarter, Year, and January.</p>
Restriction Nth Amount	<p>If Restriction Adjective is Nth, allows you to specify the value of N.</p> <p>If Restriction Qualifier is Week, Restriction Nth Amount must be <= 7.</p>
Metadata	This section contains Metadata information about this record.
UUID	Universally Unique Identifier of this record.
Updated By	Name of the user that last updated this record.
Updated	Date and time that this record was last updated.
Created By	Name of the user that created this record.
Created	Date and time that this record was created.
Buttons	This section identifies the buttons displayed above and below the Trigger Details that let you perform various actions.
Save	Saves a new task record in the Controller database.
Save & New	Saves a new record in the Controller database and redisplay empty Details so that you can create another new record.
Save & View	Saves a new record in the Controller database and continues to display that record.
New	Displays empty (except for default values) Details for creating a new record.
Update	Saves updates to the record.
Enable	Activates this trigger and writes your User ID to the Enabled By field.
Disable	Deactivates this trigger.
Trigger Now...	<p>Immediately triggers all the tasks specified in this trigger.</p> <p>Optionally, you also can select to:</p> <ul style="list-style-type: none"> • Launch the task(s) specified in the trigger with one or more variables. • Launch the task(s) specified in the trigger by a specified date and time. • Launch the task(s) specified in the trigger but place them in Held status; they will not run until they are released.
<div style="border: 1px solid #ccc; border-radius: 10px; padding: 10px; background-color: #fff9c4; margin: 10px auto; width: fit-content;"> <p>Note</p> </div>	

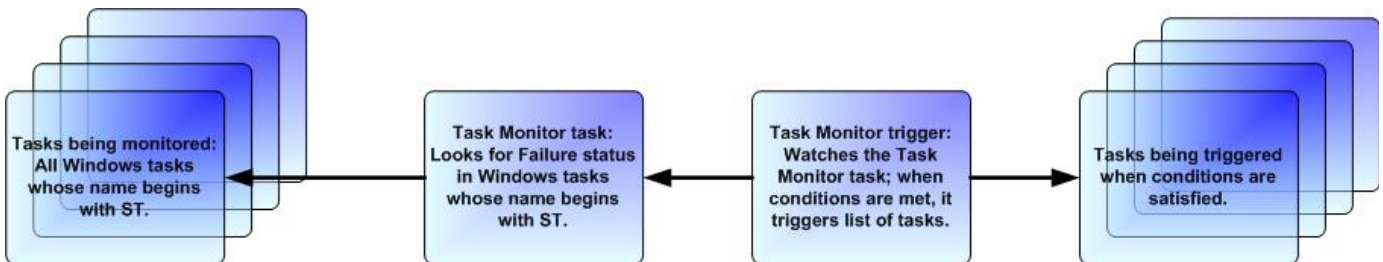
	<p>If you click Trigger Now... for an Enabled trigger that does not have an assigned Execution User, the trigger will launch its task(s) under the context of the Enabled By user.</p> <p>If you click Trigger Now... for a Disabled trigger that does not have an assigned Execution User, the trigger will launch its task(s) under the context of your user name and ID.</p> <p>If you click Trigger Now... for an Enabled or Disabled trigger that has an assigned Execution User, the trigger will launch its task(s) under the context of the assigned Execution User.</p>
Copy	Creates a copy of this trigger, which you are prompted to rename.
Delete	Deletes the current record.
Refresh	Refreshes any dynamic data displayed in the Details.
Close	For pop-up view only; closes the pop-up view of this trigger.
Tabs	This section identifies the tabs across the top of the Trigger Details that provide access to additional information about the trigger.
Variables	Lists all user-defined variables associated with this record; that is, variables that have been defined for this specific record.
Instances	Lists all task instances that were triggered directly by this trigger.
Notes	Lists all notes associated with this record.
Versions	Stores copies of all previous versions of the current record. See Record Versioning .

Task Monitor Trigger

- [Overview](#)
- [Built-In Variables](#)
- [Prerequisites](#)
- [Creating a Task Monitor Trigger](#)
 - [Task Monitor Trigger Details](#)
 - [Task Monitor Trigger Details Field Descriptions](#)

Overview

The Task Monitor Trigger allows you to trigger one or more tasks, as specified in a selected Task Monitor task, as illustrated below. For details, see [Launching a Task Monitor Task Using a Task Monitor Trigger](#).



Built-In Variables

The built-in variables outlined below can be used to pass data where appropriate:

- [Task Monitor Variables](#)
- [Trigger Variables](#)

Prerequisites

Before you can use a Task Monitor Trigger, you need a [Task Monitor task](#), which defines the statuses being monitored for and the tasks being monitored.

Note

Any changes made to a Task Monitor task are not recognized by its respective Task Monitor Triggers until those Triggers are disabled and re-enabled.

Creating a Task Monitor Trigger

Step 1 From the [Automation Center](#) navigation pane, select **Triggers > Task Monitor Triggers**. The Task Monitor Triggers list displays.


To the right of the list, Task Monitor Trigger Details for a new Task Monitor trigger displays.

The screenshot shows the 'Task Monitor Triggers' interface. On the left, there is a table with columns: Name, Description, Enabled, Task Monitor, and Monitor. The table lists five triggers with names like 'stonebranch-taskmonitortrigger-01' through '05'. The 'Enabled' column shows green circles for the first two and red circles for the last three. The 'Task Monitor' column shows 'stonebranch-taskmonitor-01' through '05'. To the right of the table is a 'Task Monitor Trigger' details form. The form has tabs for 'General', 'Variables', 'Instances', 'Notes', and 'Versions'. The 'General' tab is active and contains fields for Name, Description, Member of Business Services, Calendar (System Default), Time Zone (Server (US/Eastern)), Task(s) (No items to show), Purge By Retention Duration, Skip Details (Task Launch Skip Condition, Skip Restriction, Skip Count), Task Monitor Details (Task Monitor), and Restrictions (Restrict Times, Special Restriction).


Step 2 Enter/select Details for a new Task Monitor trigger, using the [field descriptions](#) below as a guide.

- Required fields display an asterisk (*) after the field name.
- Default values for fields, if available, display automatically.

To display more of the Details fields on the screen, you can either:

- Use the scroll bar.
- Temporarily [hide the list](#) above the Details.
- Click the  button above the list to display a pop-up version of the Details.

Step 3

Click a  button. The trigger is added to the database, and all buttons and tabs in the Trigger Details are enabled.

Step 4 [Enable the trigger\(s\)](#) as desired.

Note

To [open](#) an existing record on the list, either:

- Click a record in the list to display its record Details below the list. (To clear record Details below the list, click the **New** button that displays above and below the Details.)
- Clicking the **Details icon** next to a record name in the list, or right-click a record in the list and then click **Open** in the **Action menu** that displays, to display a pop-up version of the record Details.
- Right-click a record in the a list, or open a record and right-click in the record Details, and then click **Open In Tab** in the **Action menu** that displays, to display the record Details under a new tab on the record list page (see [Record Details as Tabs](#)).

Task Monitor Trigger Details

The following Task Monitor Trigger Details is for an existing Task trigger. See the [field descriptions](#), below, for a description of the fields that display in the Task Monitor Trigger Details.

Task Monitor Trigger Details: stonebranch-taskmonitortrigger-01
- [] x

Disable Trigger Now...

Task Monitor Trigger
● Variables
● Instances
● Notes
● Versions

General

Name * Version

Description

Member of Business Services

Calendar * Time Zone

Task(s) * 🔒

Purge By Retention Duration

Status

Status

Enabled By Enabled Time

Skip Details

Task Launch Skip Condition

Skip Restriction Skip Count

Task Monitor Details

Task Monitor *

Restrictions

Restrict Times

Special Restriction Action

Simple Restriction Complex Restriction

Task Monitor Trigger Details Field Descriptions

The following table describes the fields, buttons, and tabs that display in the Task Monitor Trigger Details.

Field Name	Description
General	This section contains general information about the trigger.
Name	Name used within the Controller to identify this trigger. It can contain a maximum of 255 alphanumeric characters. It is the responsibility of the user to develop a workable naming scheme for triggers.
Version	System-supplied; version number of the current record, which is incremented by the system every time a user updates a record. Click the Versions tab to view previous versions. For details, see Record Versioning .
Description	Description of this record. (Maximum = 255 characters.)
Member of Business Services	User-defined; Allows you to select one or more Business Services that this record belongs to. (You also can Check All or Uncheck All Business Services for this record.) You can select up to 62 Business Services for any record type, and enter a maximum of 2048 characters for each Business Service. If the Business Service Visibility Restricted Universal Controller system property is set to true, depending on your assigned (or inherited) Permissions or Roles , Business Services available for selection may be restricted.
Calendar	Calendar that defines the business days, holidays, and other special days that determine the run dates for the task(s) specified in the trigger. Select a Calendar from the drop-down list of all existing Calendars. To display detailed information about a selected calendar, click the Details icon next to the Calendar field.
Time Zone	User-defined; allows you to specify the time zone that will be applied to the time(s) specified in the trigger. For example, if you specify 23:00 and a time zone of Canada/Central, the task will run at 11:00 p.m. Central Canada time.
Task(s)	Name of the task(s) being triggered when this trigger is satisfied. When selecting tasks from the Details, click on the lock icon to unlock the field and select tasks .
Purge By Retention Duration	Specification for whether triggered task instances can be purged by retention duration .
Exclude Backup	If Purge By Retention Duration is selected; Specification for whether qualifying task instances can be excluded from the backup when being purged by retention duration.
Retention Duration	If Purge By Retention Duration is selected; Minimum retention duration for the selected Retention Duration Unit before triggered task instances can qualify for purge. If Retention Duration Unit = Days, valid values are 1 to 366. If Retention Duration Unit = Hours, valid values are 1 to 24.
Retention Duration Unit	If Purge By Retention Duration is selected; Retention duration unit. Options:

	<ul style="list-style-type: none"> • Hours • Days
Execution User	Read-only; Execution user that has been selected (via the Assign Execution User action) to override the execution user of task instances being launched by the trigger.
Status	This section contains information about the current status of the trigger.
Status	System-defined; Specification for whether the trigger is Enabled or Disabled. The user enables and disables the trigger by clicking the Enable / Disable buttons. Only enabled triggers are processed by the Controller.
Next Scheduled Time	System-supplied; for time-based triggers. If Status = Enabled, the next date and time this trigger will be satisfied. See Displaying Trigger Forecast Information .
Enabled By	System-supplied. If Status = Enabled, ID of the user who most recently enabled this trigger.
Disabled By	System-supplied; If Status = Disabled, ID of the user who most recently disabled this trigger. (By default, all new triggers are disabled.)
Enabled Time	System-supplied. If Status = Enabled, Date and time that the trigger was enabled.
Disabled Time	System-supplied. If Status = Disabled, Date and time that the trigger was disabled.
Skip Details	This section contains detailed information about skipping the trigger.
Task Launch Skip Condition	<p>User-defined; Controls when launching a task for the trigger will be skipped.</p> <p>Default is the value of the Trigger Task Launch Skip Condition Default Universal Controller system property.</p> <p>Options:</p> <ul style="list-style-type: none"> • -- None -- Do not skip the task launch. • Active Skip the task launch if a previous instance is still active. • Active By Trigger Skip the task launch if a previous instance launched by the trigger is still active. <p>Task Launch Skip Condition is not applicable when using the Trigger Now... command and will be ignored.</p>
Skip Restriction	<p>User-defined; Specification for when this trigger should skip and not launch the task(s).</p> <p>Options:</p> <ul style="list-style-type: none"> • -- None -- No skip restrictions • Before Trigger will skip if the current date and time is before the specified Skip Before Date and Skip Before Time values. • After Trigger will skip if the current date and time is after the specified Skip After Date and Skip After Time values. • Span Trigger will skip if the date and time qualifies based upon the specified Skip After Date, Skip After Time, Skip Before Date, and Skip After Date values. <div style="border: 1px solid #ccc; padding: 10px; margin-top: 10px;"> <p>Note</p> </div>

If Skip After Date and Skip After Time are prior to the Skip Before Date and Skip Before Time, the Span is a "between" period. In this case, if the triggered time is after the Skip After Date and Skip After Time **as well as** before the Skip Before Date and Skip Before Time, the Trigger will skip and not launch the configured Task(s).

If the Skip Before Date and Skip Before Time are prior to the Skip After Date and Skip After Time, the Span is a "not between" period. In this case, if the triggered time is **either** after the Skip After Date and Skip After Time **or** before the Skip Before Date and Skip Before Time, then the trigger will skip and not launch the configured Task(s).

- On
Trigger will skip on any of the dates specified in the [Skip Date List](#).

Default is - - None - -.

Skip Count	User-defined; Allows you to specify that the Controller should skip the next <i>N</i> times this task is triggered. Skip Count is not applicable when using the Trigger Now... command and will be ignored.
Skip Before Date	If Skip Restriction is Before or Span; Date before which the Trigger will skip.
Skip Before Time	If Skip Restriction is Before or Span; Time before which the Trigger will skip on the specified Skip Before Date .
Skip After Date	If Skip Restriction is After or Span; Date after which the Trigger will Skip.
Skip After Time	If Skip Restriction is After or Span; Time after which the Trigger will skip on the specified Skip After Date .
Skip Date List	If Skip Restriction is On; List of dates on which the trigger will skip.
Task Monitor Details	This section contains assorted detailed information about the trigger.
Task Monitor	Required; Task Monitor task being executed. Enter a task name, select a task from the drop-down list, or click the Task Details icon to create a new task. If a task already is specified in this field, click the Task Details icon to view the Details of that task.
Running Monitor	System-supplied; Name of the currently running task instance of the specified Task Monitor task that was launched by this enabled trigger.
Restrictions	This section specifies any restrictions that apply to the trigger.
Restrict Times	Period during which the trigger is active. Enable this field and specify the start and end times in the Enabled Start and Enabled End fields.
Enabled Start	If Restrict Times is enabled, allows you to specify the start time of the period during which the trigger should be active. Use 24-hour time.
Enabled End	If Restrict Times is enabled, allows you to specify the end time of the period during which the trigger should be active. Use 24-hour time.
Special Restriction	Enable this field in order to specify additional parameters that tell the Controller how to handle exceptions, such as when the trigger is satisfied on a holiday or non-business day. You can specify simple and/or complex restrictions.

	<p>For example, you can specify a Simple Restriction that disables the trigger if it is satisfied on a holiday identified in the calendar and /or a Complex Restriction that disables the trigger on the last business day of every month.</p>
Action	<p>If Special Restriction is enabled, allows you to select an action to take on a non-business day or holiday (see Situation field).</p> <p>Options:</p> <ul style="list-style-type: none"> • Do Not Trigger • Next Day (run on the next day) • Next Business Day (run on the next business day, as defined in the calendar) • Previous Day (run on the previous day) • Previous Business Day (run on the previous business day, as defined in the calendar)
Simple Restriction	<p>If enabled, allows you to specify an action (see Action field) such as Do Not Trigger on a non-business day or holiday (see Situation field). For example, do not trigger on a non-business day.</p>
Situation	<p>If Simple Restriction is enabled, allows you to select the situation that causes the system to initiate the action specified in the Action field.</p> <p>Options:</p> <ul style="list-style-type: none"> • On Non Business Day • On Holiday
Complex Restriction	<p>If enabled, allows you to specify a set of parameters that determine one or more situations when this trigger should not be satisfied. Used in conjunction with the following fields: Restriction Mode, Restriction Adjective, Restriction Noun, Restriction Qualifier. For example, you may specify that you do not want to satisfy this trigger on the last business day of the year or the first day of each month.</p>
Restriction Mode	<p>If both Simple Restriction and Complex Restriction are enabled, specifies whether you want to use both restriction types (AND) or one or the other (OR).</p> <p>Options:</p> <ul style="list-style-type: none"> • And • Or
Restriction Adjective	<p>If Complex Restriction is enabled, the type of selection.</p> <p>Options:</p> <ul style="list-style-type: none"> • Every • 1st • 2nd • 3rd • 4th • Last • Nth <p>Example: The last business day of the month.</p>
Restriction Noun(s)	<p>If Complex Restriction is enabled, the day(s) you want to select.</p> <p>Options:</p> <ul style="list-style-type: none"> • Sunday through Saturday • Day • Business Day • Custom Day <p>Example: The last Business Day and Sunday of the month.</p>

Restriction Qualifier(s)	<p>If Complex Restriction is enabled, the period(s) you are selecting from.</p> <p>Options:</p> <ul style="list-style-type: none"> • Jan - Dec • Month • Year • Week • Quarter • Custom period <p>Example: The last Day of Quarter, Year, and January.</p>
Restriction Nth Amount	<p>If Restriction Adjective is Nth, allows you to specify the value of N.</p> <p>If Restriction Qualifier is Week, Restriction Nth Amount must be <= 7.</p>
Metadata	This section contains Metadata information about this record.
UUID	Universally Unique Identifier of this record.
Updated By	Name of the user that last updated this record.
Updated	Date and time that this record was last updated.
Created By	Name of the user that created this record.
Created	Date and time that this record was created.
Buttons	This section identifies the buttons displayed above and below the Trigger Details that let you perform various actions.
Save	Saves a new task record in the Controller database.
Save & New	Saves a new record in the Controller database and redisplay empty Details so that you can create another new record.
Save & View	Saves a new record in the Controller database and continues to display that record.
New	Displays empty (except for default values) Details for creating a new record.
Update	Saves updates to the record.
Enable	Activates this trigger and writes your User ID to the Enabled By field.
Disable	Deactivates this trigger.
Trigger Now...	<p>Immediately triggers all the tasks specified in this trigger.</p> <p>Optionally, you also can select to:</p> <ul style="list-style-type: none"> • Launch the task(s) specified in the trigger with one or more variables. • Launch the task(s) specified in the trigger by a specified date and time. • Launch the task(s) specified in the trigger but place them in Held status; they will not run until they are released.
<div style="border: 1px solid #ccc; border-radius: 10px; padding: 10px; background-color: #fff9c4; margin: 10px auto; width: fit-content;"> <p>Note</p> </div>	

	<p>If you click Trigger Now... for an Enabled trigger that does not have an assigned Execution User, the trigger will launch its task(s) under the context of the Enabled By user.</p> <p>If you click Trigger Now... for a Disabled trigger that does not have an assigned Execution User, the trigger will launch its task(s) under the context of your user name and ID.</p> <p>If you click Trigger Now... for an Enabled or Disabled trigger that has an assigned Execution User, the trigger will launch its task(s) under the context of the assigned Execution User.</p>
Copy	Creates a copy of this trigger, which you are prompted to rename.
Delete	Deletes the current record.
Refresh	Refreshes any dynamic data displayed in the Details.
Close	For pop-up view only; closes the pop-up view of this trigger.
Tabs	This section identifies the tabs across the top of the Trigger Details that provide access to additional information about the trigger.
Variables	Lists all user-defined variables associated with this record; that is, variables that have been defined for this specific record.
Instances	Lists all task instances that were triggered directly by this trigger.
Notes	Lists all notes associated with this record.
Versions	Stores copies of all previous versions of the current record. See Record Versioning .

Variable Monitor Trigger

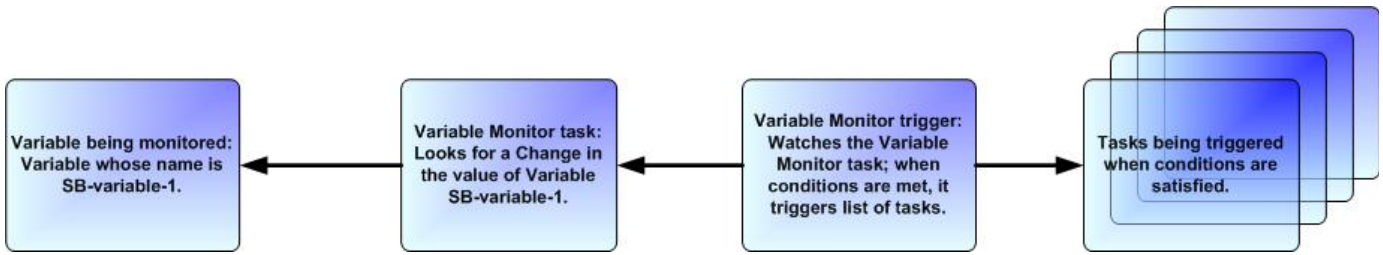
- [Overview](#)
- [Built-In Variables](#)
- [Prerequisites](#)
- [Creating a Variable Monitor Trigger](#)
 - [Variable Monitor Trigger Details](#)
 - [Variable Monitor Trigger Details Field Descriptions](#)

Overview

The Variable Monitor trigger allows you to trigger one or more tasks based on the conditions specified by a selected [Variable Monitor task](#).

Note

You can select only a Variable Monitor task with a [Value Monitor Type = Change](#).



Built-In Variables

The built-in variables outlined below can be used to pass data where appropriate:

- [Variable Monitor Task Instance/Trigger Variables](#)
- [Trigger Variables](#)

Prerequisites

Before you can use a Variable Monitor Trigger, you need a [Variable Monitor task](#), which defines the conditions for the variable being monitored.

Note

Any changes made to a Variable Monitor task are not recognized by its respective Variable Monitor Triggers until those Triggers are disabled and re-enabled.

Creating a Variable Monitor Trigger


From the [Automation Center](#) navigation pane, select **Triggers > Variable Monitor Triggers**. The Variable Monitor Triggers list displays.

To the right of the list, Variable Monitor Trigger Details for a new Variable Monitor trigger displays.


Enter/select Details for a new Variable Monitor trigger, using the [field descriptions](#) below as a guide.

- Required fields display an asterisk (*) after the field name.
- Default values for fields, if available, display automatically.

To display more of the Details fields on the screen, you can either:

- Use the scroll bar.
- Temporarily [hide the list](#) above the Details.
- Click the  button above the list to display a pop-up version of the Details.

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Click a  button. The trigger is added to the database, and all buttons and tabs in the Trigger Details are enabled.

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[Enable the trigger\(s\)](#) as desired.

Note

To [open](#) an existing record on the list, either:

- Click a record in the list to display its record Details below the list. (To clear record Details below the list, click the **New** button that displays above and below the Details.)
- Clicking the [Details icon](#) next to a record name in the list, or right-click a record in the list and then click **Open** in the [Action menu](#) that displays, to display a pop-up version of the record Details.
- Right-click a record in the a list, or open a record and right-click in the record Details, and then click **Open In Tab** in the [Action menu](#) that displays, to display the record Details under a new tab on the record list page (see [Record Details as Tabs](#)).

Variable Monitor Trigger Details

The following Variable Monitor Trigger Details is for an existing Variable Monitor trigger. See the [field descriptions](#), below, for a description of the fields that display in the Variable Monitor Trigger Details.

Variable Monitor Trigger Details: stonebranch-variablemonitortrigger-01
- ☰ ×

Enable Trigger Now... ↻

Variable Monitor Trigger
Variables
Instances
Notes
Versions

General

Name * Version

Description

Member of Business Services

Calendar * Time Zone

Task(s) * 🔒 👁

Purge By Retention Duration

Status

Status

Disabled By Disabled Time

Skip Details

Task Launch Skip Condition

Skip Restriction Skip Count

Variable Monitor Details

Variable Monitor *

Restrictions

Restrict Times

Special Restriction

Variable Monitor Trigger Details Field Descriptions

The following table describes the fields, buttons, and tabs that display in the Variable Monitor Trigger Details.

Field Name	Description
General	This section contains general information about the trigger.
Name	Name used within the Controller to identify this trigger. It can contain a maximum of 255 alphanumeric. It is the responsibility of the user to develop a workable naming scheme for triggers.
Version	

	System-supplied; version number of the current record, which is incremented by the system every time a user updates a record. Click the Versions tab to view previous versions. For details, see Record Versioning .
Description	Description of this record. (Maximum = 255 characters.)
Member of Business Services	User-defined; Allows you to select one or more Business Services that this record belongs to. (You also can Check All or Uncheck All Business Services for this record.) You can select up to 62 Business Services for any record type, and enter a maximum of 2048 characters for each Business Service. If the Business Service Visibility Restricted Universal Controller system property is set to true, depending on your assigned (or inherited) Permissions or Roles , Business Services available for selection may be restricted.
Calendar	Calendar that defines the business days, holidays, and other special days that determine the run dates for the task(s) specified in the trigger. Select a Calendar from the drop-down list of all existing Calendars. To display detailed information about a selected calendar, click the Details icon next to the Calendar field.
Time Zone	User-defined; allows you to specify the time zone that will be applied to the time(s) specified in the trigger. For example, if you specify 23:00 and a time zone of Canada/Central, the task will run at 11:00 p.m. Central Canada time.
Task(s)	Name of the task(s) being triggered when this trigger is satisfied. When selecting tasks from the Details, click on the lock icon to unlock the field and select tasks .
Purge By Retention Duration	Specification for whether triggered task instances can be purged by retention duration .
Exclude Backup	If Purge By Retention Duration is selected; Specification for whether qualifying task instances can be excluded from the backup when being purged by retention duration.
Retention Duration	If Purge By Retention Duration is selected; Minimum retention duration for the selected Retention Duration Unit before triggered task instances can qualify for purge. If Retention Duration Unit = Days, valid values are 1 to 366. If Retention Duration Unit = Hours, valid values are 1 to 24.
Retention Duration Unit	If Purge By Retention Duration is selected; Retention duration unit. Options: <ul style="list-style-type: none"> • Hours • Days
Execution User	Read-only; Execution user that has been selected (via the Assign Execution User action) to override the execution user of task instances being launched by the trigger.
Status	This section contains information about the current status of the trigger.
Status	System-defined; Specification for whether the trigger is Enabled or Disabled. The user enables and disables the trigger by clicking the Enable / Disable buttons. Only enabled triggers are processed by the Controller.

Next Scheduled Time	System-supplied; for time-based triggers. If Status = Enabled, the next date and time this trigger will be satisfied. See Displaying Trigger Forecast Information .
Enabled By	System-supplied. If Status = Enabled, ID of the user who most recently enabled this trigger.
Disabled By	System-supplied; If Status = Disabled, ID of the user who most recently disabled this trigger. (By default, all new triggers are disabled.)
Enabled Time	System-supplied. If Status = Enabled, Date and time that the trigger was enabled.
Disabled Time	System-supplied. If Status = Disabled, Date and time that the trigger was disabled.
Skip Details	This section contains detailed information about skipping the trigger.
Task Launch Skip Condition	<p>User-defined; Controls when launching a task for the trigger will be skipped.</p> <p>Default is the value of the Trigger Task Launch Skip Condition Default Universal Controller system property.</p> <p>Options:</p> <ul style="list-style-type: none"> • -- None -- Do not skip the task launch. • Active Skip the task launch if a previous instance is still active. • Active By Trigger Skip the task launch if a previous instance launched by the trigger is still active. <p>Task Launch Skip Condition is not applicable when using the Trigger Now... command and will be ignored.</p>
Skip Restriction	<p>User-defined; Specification for when this trigger should skip and not launch the task(s).</p> <p>Options:</p> <ul style="list-style-type: none"> • -- None -- No skip restrictions • Before Trigger will skip if the current date and time is before the specified Skip Before Date and Skip Before Time values. • After Trigger will skip if the current date and time is after the specified Skip After Date and Skip After Time values. • Span Trigger will skip if the date and time qualifies based upon the specified Skip After Date, Skip After Time, Skip Before Date, and Skip After Date values. <div style="border: 1px solid #ccc; padding: 10px; margin: 10px 0;"> <p>Note</p> <p>If Skip After Date and Skip After Time are prior to the Skip Before Date and Skip Before Time, the Span is a "between" period. In this case, if the triggered time is after the Skip After Date and Skip After Time as well as before the Skip Before Date and Skip Before Time, the Trigger will skip and not launch the configured Task(s).</p> <p>If the Skip Before Date and Skip Before Time are prior to the Skip After Date and Skip After Time, the Span is a "not between" period. In this case, if the triggered time is either after the Skip After Date and Skip After Time or before the Skip Before Date and Skip Before Time, then the trigger will skip and not launch the configured Task(s).</p> </div> <ul style="list-style-type: none"> • On Trigger will skip on any of the dates specified in the Skip Date List. <p>Default is -- None --.</p>
Skip Count	<p>User-defined; Allows you to specify that the Controller should skip the next <i>N</i> times this task is triggered.</p> <p>Skip Count is not applicable when using the Trigger Now... command and will be ignored.</p>

Skip Before Date	If Skip Restriction is Before or Span; Date before which the Trigger will skip.
Skip Before Time	If Skip Restriction is Before or Span; Time before which the Trigger will skip on the specified Skip Before Date .
Skip After Date	If Skip Restriction is After or Span; Date after which the Trigger will Skip.
Skip After Time	If Skip Restriction is After or Span; Time after which the Trigger will skip on the specified Skip After Date .
Skip Date List	If Skip Restriction is On; List of dates on which the trigger will skip.
Variable Monitor Details	This section contains assorted detailed information about the trigger.
Variable Monitor	<p>Required; Variable Monitor task being executed. Enter a task name, select a task from the drop-down list, or click the Task Details icon to create a new task. If a task already is specified in this field, click the Task Details icon to view (and change, as desired) the Details of that task.</p> <div style="border: 1px solid #ccc; padding: 10px; margin-top: 10px;"> <p>Note If you click the Details icon to create or update a Variable Monitor, Change is pre-selected for the Variable Monitor Type field and cannot be changed.</p> </div>
Running Monitor	System-supplied; Name of the currently running task instance of the specified Variable Monitor task that was launched by this enabled trigger.
Restrictions	This section specifies any restrictions that apply to the trigger.
Restrict Times	Period during which the trigger is active. Enable this field and specify the start and end times in the Enabled Start and Enabled End fields.
Enabled Start	If Restrict Times is enabled, allows you to specify the start time of the period during which the trigger should be active. Use 24-hour time.
Enabled End	If Restrict Times is enabled, allows you to specify the end time of the period during which the trigger should be active. Use 24-hour time.
Special Restriction	<p>Enable this field in order to specify additional parameters that tell the Controller how to handle exceptions, such as when the trigger is satisfied on a holiday or non-business day. You can specify simple and/or complex restrictions.</p> <p>For example, you can specify a Simple Restriction that disables the trigger if it is satisfied on a holiday identified in the calendar and /or a Complex Restriction that disables the trigger on the last business day of every month.</p>
Action	<p>If Special Restriction is enabled, allows you to select an action to take on a non-business day or holiday (see Situation field).</p> <p>Options:</p> <ul style="list-style-type: none"> • Do Not Trigger • Next Day (run on the next day) • Next Business Day (run on the next business day, as defined in the calendar)

	<ul style="list-style-type: none"> • Previous Day (run on the previous day) • Previous Business Day (run on the previous business day, as defined in the calendar)
Simple Restriction	If enabled, allows you to specify an action (see Action field) such as Do Not Trigger on a non-business day or holiday (see Situation field). For example, do not trigger on a non-business day.
Situation	<p>If Simple Restriction is enabled, allows you to select the situation that causes the system to initiate the action specified in the Action field.</p> <p>Options:</p> <ul style="list-style-type: none"> • On Non Business Day • On Holiday
Complex Restriction	If enabled, allows you to specify a set of parameters that determine one or more situations when this trigger should not be satisfied. Used in conjunction with the following fields: Restriction Mode , Restriction Adjective , Restriction Noun , Restriction Qualifier . For example, you may specify that you do not want to satisfy this trigger on the last business day of the year or the first day of each month.
Restriction Mode	<p>If both Simple Restriction and Complex Restriction are enabled, specifies whether you want to use both restriction types (AND) or one or the other (OR).</p> <p>Options:</p> <ul style="list-style-type: none"> • And • Or
Restriction Adjective	<p>If Complex Restriction is enabled, the type of selection.</p> <p>Options:</p> <ul style="list-style-type: none"> • Every • 1st • 2nd • 3rd • 4th • Last • Nth <p>Example: The last business day of the month.</p>
Restriction Noun(s)	<p>If Complex Restriction is enabled, the day(s) you want to select.</p> <p>Options:</p> <ul style="list-style-type: none"> • Sunday through Saturday • Day • Business Day • Custom Day <p>Example: The last Business Day and Sunday of the month.</p>
Restriction Qualifier(s)	<p>If Complex Restriction is enabled, the period(s) you are selecting from.</p> <p>Options:</p> <ul style="list-style-type: none"> • Jan - Dec • Month • Year • Week • Quarter

	<ul style="list-style-type: none"> • Custom period <p>Example: The last Day of Quarter, Year, and January.</p>
Restricti on Nth Amount	<p>If Restriction Adjective is Nth, allows you to specify the value of N.</p> <p>If Restriction Qualifier is Week, Restriction Nth Amount must be <= 7.</p>
Metada ta	This section contains Metadata information about this record.
UUID	Universally Unique Identifier of this record.
Update d By	Name of the user that last updated this record.
Updated	Date and time that this record was last updated.
Created By	Name of the user that created this record.
Created	Date and time that this record was created.
Buttons	This section identifies the buttons displayed above and below the Trigger Details that let you perform various actions.
Save	Saves a new task record in the Controller database.
Save & New	Saves a new record in the Controller database and redisplay empty Details so that you can create another new record.
Save & View	Saves a new record in the Controller database and continues to display that record.
New	Displays empty (except for default values) Details for creating a new record.
Update	Saves updates to the record.
Enable	Activates this trigger and writes your User ID to the Enabled By field.
Disable	Deactivates this trigger.
Trigger Now...	<p>Immediately triggers all the tasks specified in this trigger.</p> <p>Optionally, you also can select to:</p> <ul style="list-style-type: none"> • Launch the task(s) specified in the trigger with one or more variables. • Launch the task(s) specified in the trigger by a specified date and time. • Launch the task(s) specified in the trigger but place them in Held status; they will not run until they are released. <div style="border: 1px solid #f0e68c; padding: 10px; margin-top: 10px;"> <p>Note</p> <p>If you click Trigger Now... for an Enabled trigger that does not have an assigned Execution User, the trigger will launch its task(s) under the context of the Enabled By user.</p> <p>If you click Trigger Now... for a Disabled trigger that does not have an assigned Execution User, the trigger will launch its task(s) under the context of your user name and ID.</p> <p>If you click Trigger Now... for an Enabled or Disabled trigger that has an assigned Execution User, the trigger will launch its task(s) under the context of the assigned Execution User.</p> </div>
Copy	Creates a copy of this trigger, which you are prompted to rename.

Delete	Deletes the current record.
Refresh	Refreshes any dynamic data displayed in the Details.
Close	For pop-up view only; closes the pop-up view of this trigger.
Tabs	This section identifies the tabs across the top of the Trigger Details that provide access to additional information about the trigger.
Variables	Lists all user-defined variables associated with this record; that is, variables that have been defined for this specific record.
Instances	Lists all task instances that were triggered directly by this trigger.
Notes	Lists all notes associated with this record.
Versions	Stores copies of all previous versions of the current record. See Record Versioning .

Email Monitor Trigger

- [Overview](#)
- [Built-In Variables](#)
- [Prerequisites](#)
- [Creating an Email Monitor Trigger](#)
 - [Email Monitor Trigger Details](#)
 - [Email Monitor Trigger Details Field Descriptions](#)

Overview

The Email Monitor trigger allows you to trigger one or more tasks based on the status of a Mailbox Folder being monitored, as specified by a selected [Email Monitor task](#).

Built-In Variables

The built-in variables outlined below can be used to pass data where appropriate:

- [Task and Task Instance Variables](#)
- [Email Monitor Variables](#).

Prerequisites

Before you can use a Email Monitor Trigger, you need the following:

- A [Windows, Linux/Unix, or z/OS](#) agent, which will execute the Email Monitor task.
- An [Email Monitor task](#), which specifies an Email Mailbox folder to monitor.

Note

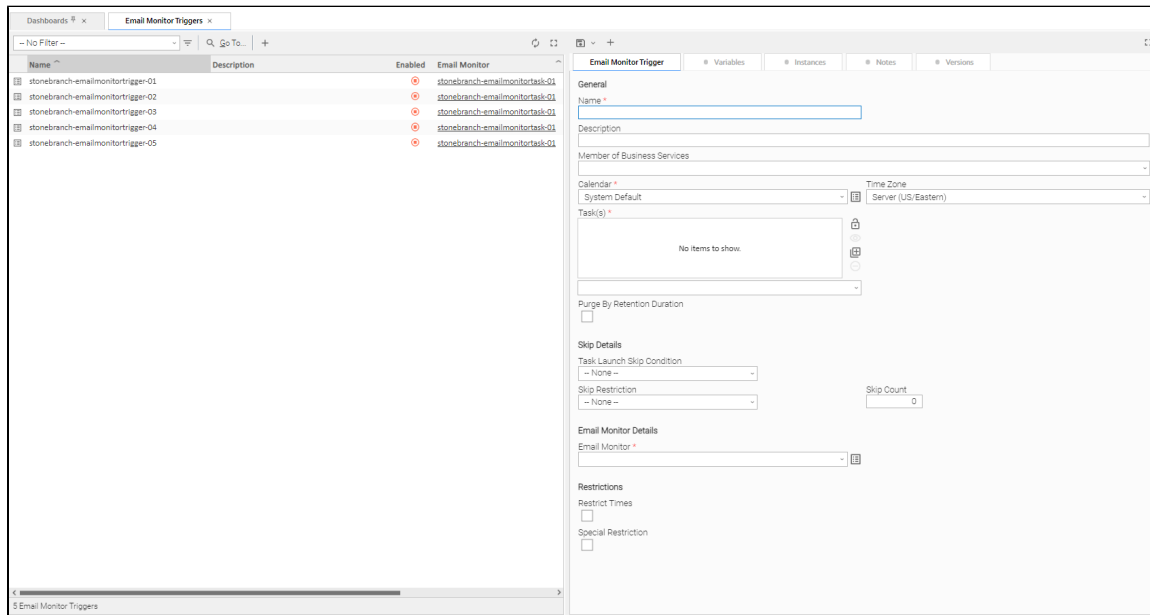
Any changes made to an Email Monitor task are not recognized by its respective Email Monitor Triggers until those Triggers are disabled and re-enabled.

Creating an Email Monitor Trigger

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From the [Automation Center](#) navigation pane, select **Triggers > File Monitor Triggers**. The Email Monitor Triggers list displays.

Below the list, Email Monitor Trigger Details for a new Email Monitor trigger displays.




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Enter/select Details for a new Email Monitor trigger, using the [field descriptions](#) below as a guide.

- Required fields display an asterisk (*) after the field name.
- Default values for fields, if available, display automatically.

To display more of the Details fields on the screen, you can either:

- Use the scroll bar.
- Temporarily [hide the list](#) above the Details.
- Click the  button above the list to display a pop-up version of the Details.

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Click a  button. The trigger is added to the database, and all buttons and tabs in the Trigger Details are enabled.

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4**

[Enable the trigger\(s\)](#) as desired.

Note

To [open](#) an existing record on the list, either:

- Click a record in the list to display its record Details below the list. (To clear record Details below the list, click the **New** button that displays above and below the Details.)
- Clicking the [Details icon](#) next to a record name in the list, or right-click a record in the list and then click **Open** in the [Action menu](#) that displays, to display a pop-up version of the record Details.
- Right-click a record in the a list, or open a record and right-click in the record Details, and then click **Open In Tab** in the [Action menu](#) that displays, to display the record Details under a new tab on the record list page (see [Record Details as Tabs](#)).

Email Monitor Trigger Details

The following Email Monitor Trigger Details is for an existing Email Monitor trigger. See the [field descriptions](#), below, for a description of the fields that display in the Email Monitor Trigger Details.

Email Monitor Trigger Details: stonebranch-emailmonitortrigger-01 - ☰ ×

Enable Trigger Now... ↻

Email Monitor Trigger
Variables
Instances
Notes
Versions

General

Name * Version

Description

Member of Business Services

Calendar * Time Zone

Task(s) * 🔒
👁

Purge By Retention Duration

Status

Status

Disabled By Disabled Time

Skip Details

Task Launch Skip Condition

Skip Restriction Skip Count

Email Monitor Details

Email Monitor *

Restrictions

Restrict Times

Special Restriction

Email Monitor Trigger Details Field Descriptions

The following table describes the fields, buttons, and tabs that display in the Email Monitor Trigger Details.

Field Name	Description
General	This section contains general information about the trigger.
Name	Name used within the Controller to identify this trigger. It can contain a maximum of 255 alphanumeric characters. It is the responsibility of the user to develop a workable naming scheme for triggers.
Version	

	System-supplied; version number of the current record, which is incremented by the system every time a user updates a record. Click the Versions tab to view previous versions. For details, see Record Versioning .
Description	Description of this record. (Maximum = 255 characters.)
Member of Business Services	User-defined; Allows you to select one or more Business Services that this record belongs to. (You also can Check All or Uncheck All Business Services for this record.) You can select up to 62 Business Services for any record type, and enter a maximum of 2048 characters for each Business Service. If the Business Service Visibility Restricted Universal Controller system property is set to true, depending on your assigned (or inherited) Permissions or Roles , Business Services available for selection may be restricted.
Calendar	Calendar that defines the business days, holidays, and other special days that determine the run dates for the task(s) specified in the trigger. Select a Calendar from the drop-down list of all existing Calendars. To display detailed information about a selected calendar, click the Details icon next to the Calendar field.
Time Zone	User-defined; allows you to specify the time zone that will be applied to the time(s) specified in the trigger. For example, if you specify 23:00 and a time zone of Canada/Central, the task will run at 11:00 p.m. Central Canada time.
Task(s)	Name of the task(s) being triggered when this trigger is satisfied. When selecting tasks from the Details, click on the lock icon to unlock the field and select tasks .
Purge By Retention Duration	Specification for whether triggered task instances can be purged by retention duration .
Exclude Backup	If Purge By Retention Duration is selected; Specification for whether qualifying task instances can be excluded from the backup when being purged by retention duration.
Retention Duration	If Purge By Retention Duration is selected; Minimum retention duration for the selected Retention Duration Unit before triggered task instances can qualify for purge. If Retention Duration Unit = Days, valid values are 1 to 366. If Retention Duration Unit = Hours, valid values are 1 to 24.
Retention Duration Unit	If Purge By Retention Duration is selected; Retention duration unit. Options: <ul style="list-style-type: none"> • Hours • Days
Execution User	Read-only; Execution user that has been selected (via the Assign Execution User action) to override the execution user of task instances being launched by the trigger.
Status	This section contains information about the current status of the trigger.
Status	System-defined; Specification for whether the trigger is Enabled or Disabled. The user enables and disables the trigger by clicking the Enable / Disable buttons. Only enabled triggers are processed by the Controller.

Next Scheduled Time	System-supplied; for time-based triggers. If Status = Enabled, the next date and time this trigger will be satisfied. See Displaying Trigger Forecast Information .
Enabled By	System-supplied. If Status = Enabled, ID of the user who most recently enabled this trigger.
Disabled By	System-supplied; If Status = Disabled, ID of the user who most recently disabled this trigger. (By default, all new triggers are disabled.)
Enabled Time	System-supplied. If Status = Enabled, Date and time that the trigger was enabled.
Disabled Time	System-supplied. If Status = Disabled, Date and time that the trigger was disabled.
Skip Details	This section contains detailed information about skipping the trigger.
Task Launch Skip Condition	<p>User-defined; Controls when launching a task for the trigger will be skipped.</p> <p>Default is the value of the Trigger Task Launch Skip Condition Default Universal Controller system property.</p> <p>Options:</p> <ul style="list-style-type: none"> • -- None -- Do not skip the task launch. • Active Skip the task launch if a previous instance is still active. • Active By Trigger Skip the task launch if a previous instance launched by the trigger is still active. <p>Task Launch Skip Condition is not applicable when using the Trigger Now... command and will be ignored.</p>
Skip Restriction	<p>User-defined; Specification for when this trigger should skip and not launch the task(s).</p> <p>Options:</p> <ul style="list-style-type: none"> • -- None -- No skip restrictions • Before Trigger will skip if the current date and time is before the specified Skip Before Date and Skip Before Time values. • After Trigger will skip if the current date and time is after the specified Skip After Date and Skip After Time values. • Span Trigger will skip if the date and time qualifies based upon the specified Skip After Date, Skip After Time, Skip Before Date, and Skip After Date values. <div style="border: 1px solid #ccc; padding: 10px; margin: 10px 0;"> <p>Note</p> <p>If Skip After Date and Skip After Time are prior to the Skip Before Date and Skip Before Time, the Span is a "between" period. In this case, if the triggered time is after the Skip After Date and Skip After Time as well as before the Skip Before Date and Skip Before Time, the Trigger will skip and not launch the configured Task(s).</p> <p>If the Skip Before Date and Skip Before Time are prior to the Skip After Date and Skip After Time, the Span is a "not between" period. In this case, if the triggered time is either after the Skip After Date and Skip After Time or before the Skip Before Date and Skip Before Time, then the trigger will skip and not launch the configured Task(s).</p> </div> <ul style="list-style-type: none"> • On Trigger will skip on any of the dates specified in the Skip Date List. <p>Default is -- None --.</p>
Skip Count	<p>User-defined; Allows you to specify that the Controller should skip the next <i>N</i> times this task is triggered.</p> <p>Skip Count is not applicable when using the Trigger Now... command and will be ignored.</p>

Skip Before Date	If Skip Restriction is Before or Span; Date before which the Trigger will skip.
Skip Before Time	If Skip Restriction is Before or Span; Time before which the Trigger will skip on the specified Skip Before Date .
Skip After Date	If Skip Restriction is After or Span; Date after which the Trigger will Skip.
Skip After Time	If Skip Restriction is After or Span; Time after which the Trigger will skip on the specified Skip After Date .
Skip Date List	If Skip Restriction is On; List of dates on which the trigger will skip.
Email Monitor Details	This section contains assorted detailed information about the trigger.
Email Monitor	Required; Email Monitor task being executed. Enter a task name, select a task from the drop-down list, or click the Task Details icon to create a new task. If a task already is specified in this field, click the Task Details icon to view the Details of that task.
Running Monitor	System-supplied; Name of the currently running task instance of the specified Email Monitor task that was launched by this enabled trigger.
Restrictions	This section specifies any restrictions that apply to the trigger.
Restrict Times	Period during which the trigger is active. Enable this field and specify the start and end times in the Enabled Start and Enabled End fields.
Enabled Start	If Restrict Times is enabled, allows you to specify the start time of the period during which the trigger should be active. Use 24-hour time.
Enabled End	If Restrict Times is enabled, allows you to specify the end time of the period during which the trigger should be active. Use 24-hour time.
Special Restriction	<p>Enable this field in order to specify additional parameters that tell the Controller how to handle exceptions, such as when the trigger is satisfied on a holiday or non-business day. You can specify simple and/or complex restrictions.</p> <p>For example, you can specify a Simple Restriction that disables the trigger if it is satisfied on a holiday identified in the calendar and /or a Complex Restriction that disables the trigger on the last business day of every month.</p>
Action	<p>If Special Restriction is enabled, allows you to select an action to take on a non-business day or holiday (see Situation field).</p> <p>Options:</p> <ul style="list-style-type: none"> • Do Not Trigger • Next Day (run on the next day) • Next Business Day (run on the next business day, as defined in the calendar) • Previous Day (run on the previous day) • Previous Business Day (run on the previous business day, as defined in the calendar)
Simple Restriction	If enabled, allows you to specify an action (see Action field) such as Do Not Trigger on a non-business day or holiday (see Situation field). For example, do not trigger on a non-business day.

Situation	<p>If Simple Restriction is enabled, allows you to select the situation that causes the system to initiate the action specified in the Action field.</p> <p>Options:</p> <ul style="list-style-type: none"> • On Non Business Day • On Holiday
Complex Restriction	<p>If enabled, allows you to specify a set of parameters that determine one or more situations when this trigger should not be satisfied. Used in conjunction with the following fields: Restriction Mode, Restriction Adjective, Restriction Noun, Restriction Qualifier. For example, you may specify that you do not want to satisfy this trigger on the last business day of the year or the first day of each month.</p>
Restriction Mode	<p>If both Simple Restriction and Complex Restriction are enabled, specifies whether you want to use both restriction types (AND) or one or the other (OR).</p> <p>Options:</p> <ul style="list-style-type: none"> • And • Or
Restriction Adjective	<p>If Complex Restriction is enabled, the type of selection.</p> <p>Options:</p> <ul style="list-style-type: none"> • Every • 1st • 2nd • 3rd • 4th • Last • Nth <p>Example: The last business day of the month.</p>
Restriction Noun(s)	<p>If Complex Restriction is enabled, the day(s) you want to select.</p> <p>Options:</p> <ul style="list-style-type: none"> • Sunday through Saturday • Day • Business Day • Custom Day <p>Example: The last Business Day and Sunday of the month.</p>
Restriction Qualifier(s)	<p>If Complex Restriction is enabled, the period(s) you are selecting from.</p> <p>Options:</p> <ul style="list-style-type: none"> • Jan - Dec • Month • Year • Week • Quarter • Custom period <p>Example: The last Day of Quarter, Year, and January.</p>
Restriction Nth Amount	<p>If Restriction Adjective is Nth, allows you to specify the value of N.</p>

	If Restriction Qualifier is Week, Restriction Nth Amount must be <= 7.
Metadata	This section contains Metadata information about this record.
UUID	Universally Unique Identifier of this record.
Updated By	Name of the user that last updated this record.
Updated	Date and time that this record was last updated.
Created By	Name of the user that created this record.
Created	Date and time that this record was created.
Buttons	This section identifies the buttons displayed above and below the Trigger Details that let you perform various actions.
Save	Saves a new task record in the Controller database.
Save & New	Saves a new record in the Controller database and redisplay empty Details so that you can create another new record.
Save & View	Saves a new record in the Controller database and continues to display that record.
New	Displays empty (except for default values) Details for creating a new record.
Update	Saves updates to the record.
Enable	Activates this trigger and writes your User ID to the Enabled By field.
Disable	Deactivates this trigger.
Trigger Now...	<p>Immediately triggers all the tasks specified in this trigger.</p> <p>Optionally, you also can select to:</p> <ul style="list-style-type: none"> • Launch the task(s) specified in the trigger with one or more variables. • Launch the task(s) specified in the trigger by a specified date and time. • Launch the task(s) specified in the trigger but place them in Held status; they will not run until they are released. <div style="border: 1px solid #f9e79f; padding: 10px; margin-top: 10px;"> <p>Note</p> <p>If you click Trigger Now... for an Enabled trigger that does not have an assigned Execution User, the trigger will launch its task(s) under the context of the Enabled By user.</p> <p>If you click Trigger Now... for a Disabled trigger that does not have an assigned Execution User, the trigger will launch its task(s) under the context of your user name and ID.</p> <p>If you click Trigger Now... for an Enabled or Disabled trigger that has an assigned Execution User, the trigger will launch its task(s) under the context of the assigned Execution User.</p> </div>
Copy	Creates a copy of this trigger, which you are prompted to rename.
Delete	Deletes the current record.
Refresh	Refreshes any dynamic data displayed in the Details.
Close	For pop-up view only; closes the pop-up view of this trigger.

Tabs	This section identifies the tabs across the top of the Trigger Details that provide access to additional information about the trigger.
Variables	Lists all user-defined variables associated with this record; that is, variables that have been defined for this specific record.
Instances	Lists all task instances that were triggered directly by this trigger.
Notes	Lists all notes associated with this record.
Versions	Stores copies of all previous versions of the current record. See Record Versioning .

Universal Monitor Trigger

- [Overview](#)
- [Built-In Variables](#)
- [Prerequisites](#)
- [Creating a Universal Monitor Trigger](#)
 - [Universal Monitor Trigger Details](#)
 - [Universal Monitor Trigger Details Field Descriptions](#)

Overview

The Universal Monitor trigger allows you to trigger one or more tasks based on the status of published Universal Events, as specified by a selected [Universal Monitor task](#).

Built-In Variables

The built-in variables outlined below can be used to pass data where appropriate:

- [Task and Task Instance Variables](#)
- [Universal Event Variables](#)

Prerequisites

Before you can use a Universal Monitor Trigger, you need the following:

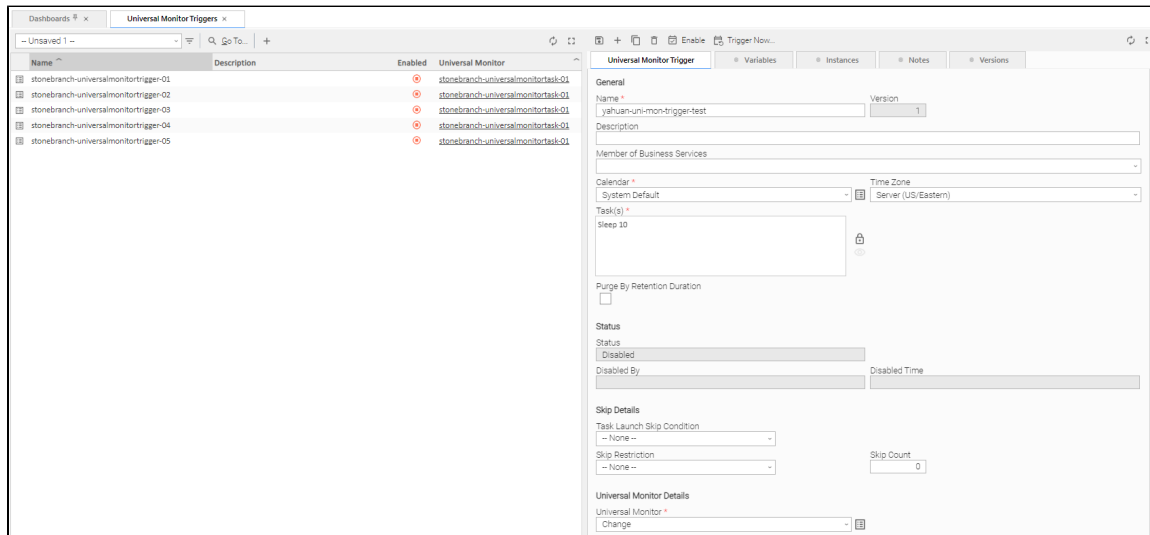
- A [Windows, Linux/Unix, or z/OS](#) agent, which will execute the Universal Monitor task.
- A [Universal Monitor task](#), which enables monitoring of published Universal Events.

Note

Any changes made to an Universal Monitor task are not recognized by its respective Universal Monitor Triggers until those Triggers are disabled and re-enabled.

Creating a Universal Monitor Trigger

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- From the [Automation Center](#) navigation pane, select **Triggers > Universal Monitor Triggers**. The Universal Monitor Triggers list displays.
- To the right of the list, Universal Monitor Trigger Details for a new Universal Monitor trigger displays.




Step 2


Enter/select Details for a new Universal Monitor trigger, using the [field descriptions](#) below as a guide.

- Required fields display an asterisk (*) after the field name.
- Default values for fields, if available, display automatically.

To display more of the Details fields on the screen, you can either:

- Use the scroll bar.
- Temporarily [hide the list](#) above the Details.
- Click the  button above the list to display a pop-up version of the Details.

Step 3

Click a  button. The trigger is added to the database, and all buttons and tabs in the Trigger Details are enabled.

Step 4

[Enable the trigger\(s\)](#) as desired.

Note

To [open](#) an existing record on the list, either:

- Click a record in the list to display its record Details below the list. (To clear record Details below the list, click the **New** button that displays above and below the Details.)
- Clicking the [Details icon](#) next to a record name in the list, or right-click a record in the list and then click **Open** in the [Action menu](#) that displays, to display a pop-up version of the record Details.
- Right-click a record in the a list, or open a record and right-click in the record Details, and then click **Open In Tab** in the [Action menu](#) that displays, to display the record Details under a new tab on the record list page (see [Record Details as Tabs](#)).

Universal Monitor Trigger Details

The following Universal Monitor Trigger Details is for an existing Universal Monitor trigger. See the [field descriptions](#), below, for a description of the fields that display in the Universal Monitor Trigger Details.

Universal Monitor Trigger Details: stonebranch-universalmonitortrigger-01
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Enable Trigger Now... ↻

Universal Monitor Trigger
• Variables
• Instances
• Notes
• Versions

General

Name * Version

Description

Member of Business Services

Calendar * Time Zone

Task(s) * 🔒

Purge By Retention Duration

Status

Status

Disabled By Disabled Time

Skip Details

Task Launch Skip Condition

Skip Restriction Skip Count

Universal Monitor Details

Universal Monitor *

Restrictions

Restrict Times

Special Restriction

Universal Monitor Trigger Details Field Descriptions

The following table describes the fields, buttons, and tabs that display in the Universal Monitor Trigger Details.

Field Name	Description
General	This section contains general information about the trigger.
Name	Name used within the Controller to identify this trigger. It can contain a maximum of 255 alphanumeric characters. It is the responsibility of the user to develop a workable naming scheme for triggers.
Version	

	System-supplied; version number of the current record, which is incremented by the system every time a user updates a record. Click the Versions tab to view previous versions. For details, see Record Versioning .
Description	Description of this record. (Maximum = 255 characters.)
Member of Business Services	User-defined; Allows you to select one or more Business Services that this record belongs to. (You also can Check All or Uncheck All Business Services for this record.) You can select up to 62 Business Services for any record type, and enter a maximum of 2048 characters for each Business Service. If the Business Service Visibility Restricted Universal Controller system property is set to true, depending on your assigned (or inherited) Permissions or Roles , Business Services available for selection may be restricted.
Calendar	Calendar that defines the business days, holidays, and other special days that determine the run dates for the task(s) specified in the trigger. Select a Calendar from the drop-down list of all existing Calendars. To display detailed information about a selected calendar, click the Details icon next to the Calendar field.
Time Zone	User-defined; allows you to specify the time zone that will be applied to the time(s) specified in the trigger. For example, if you specify 23:00 and a time zone of Canada/Central, the task will run at 11:00 p.m. Central Canada time.
Task(s)	Name of the task(s) being triggered when this trigger is satisfied. When selecting tasks from the Details, click on the lock icon to unlock the field and select tasks .
Purge By Retention Duration	Specification for whether triggered task instances can be purged by retention duration .
Exclude Backup	If Purge By Retention Duration is selected; Specification for whether qualifying task instances can be excluded from the backup when being purged by retention duration.
Retention Duration	If Purge By Retention Duration is selected; Minimum retention duration for the selected Retention Duration Unit before triggered task instances can qualify for purge. If Retention Duration Unit = Days, valid values are 1 to 366. If Retention Duration Unit = Hours, valid values are 1 to 24.
Retention Duration Unit	If Purge By Retention Duration is selected; Retention duration unit. Options: <ul style="list-style-type: none"> • Hours • Days
Execution User	Read-only; Execution user that has been selected (via the Assign Execution User action) to override the execution user of task instances being launched by the trigger.
Status	This section contains information about the current status of the trigger.
Status	System-defined; Specification for whether the trigger is Enabled or Disabled. The user enables and disables the trigger by clicking the Enable / Disable buttons. Only enabled triggers are processed by the Controller.

Next Scheduled Time	System-supplied; for time-based triggers. If Status = Enabled, the next date and time this trigger will be satisfied. See Displaying Trigger Forecast Information .
Enabled By	System-supplied. If Status = Enabled, ID of the user who most recently enabled this trigger.
Disabled By	System-supplied; If Status = Disabled, ID of the user who most recently disabled this trigger. (By default, all new triggers are disabled.)
Enabled Time	System-supplied. If Status = Enabled, Date and time that the trigger was enabled.
Disabled Time	System-supplied. If Status = Disabled, Date and time that the trigger was disabled.
Skip Details	This section contains detailed information about skipping the trigger.
Task Launch Skip Condition	<p>User-defined; Controls when launching a task for the trigger will be skipped.</p> <p>Default is the value of the Trigger Task Launch Skip Condition Default Universal Controller system property.</p> <p>Options:</p> <ul style="list-style-type: none"> • -- None -- Do not skip the task launch. • Active Skip the task launch if a previous instance is still active. • Active By Trigger Skip the task launch if a previous instance launched by the trigger is still active. <p>Task Launch Skip Condition is not applicable when using the Trigger Now... command and will be ignored.</p>
Skip Restriction	<p>User-defined; Specification for when this trigger should skip and not launch the task(s).</p> <p>Options:</p> <ul style="list-style-type: none"> • -- None -- No skip restrictions • Before Trigger will skip if the current date and time is before the specified Skip Before Date and Skip Before Time values. • After Trigger will skip if the current date and time is after the specified Skip After Date and Skip After Time values. • Span Trigger will skip if the date and time qualifies based upon the specified Skip After Date, Skip After Time, Skip Before Date, and Skip After Date values. <div style="border: 1px solid #ccc; padding: 10px; margin: 10px 0;"> <p>Note</p> <p>If Skip After Date and Skip After Time are prior to the Skip Before Date and Skip Before Time, the Span is a "between" period. In this case, if the triggered time is after the Skip After Date and Skip After Time as well as before the Skip Before Date and Skip Before Time, the Trigger will skip and not launch the configured Task(s).</p> <p>If the Skip Before Date and Skip Before Time are prior to the Skip After Date and Skip After Time, the Span is a "not between" period. In this case, if the triggered time is either after the Skip After Date and Skip After Time or before the Skip Before Date and Skip Before Time, then the trigger will skip and not launch the configured Task(s).</p> </div> <ul style="list-style-type: none"> • On Trigger will skip on any of the dates specified in the Skip Date List. <p>Default is -- None --.</p>
Skip Count	<p>User-defined; Allows you to specify that the Controller should skip the next <i>N</i> times this task is triggered.</p> <p>Skip Count is not applicable when using the Trigger Now... command and will be ignored.</p>

Skip Before Date	If Skip Restriction is Before or Span; Date before which the Trigger will skip.
Skip Before Time	If Skip Restriction is Before or Span; Time before which the Trigger will skip on the specified Skip Before Date .
Skip After Date	If Skip Restriction is After or Span; Date after which the Trigger will Skip.
Skip After Time	If Skip Restriction is After or Span; Time after which the Trigger will skip on the specified Skip After Date .
Skip Date List	If Skip Restriction is On; List of dates on which the trigger will skip.
Universal Monitor Details	This section contains assorted detailed information about the trigger.
Universal Monitor	Required; Universal Monitor task being executed. Enter a task name, select a task from the drop-down list, or click the Task Details icon to create a new task. If a task already is specified in this field, click the Task Details icon to view the Details of that task.
Running Monitor	System-supplied; Name of the currently running task instance of the specified Universal Monitor task that was launched by this enabled trigger.
Restrictions	This section specifies any restrictions that apply to the trigger.
Restrict Times	Period during which the trigger is active. Enable this field and specify the start and end times in the Enabled Start and Enabled End fields.
Enabled Start	If Restrict Times is enabled, allows you to specify the start time of the period during which the trigger should be active. Use 24-hour time.
Enabled End	If Restrict Times is enabled, allows you to specify the end time of the period during which the trigger should be active. Use 24-hour time.
Special Restriction	<p>Enable this field in order to specify additional parameters that tell the Controller how to handle exceptions, such as when the trigger is satisfied on a holiday or non-business day. You can specify simple and/or complex restrictions.</p> <p>For example, you can specify a Simple Restriction that disables the trigger if it is satisfied on a holiday identified in the calendar and /or a Complex Restriction that disables the trigger on the last business day of every month.</p>
Action	<p>If Special Restriction is enabled, allows you to select an action to take on a non-business day or holiday (see Situation field).</p> <p>Options:</p> <ul style="list-style-type: none"> • Do Not Trigger • Next Day (run on the next day) • Next Business Day (run on the next business day, as defined in the calendar) • Previous Day (run on the previous day) • Previous Business Day (run on the previous business day, as defined in the calendar)

Simple Restriction	If enabled, allows you to specify an action (see Action field) such as Do Not Trigger on a non-business day or holiday (see Situation field). For example, do not trigger on a non-business day.
Situation	<p>If Simple Restriction is enabled, allows you to select the situation that causes the system to initiate the action specified in the Action field.</p> <p>Options:</p> <ul style="list-style-type: none"> • On Non Business Day • On Holiday
Complex Restriction	If enabled, allows you to specify a set of parameters that determine one or more situations when this trigger should not be satisfied. Used in conjunction with the following fields: Restriction Mode , Restriction Adjective , Restriction Noun , Restriction Qualifier . For example, you may specify that you do not want to satisfy this trigger on the last business day of the year or the first day of each month.
Restriction Mode	<p>If both Simple Restriction and Complex Restriction are enabled, specifies whether you want to use both restriction types (AND) or one or the other (OR).</p> <p>Options:</p> <ul style="list-style-type: none"> • And • Or
Restriction Adjective	<p>If Complex Restriction is enabled, the type of selection.</p> <p>Options:</p> <ul style="list-style-type: none"> • Every • 1st • 2nd • 3rd • 4th • Last • Nth <p>Example: The last business day of the month.</p>
Restriction Noun(s)	<p>If Complex Restriction is enabled, the day(s) you want to select.</p> <p>Options:</p> <ul style="list-style-type: none"> • Sunday through Saturday • Day • Business Day • Custom Day <p>Example: The last Business Day and Sunday of the month.</p>
Restriction Qualifier(s)	<p>If Complex Restriction is enabled, the period(s) you are selecting from.</p> <p>Options:</p> <ul style="list-style-type: none"> • Jan - Dec • Month • Year • Week • Quarter • Custom period <p>Example: The last Day of Quarter, Year, and January.</p>

Restrict on Nth Amount	<p>If Restriction Adjective is Nth, allows you to specify the value of N.</p> <p>If Restriction Qualifier is Week, Restriction Nth Amount must be <= 7.</p>
Metadata	This section contains Metadata information about this record.
UUID	Universally Unique Identifier of this record.
Updated By	Name of the user that last updated this record.
Updated	Date and time that this record was last updated.
Created By	Name of the user that created this record.
Created	Date and time that this record was created.
Buttons	This section identifies the buttons displayed above and below the Trigger Details that let you perform various actions.
Save	Saves a new task record in the Controller database.
Save & New	Saves a new record in the Controller database and redisplay empty Details so that you can create another new record.
Save & View	Saves a new record in the Controller database and continues to display that record.
New	Displays empty (except for default values) Details for creating a new record.
Update	Saves updates to the record.
Enable	Activates this trigger and writes your User ID to the Enabled By field.
Disable	Deactivates this trigger.
Trigger Now...	<p>Immediately triggers all the tasks specified in this trigger.</p> <p>Optionally, you also can select to:</p> <ul style="list-style-type: none"> • Launch the task(s) specified in the trigger with one or more variables. • Launch the task(s) specified in the trigger by a specified date and time. • Launch the task(s) specified in the trigger but place them in Held status; they will not run until they are released. <div style="border: 1px solid #f0e68c; padding: 10px; margin-top: 10px;"> <p>Note</p> <p>If you click Trigger Now... for an Enabled trigger that does not have an assigned Execution User, the trigger will launch its task(s) under the context of the Enabled By user.</p> <p>If you click Trigger Now... for a Disabled trigger that does not have an assigned Execution User, the trigger will launch its task(s) under the context of your user name and ID.</p> <p>If you click Trigger Now... for an Enabled or Disabled trigger that has an assigned Execution User, the trigger will launch its task(s) under the context of the assigned Execution User.</p> </div>
Copy	Creates a copy of this trigger, which you are prompted to rename.
Delete	Deletes the current record.

Refresh	Refreshes any dynamic data displayed in the Details.
Close	For pop-up view only; closes the pop-up view of this trigger.
Tabs	This section identifies the tabs across the top of the Trigger Details that provide access to additional information about the trigger.
Variables	Lists all user-defined variables associated with this record; that is, variables that have been defined for this specific record.
Instances	Lists all task instances that were triggered directly by this trigger.
Notes	Lists all notes associated with this record.
Versions	Stores copies of all previous versions of the current record. See Record Versioning .

Composite Trigger

- [Overview](#)
- [Built-In Variables](#)
- [Monitoring Component Status](#)
- [Forecasting](#)
- [Creating a Composite Trigger](#)
 - [Composite Trigger Details](#)
 - [Composite Trigger Details Field Descriptions](#)
- [Time Component](#)
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 - [Universal Monitor Component Details Field Descriptions](#)

Overview

The Composite trigger consists of Time, Agent File Monitor, Task Monitor, Variable Monitor, and Email Monitor components - which function like [Time](#), [Agent File Monitor](#), [Task Monitor](#), [Variable Monitor](#), and [Email Monitor](#) triggers - that allow you to trigger one or more tasks based on correlated events from those components.

Each Composite trigger can contain the following number of components:

- [Time Component](#) (0 or 1)
- [Agent File Monitor Component](#) (0 or more)
- [Task Monitor Component](#) (0 or more)
- [Variable Monitor Component](#) (0 or more)
- [Email Monitor Component](#) (0 or more)
- [Universal Monitor Component](#) (0 or more)

When you enable a Composite trigger, all components of that trigger are enabled. Each enabled component has its own event queue. When a component fires, an event is enqueued and the component notifies its parent Composite trigger. The Composite trigger will then check the event queues of all of its components and launch the specified task(s) if a correlated set of events is found.

Note

If a Composite trigger has [Restrict Times](#) enabled, its components will be enabled only within the specified [Enabled Start](#) and [Enabled End](#) times:

- If the Composite trigger is disabled, the components stay disabled.
- If the Composite trigger is enabled, and the time is within its specified [Enabled Start](#) and [Enabled End](#) times, its components will be enabled.
- If the Composite trigger is enabled, and the time is outside of its specified [Enabled Start](#) and [Enabled End](#) times, its components will stay disabled.

The Composite Trigger Details provides the following fields for component queue specifications:

- [Time Limit](#) and [Time Limit Units](#) specify the length of time that events are maintained in all component queues.
- [Queue Depth](#) specifies the maximum number of events that can be contained in each component queue. If the maximum has been reached but more events are ready to be placed in a queue, the oldest events are discarded.

Built-In Variables

In order to propagate [built-in variables](#) up to a Composite trigger, from the files, tasks, and variables being monitored by its File Monitor, Task Monitor, Variable Monitor, and Email Monitor components, the Component Details provide a **Variable Prefix** field.

- If a **Variable Prefix** is not specified, no built-in variables for that component will be propagated.
- If a **Variable Prefix** is specified, all built-in variables supported by the component type will be propagated using the specified prefix rather than the reserved **ops_** prefix.

Additionally, all components - File Monitor, Task Monitor, Variable Monitor, Email Monitor, and Time - support the built-in variable `<prefix>trigger_component_event_time` that resolves to the time when the component fired.

Monitoring Component Status

You can monitor the following statuses of each enabled component in its component Details (available via the Components tab of the Composite trigger).

Component	Status
Time	<ul style="list-style-type: none">• Status• Next Scheduled Time
File Monitor	<ul style="list-style-type: none">• Status• Running Monitor• Monitor Status
Task Monitor	<ul style="list-style-type: none">• Status• Running Monitor• Monitor Status
Variable Monitor	<ul style="list-style-type: none">• Status• Running Monitor• Monitor Status
Email Monitor	<ul style="list-style-type: none">• Status• Running Monitor• Monitor Status
Universal Monitor	<ul style="list-style-type: none">• Status• Running Monitor• Monitor Status

Forecasting

Forecasting is not supported for Composite triggers.

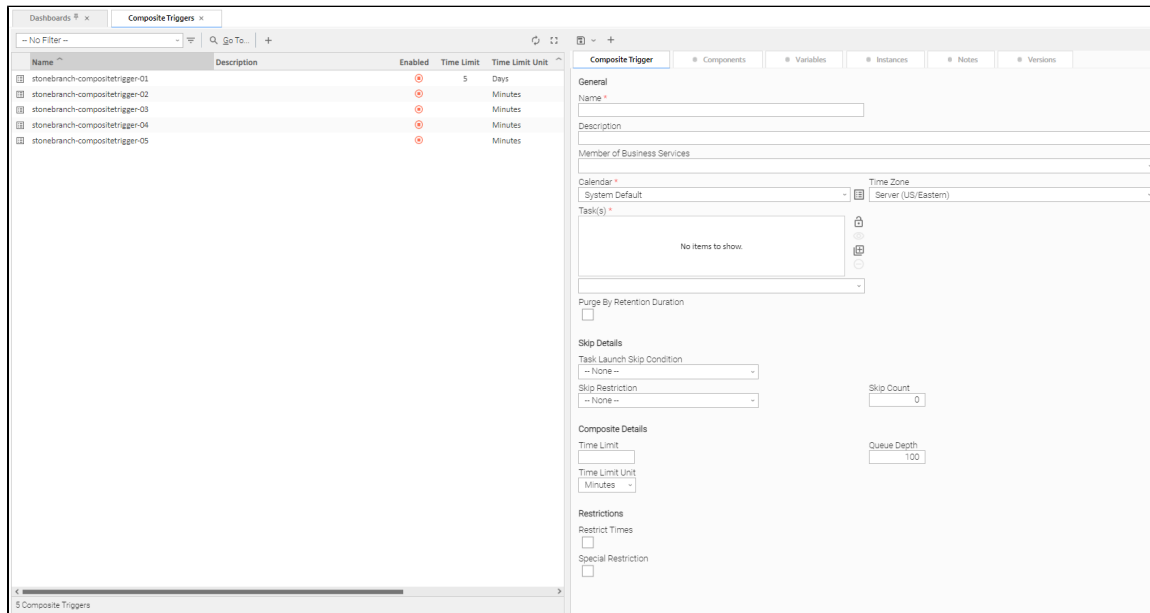
Creating a Composite Trigger



Step 1

From the [Automation Center](#) navigation pane, select **Triggers > Composite Triggers**. The Composite Triggers list displays.

To the right of the list, Composite Trigger Details for a new Composite trigger displays.




Step 2


Enter/select Details for a new Composite trigger, using the [field descriptions](#) below as a guide.

- Required fields display an asterisk (*) after the field name.
- Default values for fields, if available, display automatically.

To display more of the Details fields on the screen, you can either:

- Use the scroll bar.
- Temporarily [hide the list](#) above the Details.
- Click the  button above the list to display a pop-up version of the Details.

Step 3

Click a  button. The trigger is added to the database, and all buttons and tabs in the Trigger Details are enabled.

Step 4

[Enable the trigger\(s\)](#) as desired.

Note

To [open](#) an existing record on the list, either:

- Click a record in the list to display its record Details below the list. (To clear record Details below the list, click the **New** button that displays above and below the Details.)
- Clicking the [Details icon](#) next to a record name in the list, or right-click a record in the list and then click **Open** in the [Action menu](#) that displays, to display a pop-up version of the record Details.
- Right-click a record in the a list, or open a record and right-click in the record Details, and then click **Open In Tab** in the [Action menu](#) that displays, to display the record Details under a new tab on the record list page (see [Record Details as Tabs](#)).

Composite Trigger Details

The following Composite Trigger Details is for an existing Composite trigger. See the [field descriptions](#), below, for a description of the fields that display in the Composite Trigger Details.

Composite Trigger Details: stonebranch-compositetrigger-01 - ☰ ×

Enable Trigger Now... ↻

Composite Trigger
● Components
● Variables
● Instances
● Notes
● Versions

General

Name * Version

Description

Member of Business Services

Calendar * Time Zone

Task(s) *
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Purge By Retention Duration

Status

Status

Disabled By Disabled Time

Skip Details

Task Launch Skip Condition

Skip Restriction Skip Count

Composite Details

Time Limit Queue Depth

Time Limit Unit

Restrictions

Restrict Times

Special Restriction

Composite Trigger Details Field Descriptions

The following table describes the fields, buttons, and tabs that display in the Composite Trigger Details.

Field Name	Description
General	This section contains general information about the trigger.

n e r a l	
N a m e	Name used within the Controller to identify this trigger. It can contain a maximum of 255 alphanumerics. It is the responsibility of the user to
V e r s i o n	System-supplied; version number of the current record, which is incremented by the system every time a user updates a record. Click the Ve
D e s c r i p t i o n	Description of this record. (Maximum = 255 characters.)
M e m b e r o f B u s i n e s s S e r v i c e s	User-defined; Allows you to select one or more Business Services that this record belongs to. (You also can Check All or Uncheck All Busir You can select up to 62 Business Services for any record type, and enter a maximum of 2048 characters for each Business Service. If the Business Service Visibility Restricted Universal Controller system property is set to true, depending on your assigned (or inherited) Pei
C a l e n d a r	Calendar that defines the business days, holidays, and other special days that determine the run dates for the task(s) specified in the trigger Select a Calendar from the drop-down list of all existing Calendars. To display detailed information about a selected calendar, click the Deta
T i m e Z o n e	User-defined; allows you to specify the time zone that will be applied to the time(s) specified in the trigger. For example, if you specify 23:00
T a s k (s)	Name of the task(s) being triggered when this trigger is satisfied. When selecting tasks from the Details, click on the lock icon to unlock the f
P u r g e B y R e t e n t i o n D u r a t i o n	Specification for whether triggered task instances can be purged by retention duration .
E x c l u d e B	If Purge By Retention Duration is selected; Specification for whether qualifying task instances can be excluded from the backup when being

ac kup	
R et en tio n D ur ati on	<p>If Purge By Retention Duration is selected; Minimum retention duration for the selected Retention Duration Unit before triggered task instance.</p> <p>If Retention Duration Unit = Days, valid values are 1 to 366.</p> <p>If Retention Duration Unit = Hours, valid values are 1 to 24.</p>
R et en tio n D ur ati on U nit	<p>If Purge By Retention Duration is selected; Retention duration unit.</p> <p>Options:</p> <ul style="list-style-type: none"> • Hours • Days
Ex ec uti on U ser	Read-only; Execution user that has been selected (via the Assign Execution User action) to override the execution user of task instances being
S ta t us	This section contains information about the current status of the trigger.
St at us	System-defined; Specification for whether the trigger is Enabled or Disabled. The user enables and disables the trigger by clicking the Enabl
N ex t Sc he du le d Ti me	System-supplied; for time-based triggers. If Status = Enabled, the next date and time this trigger will be satisfied. See Displaying Trigger For
E na bl ed By	System-supplied. If Status = Enabled, ID of the user who most recently enabled this trigger.
Di sa bl ed By	System-supplied; If Status = Disabled, ID of the user who most recently disabled this trigger. (By default, all new triggers are disabled.)
E na bl ed Ti me	System-supplied. If Status = Enabled, Date and time that the trigger was enabled.
Di sa	System-supplied. If Status = Disabled, Date and time that the trigger was disabled.

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This section contains detailed information about skipping the trigger.

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User-defined; Controls when launching a task for the trigger will be skipped.

Default is the value of the [Trigger Task Launch Skip Condition Default](#) Universal Controller system property.

Options:

- -- None --
Do not skip the task launch.
- Active
Skip the task launch if a previous instance is still active.
- Active By Trigger
Skip the task launch if a previous instance launched by the trigger is still active.

Task Launch Skip Condition is not applicable when using the **Trigger Now...** command and will be ignored.

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User-defined; Specification for when this trigger should skip and not launch the task(s).

Options:

- -- None --
No skip restrictions
- Before
Trigger will skip if the current date and time is before the specified [Skip Before Date](#) and [Skip Before Time](#) values.
- After
Trigger will skip if the current date and time is after the specified [Skip After Date](#) and [Skip After Time](#) values.
- Span
Trigger will skip if the date and time qualifies based upon the specified [Skip After Date](#), [Skip After Time](#), [Skip Before Date](#), and [Skip Aft](#)

Note

If Skip After Date and Skip After Time are prior to the Skip Before Date and Skip Before Time, the Span is a "between" period. I will skip and not launch the configured Task(s).

If the Skip Before Date and Skip Before Time are prior to the Skip After Date and Skip After Time, the Span is a "not between" p the trigger will skip and not launch the configured Task(s).

- On
Trigger will skip on any of the dates specified in the [Skip Date Llst](#).

Default is -- None --.

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User-defined; Allows you to specify that the Controller should skip the next *N* times this task is triggered.

Skip Count is not applicable when using the **Trigger Now...** command and will be ignored.

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If [Skip Restriction](#) is Before or Span; Date before which the Trigger will skip.

Skip Before Time	If Skip Restriction is Before or Span; Time before which the Trigger will skip on the specified Skip Before Date .
Skip After Date	If Skip Restriction is After or Span; Date after which the Trigger will Skip.
Skip After Time	If Skip Restriction is After or Span; Time after which the Trigger will skip on the specified Skip After Date .
Skip Date List	If Skip Restriction is On; List of dates on which the trigger will skip.
Component Details	This section contains assorted detailed information about the trigger.
Time Limit	Amount of time (in Time Limit Units) that component events will remain in their queue before being removed.
Time Limit Unit	Unit of time specified in the Time Limit field. Options: <ul style="list-style-type: none"> • Seconds • Minutes • Hours • Days
Queue Depth	Number of events that are maintained in the queue for each component at any time. To maintain the Queue Depth, the Controller discards the oldest events. Valid values are 1 to 100 (default is 100). If Queue Depth = 1, only the most recent event from each component can be matched.
Restrictions	This section specifies any restrictions that apply to the trigger.

R e s t r i c t T i m e s	Period during which the trigger is active. Enable this field and specify the start and end times in the Enabled Start and Enabled End fields.
E n a b l e d S t a r t	If Restrict Times is enabled, allows you to specify the start time of the period during which the trigger should be active. Use 24-hour time.
E n a b l e d E n d	If Restrict Times is enabled, allows you to specify the end time of the period during which the trigger should be active. Use 24-hour time.
S p e c i a l R e s t r i c t i o n	Enable this field in order to specify additional parameters that tell the Controller how to handle exceptions, such as when the trigger is satisfied. For example, you can specify a Simple Restriction that disables the trigger if it is satisfied on a holiday identified in the calendar and/or a Co
A c t i o n	If Special Restriction is enabled, allows you to select an action to take on a non-business day or holiday (see Situation field). Options: <ul style="list-style-type: none"> • Do Not Trigger • Next Day (run on the next day) • Next Business Day (run on the next business day, as defined in the calendar) • Previous Day (run on the previous day) • Previous Business Day (run on the previous business day, as defined in the calendar)
S i m p l e R e s t r i c t i o n	If enabled, allows you to specify an action (see Action field) such as Do Not Trigger on a non-business day or holiday (see Situation field). F
S i t u a t i o n	If Simple Restriction is enabled, allows you to select the situation that causes the system to initiate the action specified in the Action field. Options: <ul style="list-style-type: none"> • On Non Business Day • On Holiday
C o m p l e x R e s t r i c t i o n	If enabled, allows you to specify a set of parameters that determine one or more situations when this trigger should not be satisfied. Used in do not want to satisfy this trigger on the last business day of the year or the first day of each month.

Restriction Mode	<p>If both Simple Restriction and Complex Restriction are enabled, specifies whether you want to use both restriction types (AND) or one or the other.</p> <p>Options:</p> <ul style="list-style-type: none"> • And • Or
Restriction Adjective	<p>If Complex Restriction is enabled, the type of selection.</p> <p>Options:</p> <ul style="list-style-type: none"> • Every • 1st • 2nd • 3rd • 4th • Last • Nth <p>Example: The last business day of the month.</p>
Restriction Noun(s)	<p>If Complex Restriction is enabled, the day(s) you want to select.</p> <p>Options:</p> <ul style="list-style-type: none"> • Sunday through Saturday • Day • Business Day • Custom Day <p>Example: The last Business Day and Sunday of the month.</p>
Restriction Qualifier(s)	<p>If Complex Restriction is enabled, the period(s) you are selecting from.</p> <p>Options:</p> <ul style="list-style-type: none"> • Jan - Dec • Month • Year • Week • Quarter • Custom period <p>Example: The last Day of Quarter, Year, and January.</p>
Restriction Nth Amount	<p>If Restriction Adjective is Nth, allows you to specify the value of N.</p> <p>If Restriction Qualifier is Week, Restriction Nth Amount must be <= 7.</p>
Metadata	<p>This section contains Metadata information about this record.</p>
UID	<p>Universally Unique Identifier of this record.</p>

U pd at ed By	Name of the user that last updated this record.
U pd at ed	Date and time that this record was last updated.
Cr ea te d By	Name of the user that created this record.
Cr ea ted	Date and time that this record was created.
B u tt o ns	This section identifies the buttons displayed above and below the Trigger Details that let you perform various actions.
S ave	Saves a new task record in the Controller database.
S av e & N ew	Saves a new record in the Controller database and redisplay empty Details so that you can create another new record.
S av e & Vi ew	Saves a new record in the Controller database and continues to display that record.
N ew	Displays empty (except for default values) Details for creating a new record.
U p da te	Saves updates to the record.
E na ble	Activates this trigger and writes your User ID to the Enabled By field.
Di sa ble	Deactivates this trigger.
Tr ig ge r N o w. ..	<p>Immediately triggers all the tasks specified in this trigger.</p> <p>Optionally, you also can select to:</p> <ul style="list-style-type: none"> • Launch the task(s) specified in the trigger with one or more variables. • Launch the task(s) specified in the trigger by a specified date and time. • Launch the task(s) specified in the trigger but place them in Held status; they will not run until they are released.

Note

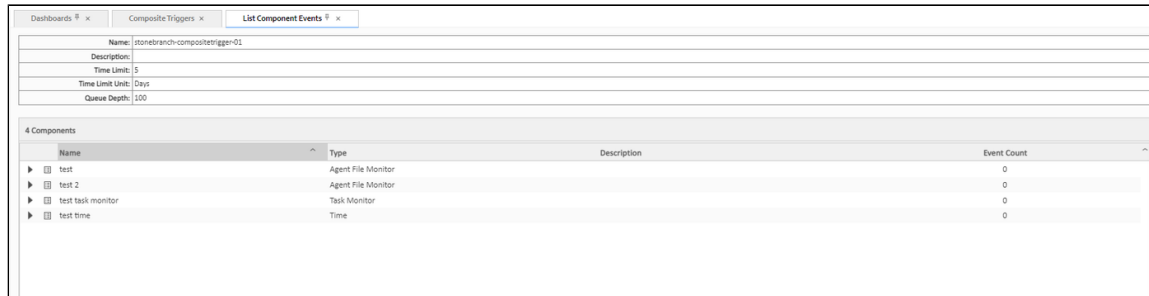
If you click **Trigger Now...** for an Enabled trigger that does not have an [assigned Execution User](#), the trigger will launch its task(s) un

If you click **Trigger Now...** for a Disabled trigger that does not have an [assigned Execution User](#), the trigger will launch its task(s) un

If you click **Trigger Now...** for an Enabled or Disabled trigger that has an [assigned Execution User](#), the trigger will launch its task(s)

List Component Events

For enabled triggers; Displays a new tab that lists all components of the Composite trigger and maintains a dynamic count of all events that



Name	Type	Description	Event Count
test	Agent File Monitor		0
test 2	Agent File Monitor		0
test task monitor	Task Monitor		0
test time	Time		0

Copy

Creates a copy of this trigger, which you are prompted to rename.

Delete

Deletes the current record.

Refresh

Refreshes any dynamic data displayed in the Details.

Close

For pop-up view only; closes the pop-up view of this trigger.

Tabs

This section identifies the tabs across the top of the Trigger Details that provide access to additional information about the trigger.

Components

Allows you to define the following components:

- Single Time Trigger component
- One or more Task Monitor trigger components
- One or more File Monitor trigger components
- One or more Variable Monitor trigger components
- One or more Email Monitor trigger components
- One or more Universal Monitor trigger components

Variables

Lists all [user-defined variables](#) associated with this record; that is, variables that have been defined for this specific record.

Instances

Lists all task instances that were triggered directly by this trigger.

Notes

Lists all [notes](#) associated with this record.

Ver

Stores copies of all previous versions of the current record. See [Record Versioning](#).

Time Component

Time Component Details: test time
- ☰ ×

📄 🗑️ 📅 List Qualifying Times...
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Time Component

General

Name *

Description

Built-in Variable Prefix

Status

Event Match Type

Status

Time Details

Time Style

Time Interval

Time Interval Units

Enable Offset

Day Details

Day Style

Daily
 Business Days
 Specific Day(s)

Sunday
 Monday
 Tuesday
 Wednesday
 Thursday
 Friday
 Saturday

Restrictions

Restrict Times

Special Restriction

Time Component Details Field Descriptions

The following table describes the fields and buttons that display in the Time Component Details.

Field Name	Description
General	This section contains general information about the component.
Name	Name used within the Controller to identify this component. It can contain a maximum of 255 alphanumeric.

Description	Description of this record. (Maximum = 255 characters.)
Built-In Variable Prefix	User-specified prefix that enables built-in variables to be propagated up to the Composite trigger.
Status	This section contains information about the current status of the component.
Event Match Type	Controls whether events from the Time component will be used for a single match or multiple matches at the Composite trigger level. Options: <ul style="list-style-type: none"> • Single • Multiple <div style="border: 1px solid #ccc; padding: 10px; margin-top: 10px;"> <p>Note You can select Multiple only if a Time Limit is specified in the Composite Trigger Details.</p> </div>
Status	System-defined; Specification for whether the trigger is Enabled or Disabled. The user enables and disables the trigger by clicking the Enable / Disable buttons. Only enabled triggers are processed by the Controller.
Next Scheduled Time	System-supplied; for time-based triggers. If Status = Enabled, the next date and time this trigger will be satisfied. See Displaying Trigger Forecast Information .
Time Details	This section contains assorted detailed information about the component.
Time Style	Specifies whether this trigger is for a specific time or a series of times. Options: <ul style="list-style-type: none"> • Time - Triggers the task at a specific time. <ul style="list-style-type: none"> • Required field: Time. • Time Interval - Triggers the task at specific intervals of times. <ul style="list-style-type: none"> • Required fields: Time Interval, Time Interval Units. • Optional fields: Enable Offset, Restrict Times.
Time	Required if Time Style = Time; time of the trigger in hours and minutes, using 24-hour time. For example, 01:45 means trigger the task at 1:45 a.m.; 13:45 means trigger the task at 1:45 p.m. (See also Daylight Saving Time .)
Time Interval	Required if Time Style = Time Interval; number of Time Interval Units . For example, for a Time Interval of every three hours, specify 3 in this field and select Hours in the Time Interval Units field. <div style="border: 1px solid #ccc; padding: 10px; margin-top: 10px;"> <p>Note See Scheduling a Time Interval, below, for information on using a Time Trigger to schedule a time interval for triggering a task.</p> <p>Also see Time Trigger Minimum Frequency In Seconds Universal Controller system property to the define the minimum time interval that must be used.</p> </div>
Time Interval Units	Required if Time Style = Time Interval; Type of time interval. Used in conjunction with the Time Interval field. For example, for a Time Interval of every three hours, specify 3 in the Time Interval field and select Hours in this field. Options: <ul style="list-style-type: none"> • Seconds • Minutes

	<ul style="list-style-type: none"> Hours
Enable Offset	If Time Style = Time Interval, allows you to define (in the Initial Time Offset field) a starting time, in minutes offset from the hour, for the trigger to run.
Initial Time Offset (hh:mm)	<p>If Enable Offset is selected, allows you to define a starting time, in minutes offset from the hour.</p> <p>The default value (*) lets you select a starting hour (0 to 23) other than the next hour.</p> <p>For example:</p> <ul style="list-style-type: none"> If you want the task to run every 30 minutes at the :15 and :45 minute mark, you would select Time Interval = 30, Time Interval Units = minutes, and Initial Time Offset = *:15. If you want the task to run every 30 minutes at the :15 and :45 minute mark starting at 6:15 p.m., you would select Time Interval = 30, Time Interval Units = minutes, and Initial Time Offset = 18:15.
Day Details	This section contains assorted detailed information about the trigger day.
Day Style	<p>Allows you to indicate when this trigger will be run:</p> <p>Options:</p> <ul style="list-style-type: none"> Simple Trigger is run every day, on business days, or on one or more specific days, depending on what you select in the Daily, Business Days, and Specific Day(s) fields (see below). Complex Trigger is run on one or more days selected by a formula specified using the Date Adjective, Date Noun(s), and Date Qualifier(s) fields (see below). Every Trigger is run at an interval of a specified number of days (see Day Interval, below) starting on a specified date (see Interval Start, below).
Daily	If Day Style = Simple, allows you to specify that the trigger is active every day of the week.
Business Days	If Day Style = Simple, allows you to specify that the trigger is active on the business days specified in the calendar selected in the Calendar field.
Specific Day(s)	If Day Style = Simple, allows you to specify one or more specific days of the week that the trigger is active in the calendar selected in the Calendar field.
Date Adjective	<p>If Day Style = Complex, allows you to specify which in a series of days you want to select. Used in conjunction with the Date Noun(s) and the Date Qualifier(s) fields.</p> <p>For example, to specify "the 2nd Monday and Friday of January and December," select Date Adjective = Nth, Nth Amount = 2, Date Noun(s) = Monday, Friday, Date Qualifier(s) = Jan, Dec.</p> <p>Options:</p> <ul style="list-style-type: none"> Every 1st 2nd 3rd 4th Last Nth
Nth Amount	If Date Adjective = Nth, allows you to specify the value of N.

Date Noun	<p>If Day Style = Complex, allows you to specify the type of day you want to select. Used in conjunction with the Date Adjective and the Date Qualifier fields.</p> <p>For example, to specify "the 15th business day of the month," select Date Adjective = Nth, Date Noun = Business Day, Date Qualifier = Month, and Nth Amount = 15.</p> <p>This drop-down menu is populated as follows:</p> <ul style="list-style-type: none"> • Sunday through Saturday • Day = any day • Business Day = The business days specified in the calendar selected in the Calendar field. • Any Custom Days specified in the calendar selected in the Calendar field.
Date Qualifier	<p>If Day Style = Complex, allows you to specify the period for your selection formula. Used in conjunction with the Date Noun and Date Adjective fields.</p> <p>For example, to specify "the 15th business day of the month," select Date Adjective = Nth, Date Noun = Business Day, Date Qualifier = Month, and Nth Amount = 15.</p> <p>Options:</p> <ul style="list-style-type: none"> • Month • Year • Week • January through December • Custom Period (see Creating Custom Days)
Date Adjustment	<p>If Day Style = Complex, allows you to adjust your date setting by a less or plus number of Days or Business Days.</p> <p>For example, to specify the 2nd to last day of the month (last day of the month less one day), select Date Adjective = Last, Date Noun(s) = Day, Date Qualifier(s) = Month, Date Adjustment = Less, Adjustment Amount = 1, and Adjustment Type = Day.</p> <p>Options:</p> <ul style="list-style-type: none"> • None • Less • Plus <p>Default is None.</p>
Adjustment Amount	<p>Required if Day Adjustment = Less or Plus; Allows you to specify the number of Days or Business Days to adjust your date setting. Maximum is 366. Default is 1.</p>
Adjustment Type	<p>If Day Adjustment = Less or Plus, allows you to specify the type of day by which to adjust your date setting.</p> <p>Options:</p> <ul style="list-style-type: none"> • Day • Business Day
Day Interval	<p>If Day Style = Every, allows you to specify the interval (in days) at which this trigger will run.</p>
Interval Start	<p>If Day Style = Every, allows you to specify the first day of the interval on which this trigger will run.</p>
Restrictions	<p>This section specifies any restrictions that apply to the component.</p>
Restrict Times	<p>If Time Style = Time Interval; Period during which the trigger is active. Enable this field and specify the start and end times in the Enabled Start and Enabled End fields.</p> <p>Restrict Times does not affect the start time or end time of the trigger Time Interval; it only specifies the time frame during which the trigger is active. (For additional information, see Restrict Times on the Time Trigger page.)</p>

Note

Restrict Times and [Enable Offset](#) are mutually exclusive.

Enabled Start	If Restrict Times is enabled, allows you to specify the start time of the period during which the trigger should be active. Use 24-hour time.
Enabled End	If Restrict Times is enabled, allows you to specify the end time of the period during which the trigger should be active. Use 24-hour time.
Adjust Interval To Enabled Start	If Restrict Times is enabled; Specification for whether to always begin at the Enabled Start , regardless of the time interval, or to begin based on the actual interval. If Adjust Interval To Enabled Start is not selected, the start time and end time specify only the time frame/window during which the trigger is active; they do not modify the actual time interval (see Restrict Times).
Special Restriction	<p>Enable this field in order to specify additional parameters that tell the Controller how to handle exceptions, such as when the trigger is satisfied on a holiday or non-business day. You can specify simple and/or complex restrictions.</p> <p>For example, you can specify a Simple Restriction that disables the trigger if it is satisfied on a holiday identified in the calendar and /or a Complex Restriction that disables the trigger on the last business day of every month.</p>
Simple Restriction	If enabled, allows you to specify an action (see Action field) such as Do Not Trigger on a non-business day or holiday (see Situation field). For example, do not trigger on a non-business day.
Situation	<p>If Simple Restriction is enabled, allows you to select the situation that causes the system to initiate the action specified in the Action field.</p> <p>Options:</p> <ul style="list-style-type: none"> • On Non Business Day • On Holiday
Action	<p>If Special Restriction is enabled, allows you to select an action to take on a non-business day or holiday (see Situation field).</p> <p>Options:</p> <ul style="list-style-type: none"> • Do Not Trigger • Next Day (run on the next day) • Next Business Day (run on the next business day, as defined in the calendar) • Previous Day (run on the previous day) • Previous Business Day (run on the previous business day, as defined in the calendar)
Complex Restriction	If enabled, allows you to specify a set of parameters that determine one or more situations when this trigger should not be satisfied. Used in conjunction with the following fields: Restriction Mode , Restriction Adjective , Restriction Noun , Restriction Qualifier . For example, you may specify that you do not want to satisfy this trigger on the last business day of the year or the first day of each month.
Restriction Mode	<p>If both Simple Restriction and Complex Restriction are enabled, specifies whether you want to use both restriction types (AND) or one or the other (OR).</p> <p>Options:</p> <ul style="list-style-type: none"> • And • Or
Restriction Adjective	<p>If Complex Restriction is enabled, the type of selection.</p> <p>Options:</p>

	<ul style="list-style-type: none"> • Every • 1st • 2nd • 3rd • 4th • Last • Nth <p>Example: The last business day of the month.</p>
Restricti on Noun (s)	<p>If Complex Restriction is enabled, the day(s) you want to select.</p> <p>Options:</p> <ul style="list-style-type: none"> • Sunday through Saturday • Day • Business Day • Custom Day <p>Example: The last Business Day and Sunday of the month.</p>
Restricti on Qualifier (s)	<p>If Complex Restriction is enabled, the period(s) you are selecting from.</p> <p>Options:</p> <ul style="list-style-type: none"> • Jan - Dec • Month • Year • Week • Quarter • Custom period <p>Example: The last Day of Quarter, Year, and January.</p>
Restricti on Nth Amount	<p>If Restriction Adjective is Nth, allows you to specify the value of N.</p> <p>If Restriction Qualifier is Week, Restriction Nth Amount must be <= 7.</p>
Metada ta	This section contains Metadata information about this record.
UUID	Universally Unique Identifier of this record.
Updated By	Name of the user that last updated this record.
Updated	Date and time that this record was last updated.
Created By	Name of the user that created this record.
Created	Date and time that this record was created.
Buttons	This section identifies the buttons displayed above and below the Component Details that let you perform various actions.
Save	Saves a new record in the Controller database.
Save & View	Saves a new record in the Controller database and continues to display that record.
Update	Saves updates to the record.
	Lets you generate a list of future dates and times that the trigger will trigger the specified task (see Generating a List of Qualifying Times , below).

List Qualifying Times	
Delete	Deletes the current record.
Refresh	Refreshes any dynamic data displayed in the Details.
Close	For pop-up view only; closes the pop-up view of this component.

Agent File Monitor Component

Agent File Monitor Component Details: test
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Agent File Monitor Component
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General

Name *

Description

Built-in Variable Prefix

Agent File Monitor Details

Agent File Monitor *
 ☰

Running Monitor
 ☰

Monitor Status

Restrictions

Restrict Times

Enabled Start
Hour: Min:

Enabled End
Hour: Min:

Special Restriction

Simple Restriction

Situation

Action

Complex Restriction

Agent File Monitor Component Details Field Descriptions

The following table describes the fields and buttons that display in the Agent File Monitor Component Details.

Field Name	Description

General	This section contains general information about the component.
Name	Name used within the Controller to identify this component. It can contain a maximum of 255 alphanumeric characters.
Description	Description of this record. (Maximum = 255 characters.)
Built-In Variable Prefix	User-specified prefix that enables built-in variables in the file(s) being monitored to be propagated up to the Composite trigger.
Status	This section contains information about the current status of the component.
Status	System-defined; Specification for whether the trigger is Enabled or Disabled. The user enables and disables the trigger by clicking the Enable / Disable buttons. Only enabled triggers are processed by the Controller.
Monitor Status	System-supplied; Lists the status of Agent File Monitor tasks currently running that were launched by this trigger.
Agent File Monitor Details	This section contains assorted detailed information about the component.
Agent File Monitor	Required; Agent File Monitor task being executed. Enter a task name, select a task from the drop-down list, or click the Task Details icon to create a new task. If a task already is specified in this field, click the Task Details icon to view the Details of that task.
Running Monitor	System-supplied; Name of the currently running task instance of the specified Agent File Monitor task that was launched by this enabled trigger.
Restrictions	This section specifies any restrictions that apply to the component.
Restrict Times	Period during which the component is active. Enable this field and specify the start and end times in the Enabled Start and Enabled End fields.
Enabled Start	If Restrict Times is enabled, allows you to specify the start time of the period during which the component should be active. Use 24-hour time.
Enabled End	If Restrict Times is enabled, allows you to specify the end time of the period during which the component should be active. Use 24-hour time.
Special Restriction	Enable this field in order to specify additional parameters that tell the Controller how to handle exceptions, such as when the component is satisfied on a holiday or non-business day. You can specify simple and/or complex restrictions. For example, you can specify a Simple Restriction that disables the component if it is satisfied on a holiday identified in the calendar and/or a Complex Restriction that disables the component on the last business day of every month.
Simple Restriction	If enabled, allows you to specify an action (see Action field) such as Do Not Trigger on a non-business day or holiday (see Situation field). For example, do not trigger on a non-business day.
Situation	If Simple Restriction is enabled, allows you to select the situation that causes the system to initiate the action specified in the Action field.

	<p>Options:</p> <ul style="list-style-type: none"> • On Non Business Day • On Holiday
Action	<p>If Special Restriction is enabled, allows you to select an action to take on a non-business day or holiday (see Situation field).</p> <p>Options:</p> <ul style="list-style-type: none"> • Do Not Trigger • Next Day (run on the next day) • Next Business Day (run on the next business day, as defined in the calendar) • Previous Day (run on the previous day) • Previous Business Day (run on the previous business day, as defined in the calendar)
Complex Restriction	<p>If enabled, allows you to specify a set of parameters that determine one or more situations when this component should not be satisfied. Used in conjunction with the following fields: Restriction Mode, Restriction Adjective, Restriction Noun, Restriction Qualifier. For example, you may specify that you do not want to satisfy this component on the last business day of the year or the first day of each month.</p>
Restriction Mode	<p>If both Simple Restriction and Complex Restriction are enabled, specifies whether you want to use both restriction types (AND) or one or the other (OR).</p> <p>Options:</p> <ul style="list-style-type: none"> • And • Or
Restriction Adjective	<p>If Complex Restriction is enabled, the type of selection.</p> <p>Options:</p> <ul style="list-style-type: none"> • Every • 1st • 2nd • 3rd • 4th • Last • Nth <p>Example: The last business day of the month.</p>
Restriction Noun(s)	<p>If Complex Restriction is enabled, the day(s) you want to select.</p> <p>Options:</p> <ul style="list-style-type: none"> • Sunday through Saturday • Day • Business Day • Custom Day <p>Example: The last Business Day and Sunday of the month.</p>
Restriction Qualifier(s)	<p>If Complex Restriction is enabled, the period(s) you are selecting from.</p> <p>Options:</p> <ul style="list-style-type: none"> • Jan - Dec • Month • Year • Week • Quarter • Custom period

	Example: The last Day of Quarter, Year, and January.
Restriction Nth Amount	<p>If Restriction Adjective is Nth, allows you to specify the value of N.</p> <p>If Restriction Qualifier is Week, Restriction Nth Amount must be <= 7.</p>
Metadata	This section contains Metadata information about this record.
UUID	Universally Unique Identifier of this record.
Updated By	Name of the user that last updated this record.
Updated	Date and time that this record was last updated.
Created By	Name of the user that created this record.
Created	Date and time that this record was created.
Buttons	This section identifies the buttons displayed above and below the Component Details that let you perform various actions.
Save	Saves a new record in the Controller database.
Save & New	Saves a new record in the Controller database and redisplay empty Details so that you can create another new record.
Save & View	Saves a new record in the Controller database and continues to display that record.
Update	Saves updates to the record.
Delete	Deletes the current record.
Refresh	Refreshes any dynamic data displayed in the Details.
Close	For pop-up view only; closes the pop-up view of this component.

Task Monitor Component

Task Monitor Component Details: test task monitor
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Task Monitor Component
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General

Name *

Description

Built-in Variable Prefix

Task Monitor Details

Task Monitor * ☰

Running Monitor ☰ Monitor Status

Restrictions

Restrict Times

Enabled Start
Hour Min

Enabled End
Hour Min

Special Restriction Action

Simple Restriction Complex Restriction

Situation

Task Monitor Component Details Field Descriptions

The following table describes the fields and buttons that display in the Task Monitor Component Details.

Field Name	Description
General	This section contains general information about the component.
Name	Name used within the Controller to identify this component. It can contain a maximum of 255 alphanumeric characters.
Description	Description of this record. (Maximum = 255 characters.)
Built-In Variable	User-specified prefix that enables built-in variables in the task(s) being monitored to be propagated up to the Composite trigger.

able Prefix	
Status	This section contains information about the current status of the trigger.
Status	System-defined; Specification for whether the trigger is Enabled or Disabled. The user enables and disables the trigger by clicking the Enable / Disable buttons. Only enabled triggers are processed by the Controller.
Monitor Status	System-supplied; Lists the status of Task Monitor tasks currently running that were launched by this trigger.
Task Monitor Details	This section contains assorted detailed information about the component.
Task Monitor	Required; Task Monitor task being executed. Enter a task name, select a task from the drop-down list, or click the Task Details icon to create a new task. If a task already is specified in this field, click the Task Details icon to view the Details of that task.
Running Monitor	System-supplied; Name of the currently running task instance of the specified Task Monitor task that was launched by this enabled trigger.
Restrictions	This section specifies any restrictions that apply to the component.
Restrict Times	Period during which the component is active. Enable this field and specify the start and end times in the Enabled Start and Enabled End fields.
Enabled Start	If Restrict Times is enabled, allows you to specify the start time of the period during which the component should be active. Use 24-hour time.
Enabled End	If Restrict Times is enabled, allows you to specify the end time of the period during which the component should be active. Use 24-hour time.
Special Restriction	Enable this field in order to specify additional parameters that tell the Controller how to handle exceptions, such as when the component is satisfied on a holiday or non-business day. You can specify simple and/or complex restrictions. For example, you can specify a Simple Restriction that disables the component if it is satisfied on a holiday identified in the calendar and/or a Complex Restriction that disables the component on the last business day of every month.
Simple Restriction	If enabled, allows you to specify an action (see Action field) such as Do Not Trigger on a non-business day or holiday (see Situation field). For example, do not trigger on a non-business day.
Situation	If Simple Restriction is enabled, allows you to select the situation that causes the system to initiate the action specified in the Action field. Options: <ul style="list-style-type: none"> • On Non Business Day • On Holiday
Action	If Special Restriction is enabled, allows you to select an action to take on a non-business day or holiday (see Situation field). Options:

	<ul style="list-style-type: none"> • Do Not Trigger • Next Day (run on the next day) • Next Business Day (run on the next business day, as defined in the calendar) • Previous Day (run on the previous day) • Previous Business Day (run on the previous business day, as defined in the calendar)
Complex Restriction	<p>If enabled, allows you to specify a set of parameters that determine one or more situations when this component should not be satisfied. Used in conjunction with the following fields: Restriction Mode, Restriction Adjective, Restriction Noun, Restriction Qualifier. For example, you may specify that you do not want to satisfy this component on the last business day of the year or the first day of each month.</p>
Restriction Mode	<p>If both Simple Restriction and Complex Restriction are enabled, specifies whether you want to use both restriction types (AND) or one or the other (OR).</p> <p>Options:</p> <ul style="list-style-type: none"> • And • Or
Restriction Adjective	<p>If Complex Restriction is enabled, the type of selection.</p> <p>Options:</p> <ul style="list-style-type: none"> • Every • 1st • 2nd • 3rd • 4th • Last • Nth <p>Example: The last business day of the month.</p>
Restriction Noun(s)	<p>If Complex Restriction is enabled, the day(s) you want to select.</p> <p>Options:</p> <ul style="list-style-type: none"> • Sunday through Saturday • Day • Business Day • Custom Day <p>Example: The last Business Day and Sunday of the month.</p>
Restriction Qualifier(s)	<p>If Complex Restriction is enabled, the period(s) you are selecting from.</p> <p>Options:</p> <ul style="list-style-type: none"> • Jan - Dec • Month • Year • Week • Quarter • Custom period <p>Example: The last Day of Quarter, Year, and January.</p>
Restriction Nth Amount	<p>If Restriction Adjective is Nth, allows you to specify the value of N.</p> <p>If Restriction Qualifier is Week, Restriction Nth Amount must be <= 7.</p>
	<p>This section contains Metadata information about this record.</p>

Met ada ta	
UUID	Universally Unique Identifier of this record.
Upd ated By	Name of the user that last updated this record.
Upd ated	Date and time that this record was last updated.
Crea ted By	Name of the user that created this record.
Crea ted	Date and time that this record was created.
But tons	This section identifies the buttons displayed above and below the Component Details that let you perform various actions.
Save	Saves a new record in the Controller database.
Sav e & New	Saves a new record in the Controller database and redisplay empty Details so that you can create another new record.
Sav e & View	Saves a new record in the Controller database and continues to display that record.
Upd ate	Saves updates to the record.
Dele te	Deletes the current record.
Refr esh	Refreshes any dynamic data displayed in the Details.
Close	For pop-up view only; closes the pop-up view of this component.

Variable Monitor Component

Variable Monitor Component Details
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Variable Monitor Component

General

Name *

Description

Built-in Variable Prefix

Variable Monitor Details

Variable Monitor *
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Restrictions

Restrict Times

Enabled Start
 Hour Min

Enabled End
 Hour Min

Special Restriction

Simple Restriction

Situation

Action

Complex Restriction

Variable Monitor Component Details Field Descriptions

The following table describes the fields and buttons that display in the Variable Monitor Component Details.

Field Name	Description
General	This section contains general information about the component.
Name	Name used within the Controller to identify this component. It can contain a maximum of 255 alphanumeric characters.
Description	Description of this record. (Maximum = 255 characters.)
Built-In Variable Prefix	User-specified prefix that enables built-in variables in the task(s) being monitored to be propagated up to the Composite trigger.
Status	This section contains information about the current status of the trigger.

Status	System-defined; Specification for whether the trigger is Enabled or Disabled. The user enables and disables the trigger by clicking the Enable / Disable buttons. Only enabled triggers are processed by the Controller.
Monitor Status	System-supplied; Lists the status of Variable Monitor tasks currently running that were launched by this trigger.
Variable Monitor Details	This section contains assorted detailed information about the component.
Variable Monitor	Required; Variable Monitor task being executed. Enter a task name, select a task from the drop-down list, or click the Task Details icon to create a new task. If a task already is specified in this field, click the Task Details icon to view the Details of that task. <div style="border: 1px solid #ccc; padding: 10px; background-color: #fff9c4;"> <p>Note If you click the Details icon to create or update a Variable Monitor, Change is pre-selected for the Variable Monitor Type field and cannot be changed.</p> </div>
Running Monitor	System-supplied; Name of the currently running task instance of the specified Variable Monitor task that was launched by this enabled trigger.
Restrictions	This section specifies any restrictions that apply to the component.
Restrict Times	Period during which the component is active. Enable this field and specify the start and end times in the Enabled Start and Enabled End fields.
Enabled Start	If Restrict Times is enabled, allows you to specify the start time of the period during which the component should be active. Use 24-hour time.
Enabled End	If Restrict Times is enabled, allows you to specify the end time of the period during which the component should be active. Use 24-hour time.
Special Restriction	Enable this field in order to specify additional parameters that tell the Controller how to handle exceptions, such as when the component is satisfied on a holiday or non-business day. You can specify simple and/or complex restrictions. For example, you can specify a Simple Restriction that disables the component if it is satisfied on a holiday identified in the calendar and/or a Complex Restriction that disables the component on the last business day of every month.
Simple Restriction	If enabled, allows you to specify an action (see Action field) such as Do Not Trigger on a non-business day or holiday (see Situation field). For example, do not trigger on a non-business day.
Situation	If Simple Restriction is enabled, allows you to select the situation that causes the system to initiate the action specified in the Action field. Options: <ul style="list-style-type: none"> • On Non Business Day • On Holiday
Action	If Special Restriction is enabled, allows you to select an action to take on a non-business day or holiday (see Situation field). Options: <ul style="list-style-type: none"> • Do Not Trigger • Next Day (run on the next day) • Next Business Day (run on the next business day, as defined in the calendar)

	<ul style="list-style-type: none"> • Previous Day (run on the previous day) • Previous Business Day (run on the previous business day, as defined in the calendar)
Complex Restriction	<p>If enabled, allows you to specify a set of parameters that determine one or more situations when this component should not be satisfied. Used in conjunction with the following fields: Restriction Mode, Restriction Adjective, Restriction Noun, Restriction Qualifier. For example, you may specify that you do not want to satisfy this component on the last business day of the year or the first day of each month.</p>
Restriction Mode	<p>If both Simple Restriction and Complex Restriction are enabled, specifies whether you want to use both restriction types (AND) or one or the other (OR).</p> <p>Options:</p> <ul style="list-style-type: none"> • And • Or
Restriction Adjective	<p>If Complex Restriction is enabled, the type of selection.</p> <p>Options:</p> <ul style="list-style-type: none"> • Every • 1st • 2nd • 3rd • 4th • Last • Nth <p>Example: The last business day of the month.</p>
Restriction Noun(s)	<p>If Complex Restriction is enabled, the day(s) you want to select.</p> <p>Options:</p> <ul style="list-style-type: none"> • Sunday through Saturday • Day • Business Day • Custom Day <p>Example: The last Business Day and Sunday of the month.</p>
Restriction Qualifier(s)	<p>If Complex Restriction is enabled, the period(s) you are selecting from.</p> <p>Options:</p> <ul style="list-style-type: none"> • Jan - Dec • Month • Year • Week • Quarter • Custom period <p>Example: The last Day of Quarter, Year, and January.</p>
Restriction Nth Amount	<p>If Restriction Adjective is Nth, allows you to specify the value of N.</p> <p>If Restriction Qualifier is Week, Restriction Nth Amount must be ≤ 7.</p>
Meta data	<p>This section contains Metadata information about this record.</p>
UUID	<p>Universally Unique Identifier of this record.</p>

Updated By	Name of the user that last updated this record.
Updated	Date and time that this record was last updated.
Created By	Name of the user that created this record.
Created	Date and time that this record was created.
Buttons	This section identifies the buttons displayed above and below the Component Details that let you perform various actions.
Save	Saves a new record in the Controller database.
Save & New	Saves a new record in the Controller database and redisplay empty Details so that you can create another new record.
Save & View	Saves a new record in the Controller database and continues to display that record.
Update	Saves updates to the record.
Delete	Deletes the current record.
Refresh	Refreshes any dynamic data displayed in the Details.
Close	For pop-up view only; closes the pop-up view of this component.

Email Monitor Component

Email Monitor Component Details
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Email Monitor Component

General

Name *

Description

Built-in Variable Prefix

Email Monitor Details

Email Monitor *
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Restrictions

Restrict Times

Enabled Start
 Hour: Min:

Enabled End
 Hour: Min:

Special Restriction

Simple Restriction

Situation

Action

Complex Restriction

Email Monitor Component Details Field Descriptions

The following table describes the fields and buttons that display in the Email Monitor Component Details.

Field Name	Description
General	This section contains general information about the component.
Name	Name used within the Controller to identify this component. It can contain a maximum of 255 alphanumeric characters.
Description	Description of this record. (Maximum = 255 characters.)
Built-In Variable Prefix	User-specified prefix that enables built-in variables in the task(s) being monitored to be propagated up to the Composite trigger.
Status	This section contains information about the current status of the trigger.

Stat us	System-defined; Specification for whether the trigger is Enabled or Disabled. The user enables and disables the trigger by clicking the Enable / Disable buttons. Only enabled triggers are processed by the Controller.
Moni tor Stat us	System-supplied; Lists the status of Email Monitor tasks currently running that were launched by this trigger.
Em ail Mo nito r Det ails	This section contains assorted detailed information about the component.
Em ai l Moni tor	Required; Email Monitor task being executed. Enter a task name, select a task from the drop-down list, or click the Task Details icon to create a new task. If a task already is specified in this field, click the Task Details icon to view the Details of that task. <div style="border: 1px solid #ccc; padding: 10px; background-color: #fff9c4;"> <p>Note If you click the Details icon to create or update an Email Monitor, Change is pre-selected for the Email Monitor Type field and cannot be changed.</p> </div>
Run ning Moni tor	System-supplied; Name of the currently running task instance of the specified Email Monitor task that was launched by this enabled trigger.
Res trict ions	This section specifies any restrictions that apply to the component.
Res trict Times	Period during which the component is active. Enable this field and specify the start and end times in the Enabled Start and Enabled End fields.
Ena bled Start	If Restrict Times is enabled, allows you to specify the start time of the period during which the component should be active. Use 24-hour time.
Ena bled End	If Restrict Times is enabled, allows you to specify the end time of the period during which the component should be active. Use 24-hour time.
Spec ial Res triction	Enable this field in order to specify additional parameters that tell the Controller how to handle exceptions, such as when the component is satisfied on a holiday or non-business day. You can specify simple and/or complex restrictions. For example, you can specify a Simple Restriction that disables the component if it is satisfied on a holiday identified in the calendar and/or a Complex Restriction that disables the component on the last business day of every month.
Simp le Res triction	If enabled, allows you to specify an action (see Action field) such as Do Not Trigger on a non-business day or holiday (see Situation field). For example, do not trigger on a non-business day.
Situa tion	If Simple Restriction is enabled, allows you to select the situation that causes the system to initiate the action specified in the Action field. Options: <ul style="list-style-type: none"> • On Non Business Day • On Holiday
Action	If Special Restriction is enabled, allows you to select an action to take on a non-business day or holiday (see Situation field). Options:

	<ul style="list-style-type: none"> • Do Not Trigger • Next Day (run on the next day) • Next Business Day (run on the next business day, as defined in the calendar) • Previous Day (run on the previous day) • Previous Business Day (run on the previous business day, as defined in the calendar)
Complex Restriction	<p>If enabled, allows you to specify a set of parameters that determine one or more situations when this component should not be satisfied. Used in conjunction with the following fields: Restriction Mode, Restriction Adjective, Restriction Noun, Restriction Qualifier. For example, you may specify that you do not want to satisfy this component on the last business day of the year or the first day of each month.</p>
Restriction Mode	<p>If both Simple Restriction and Complex Restriction are enabled, specifies whether you want to use both restriction types (AND) or one or the other (OR).</p> <p>Options:</p> <ul style="list-style-type: none"> • And • Or
Restriction Adjective	<p>If Complex Restriction is enabled, the type of selection.</p> <p>Options:</p> <ul style="list-style-type: none"> • Every • 1st • 2nd • 3rd • 4th • Last • Nth <p>Example: The last business day of the month.</p>
Restriction Noun(s)	<p>If Complex Restriction is enabled, the day(s) you want to select.</p> <p>Options:</p> <ul style="list-style-type: none"> • Sunday through Saturday • Day • Business Day • Custom Day <p>Example: The last Business Day and Sunday of the month.</p>
Restriction Qualifier(s)	<p>If Complex Restriction is enabled, the period(s) you are selecting from.</p> <p>Options:</p> <ul style="list-style-type: none"> • Jan - Dec • Month • Year • Week • Quarter • Custom period <p>Example: The last Day of Quarter, Year, and January.</p>
Restriction Nth Amount	<p>If Restriction Adjective is Nth, allows you to specify the value of N.</p> <p>If Restriction Qualifier is Week, Restriction Nth Amount must be <= 7.</p>
	<p>This section contains Metadata information about this record.</p>

Met ada ta	
UUID	Universally Unique Identifier of this record.
Upd ated By	Name of the user that last updated this record.
Upd ated	Date and time that this record was last updated.
Crea ted By	Name of the user that created this record.
Crea ted	Date and time that this record was created.
But tons	This section identifies the buttons displayed above and below the Component Details that let you perform various actions.
Save	Saves a new record in the Controller database.
Sav e & New	Saves a new record in the Controller database and redisplay empty Details so that you can create another new record.
Sav e & View	Saves a new record in the Controller database and continues to display that record.
Upd ate	Saves updates to the record.
Dele te	Deletes the current record.
Refr esh	Refreshes any dynamic data displayed in the Details.
Close	For pop-up view only; closes the pop-up view of this component.

Universal Monitor Component

Universal Monitor Component Details
- ☐ ×

Universal Monitor Component

General

Name *

Description

Built-in Variable Prefix

Universal Monitor Details

Universal Monitor *

Restrictions

Restrict Times

Enabled Start
 Hour: Min:

Enabled End
 Hour: Min:

Special Restriction

Simple Restriction

Situation

Action

Complex Restriction

Universal Monitor Component Details Field Descriptions

The following table describes the fields and buttons that display in the Universal Monitor Component Details.

Field Name	Description
General	This section contains general information about the component.
Name	Name used within the Controller to identify this component. It can contain a maximum of 255 alphanumeric characters.
Description	Description of this record. (Maximum = 255 characters.)
Built-In Variable Prefix	User-specified prefix that enables built-in variables in the task(s) being monitored to be propagated up to the Composite trigger.
Status	This section contains information about the current status of the trigger.
Status	System-defined; Specification for whether the trigger is Enabled or Disabled. The user enables and disables the trigger by clicking the Enable / Disable buttons. Only enabled triggers are processed by the Controller.

Monitor Status	System-supplied; Lists the status of Universal Monitor tasks currently running that were launched by this trigger.
Universal Monitor Details	This section contains assorted detailed information about the component.
Universal Monitor	<p>Required; Universal Monitor task being executed. Enter a task name, select a task from the drop-down list, or click the Task Details icon to create a new task. If a task already is specified in this field, click the Task Details icon to view the Details of that task.</p> <div style="border: 1px solid #ccc; padding: 10px; margin: 10px 0;"> <p>Note If you click the Details icon to create or update a Universal Monitor, Change is pre-selected for the Universal Monitor Type field and cannot be changed.</p> </div>
Running Monitor	System-supplied; Name of the currently running task instance of the specified Universal Monitor task that was launched by this enabled trigger.
Restrictions	This section specifies any restrictions that apply to the component.
Restrict Times	Period during which the component is active. Enable this field and specify the start and end times in the Enabled Start and Enabled End fields.
Enabled Start	If Restrict Times is enabled, allows you to specify the start time of the period during which the component should be active. Use 24-hour time.
Enabled End	If Restrict Times is enabled, allows you to specify the end time of the period during which the component should be active. Use 24-hour time.
Special Restriction	Enable this field in order to specify additional parameters that tell the Controller how to handle exceptions, such as when the component is satisfied on a holiday or non-business day. You can specify simple and/or complex restrictions. For example, you can specify a Simple Restriction that disables the component if it is satisfied on a holiday identified in the calendar and/or a Complex Restriction that disables the component on the last business day of every month.
Simple Restriction	If enabled, allows you to specify an action (see Action field) such as Do Not Trigger on a non-business day or holiday (see Situation field). For example, do not trigger on a non-business day.
Situation	<p>If Simple Restriction is enabled, allows you to select the situation that causes the system to initiate the action specified in the Action field.</p> <p>Options:</p> <ul style="list-style-type: none"> • On Non Business Day • On Holiday
Action	<p>If Special Restriction is enabled, allows you to select an action to take on a non-business day or holiday (see Situation field).</p> <p>Options:</p> <ul style="list-style-type: none"> • Do Not Trigger • Next Day (run on the next day) • Next Business Day (run on the next business day, as defined in the calendar) • Previous Day (run on the previous day) • Previous Business Day (run on the previous business day, as defined in the calendar)

Complex Restriction	<p>If enabled, allows you to specify a set of parameters that determine one or more situations when this component should not be satisfied. Used in conjunction with the following fields: Restriction Mode, Restriction Adjective, Restriction Noun, Restriction Qualifier. For example, you may specify that you do not want to satisfy this component on the last business day of the year or the first day of each month.</p>
Restriction Mode	<p>If both Simple Restriction and Complex Restriction are enabled, specifies whether you want to use both restriction types (AND) or one or the other (OR).</p> <p>Options:</p> <ul style="list-style-type: none"> • And • Or
Restriction Adjective	<p>If Complex Restriction is enabled, the type of selection.</p> <p>Options:</p> <ul style="list-style-type: none"> • Every • 1st • 2nd • 3rd • 4th • Last • Nth <p>Example: The last business day of the month.</p>
Restriction Noun(s)	<p>If Complex Restriction is enabled, the day(s) you want to select.</p> <p>Options:</p> <ul style="list-style-type: none"> • Sunday through Saturday • Day • Business Day • Custom Day <p>Example: The last Business Day and Sunday of the month.</p>
Restriction Qualifier(s)	<p>If Complex Restriction is enabled, the period(s) you are selecting from.</p> <p>Options:</p> <ul style="list-style-type: none"> • Jan - Dec • Month • Year • Week • Quarter • Custom period <p>Example: The last Day of Quarter, Year, and January.</p>
Restriction Nth Amount	<p>If Restriction Adjective is Nth, allows you to specify the value of N.</p> <p>If Restriction Qualifier is Week, Restriction Nth Amount must be <= 7.</p>
Metadata	This section contains Metadata information about this record.
UUID	Universally Unique Identifier of this record.
Updated By	Name of the user that last updated this record.

Updated	Date and time that this record was last updated.
Created By	Name of the user that created this record.
Created	Date and time that this record was created.
Buttons	This section identifies the buttons displayed above and below the Component Details that let you perform various actions.
Save	Saves a new record in the Controller database.
Save & New	Saves a new record in the Controller database and redisplay empty Details so that you can create another new record.
Save & View	Saves a new record in the Controller database and continues to display that record.
Update	Saves updates to the record.
Delete	Deletes the current record.
Refresh	Refreshes any dynamic data displayed in the Details.
Close	For pop-up view only; closes the pop-up view of this component.

Enabling and Disabling Triggers

- [Introduction](#)
- [Enabling/Disabling a Single Trigger](#)
- [Enabling/Disabling Multiple Triggers](#)
- [Enabling/Disabling One or More Triggers from the Command Line](#)

Introduction

When you define and submit a new trigger, you must enable it in order for Universal Controller to begin processing it. The Controller only processes triggers that are flagged as Enabled (Enabled triggers are Active triggers).

For tracking and compliance purposes, you must manually enable and disable triggers either by using:

- **Enable Trigger** and **Disable Trigger** buttons or [Action menu](#) items in Trigger Details.
- [Enable a Trigger](#) (ops-trigger-enable) and [Disable a Trigger](#) (ops-trigger-disable) CLI commands.

This process saves an audit record detailing the event. The trigger record also displays the ID of the user who enabled it.

Note
This does not apply to [Manual triggers](#).

Enabling/Disabling a Single Trigger

Step 1	Display either the Triggers list for the trigger or the Trigger Details.
Step 2	<p>Either:</p> <ul style="list-style-type: none"> • Right-click the trigger in the Triggers list to display an Action menu and then click Enable or Disable. • Click the Enable or Disable button in the Trigger Details. <p>In the Trigger Details:</p> <ul style="list-style-type: none"> • The Status field in the Status section will change from Enabled to Disabled / Disabled to Enabled.

- The **Enabled By** or **Disabled By** field in the **Status** section identifies the user that enabled / disabled the trigger.
- The **Enabled Time** or **Disabled Time** in the **Status** section identifies when the trigger was enabled / disabled.

Enabling/Disabling Multiple Triggers

Step 1	Display a Triggers list or the Active Triggers list.
Step 2	Ctrl-click each trigger on the list that you want to enable/disable.
Step 3	Right-click any of the selected triggers to display an Action menu .
Step 4	<p>Click Enable or Disable:</p> <ul style="list-style-type: none"> • The Status field in the Status section of the Trigger Details for all selected triggers will change from Enabled to Disabled / Disabled to Enabled. • The Enabled By or Disabled By field in the Status section of the Trigger Details for all selected triggers identifies the user that enabled / disabled the triggers. • The Enabled Time or Disabled Time field in the Status section of the Trigger Details for all selected triggers identifies when the triggers were enabled / disabled.

Enabling/Disabling One or More Triggers from the Command Line

See the [Enable a Trigger](#) (ops-trigger-enable) and [Disable a Trigger](#) (ops-trigger-disable) CLI commands for instructions.

Assigning and Unassigning Trigger Execution Users

- [Overview](#)
- [Determining Minimum Permissions for Assigned Execution User](#)
- [Assigning an Execution User to One or More Triggers](#)
 - [Assigning an Execution User to a Single Trigger](#)
 - [Users with ops_admin Role](#)
 - [Users without ops_admin Role](#)
 - [Assigning an Execution User to Multiple Triggers](#)
 - [Users with ops_admin Role](#)
 - [Users without ops_admin Role](#)
- [Unassigning an Execution User](#)

Overview

The Execution User of a task instance determines the security context under which the task instance runs.

How the task (from which the task instance was derived) is launched or triggered determines the Execution User:

- If a task is launched manually, via the Launch command, the Execution User of the task instance is the user who issued the Launch command.
- If a task is triggered manually, by issuing the [Trigger Now...](#) command:
 - For an Enabled trigger that does not have an [assigned Execution User](#), the trigger will launch the task under the context of the user that [enabled the trigger](#) (the **Enabled By** user).
 - For a Disabled trigger that does not have an [assigned Execution User](#), the trigger will launch the task under the context of the user that issued the [Trigger Now...](#) command.
 - For an Enabled or Disabled trigger that has an [assigned Execution User](#), the trigger will launch the task under the context of the assigned Execution User.
- If a task is triggered when an Enabled trigger fires at its **Next Scheduled Time**, the trigger will launch the task under the context of the user that enabled the trigger (the **Enabled By** user), or, if the Execution User is assigned on the trigger - via the [Assign Execution User...](#) command - the trigger will launch the task under the context of the trigger's Execution User.

Note

If a user is referenced by an Enabled trigger in the Enabled By field of the trigger, you can delete that user if the trigger is [assigned](#) a different Execution User.

If you attempt to [unassign](#) an Execution User from an Enabled trigger, and the Enabled By field of the trigger references an invalid user (see above), the command will fail with the following error:

Enabled By user "<user-name>" is no longer a valid username; you must disable the trigger prior to unassigning the execution user.

Determining Minimum Permissions for Assigned Execution User

When a trigger is [assigned an Execution User](#), that Execution User becomes the user (or security context) under which all task instances launched by the Trigger run.

There are a number of Universal Controller definitions that require run-time security constraint validation, as shown in the following table. Understanding which of these definitions your task instances have a dependency on will help in determining the minimum permissions required for the Execution User; without these permissions, the task instances will transition into a Start Failure.

For tasks launched by a trigger, or tasks contained in a Workflow launched by a trigger, the following requirements apply:

Tasks needing to read a Global Variable	Execution User requires Read permission for that Global Variable.
Tasks requiring a Connection	Execution User requires Execute permission for that required Connection (Email Connection, Database Connection, SAP Connection, PeopleSoft Connection, SNMP Manager).
Tasks requiring a Credential	Execution User requires Execute permission for that Credential. (References to Credentials can exist for both non agent-based and agent-based task types. Furthermore, agents can specify default Credentials, even if the Credentials are not directly defined on the task.)
Tasks requiring an Email Template	Execution User requires Read permission for that Email Template.
Tasks requiring a Virtual Resource	Execution User requires Execute permission for that Virtual Resource.
Tasks running a Script	Execution User requires Execute permission for that Script.
Tasks running on an Agent	Execution User requires Execute permission for that Agent.

Assigning an Execution User to One or More Triggers

To assign an Execution User to a trigger, you must have the **Assign Execution User Trigger permission**.

Additionally, users that do not have the [ops_admin](#) role must provide Execution User login credentials (User ID and Password) in order to assign the Execution User to the trigger.

You can assign an execution user to:

- [Single trigger](#)
- [Multiple triggers](#)

Assigning an Execution User to a Single Trigger

S t e p 1	Open the trigger.
S t e p 2	Right-click the trigger Details and, in the Action menu that displays, click Assign Execution User.... An Assign Execution User dialog displays Users with ops_admin Role

Users without ops_admin Role

Step 3

Enter the user ID of the user that you want to assign as the Execution User for the task instances to be launched by this trigger. If you do not ops_admin Role, also enter the Password of the user.

Step 4

Click **Submit**. The **Execution User** field displays in the General Information section of the trigger Details, identifying the user you selected in Execution User dialog.

Assigning an Execution User to Multiple Triggers

Step 1

Display the triggers list from which you want to assign an execution user to multiple triggers.

Step 2

Ctrl+click the triggers that you want to assign an execution user.

Step 3

Right-click any of the selected triggers and, in the **Action menu** that displays, click **Assign Execution User....** An Assign Execution User dialog

Users with ops_admin Role

Users without ops_admin Role.

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4 Enter the user ID of the user that you want to assign as the Execution User for the task instances to be launched by these triggers. If you do the ops_admin Role, also enter the Password of the user.

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5 Click **Submit**. The **Execution User** field displays in the General Information section of each trigger Details, identifying the user you selected Assign Execution User dialog.

Unassigning an Execution User

To unassign an Execution User from a trigger, you must have the **Assign Execution User** [Trigger permission](#).

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1 Open the trigger. The **Execution User** field should display in the General Information section of the trigger Details, identifying the currently defined Execution User for this trigger.

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2 Right-click the trigger Details and, in the [Action menu](#) that displays, click [Unassign Execution User....](#) The Execution User identified in the Execution User field is unassigned as the Execution User for this trigger, and the Execution User field is removed from the trigger Details.

Copying Triggers

- [Overview](#)
- [Copying a Trigger from a Triggers List](#)
- [Copying Multiple Triggers from a Triggers List](#)
- [Copying a Trigger from the Trigger Details](#)
- [Copy Permissions](#)

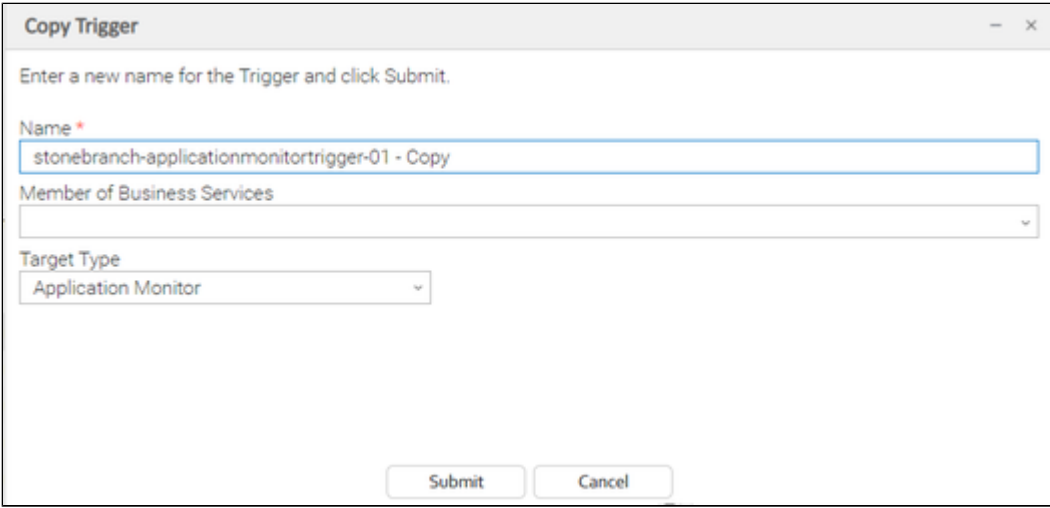
Overview

You can make copies of all Universal Controller records, including triggers, using the standard method for [Copying a Record](#): selecting **Insert** on the [Action menu](#).

However, this method does not make copies of any records that are associated with the copies record. For triggers, **Insert** does not make copies of any [Variables](#) that are associated with the trigger.

The Copy Trigger option allows you to make a complete copy of a trigger, including all of its Variables.

Copying a Trigger from a Triggers List

Step 1	From the Automation Center navigation pane, select a trigger type under Triggers . The Triggers list for that trigger type displays.
Step 2	Locate the trigger that you want to copy (see Filtering).
Step 3	Right-click the Trigger Name .
Step 4	<p>On the Action menu that displays, select Copy. A Copy Trigger pop-up dialog displays.</p> 
Step 5	Enter a new name for the trigger and, optionally, select any Business Services that you want the trigger assigned to.
Step 6	<p>Select a Target Type for the trigger; either:</p> <ul style="list-style-type: none"> • Original trigger type (for example, Cron) • Temporary • Manual
Step 7	If you select Temporary as the Target Type - and the original trigger is not a Temporary trigger - additional fields display on the Copy dialog:

Step 8

Click **Submit** to create a copy of the trigger.
Only fields that are shared between the trigger being copied and the target trigger will be copied.

Copying Multiple Triggers from a Triggers List

Step 1	From the Automation Center navigation pane, select a trigger under Triggers . The Triggers list for that trigger type displays.
Step 2	Ctrl-Click the trigger(s) that you want to copy (see Filtering).
Step 3	Right-click any of the selected triggers and on the Action menu that displays, select Copy .
Step 4	On the Confirmation pop-up that displays, click OK . The copied triggers are added to the list, with - Copy added as a suffix to the Trigger Name for each trigger. If a trigger with that - Copy name already exists, another copy is not created.

Copying a Trigger from the Trigger Details

Step 1	Select a task from a Triggers list. The Trigger Details for that trigger displays.
Step 2	Either: <ul style="list-style-type: none"> Click the Copy button. Right-click the Details to display the Action menu, and then click Copy.

Step 3 Enter a new name for the trigger and, optionally, select any [Business Services](#) that you want the trigger assigned to.

Step 4 Select a Target Type for the trigger; either:

- Original trigger type (for example, Cron)
- Temporary
- Manual

Step 5 If you select Temporary as the Target Type - and the original trigger is not a Temporary trigger - additional fields display on the Copy dialog:

Step 6 Click **Submit** to create a copy of the trigger.
Only fields that are shared between the trigger being copied and the target trigger will be copied.

Copy Permissions

To copy a Trigger, you must have both Read [permission](#) and Copy command permission for the Trigger you are copying, in addition to having Create permission for the copied Trigger.

Triggering with Variables

- [Overview](#)
- [Using the Trigger Now... Pop-up Method](#)
- [Using the Variables Tab Method](#)

Overview

Universal Controller provides two methods for manually launching all of the tasks associated with a trigger while supplying values for variables used by the task(s):

- Use the [Trigger Now... pop-up](#) method if you do not want the values that you enter for variables to persist. The values will apply only for the time the task(s) is running.
- Use the [Variables tab](#) method if you want to preserve the information (name and value) about the variables you are setting.

Both methods are available for all trigger types. You can use either method to manually launch task(s) when you cannot use the **Launch Task** button (in the task Details) because you want to override one or more variables.

The values that you enter when using either method override the all other values, set elsewhere, for those variables.

Variables set with the **Trigger Now...** pop-up method override any variables specified with the **Variables tab** method, but only for that run of the task(s).

The [audit](#) message created when you use either method is the same.

Using the Trigger Now... Pop-up Method

Step 1

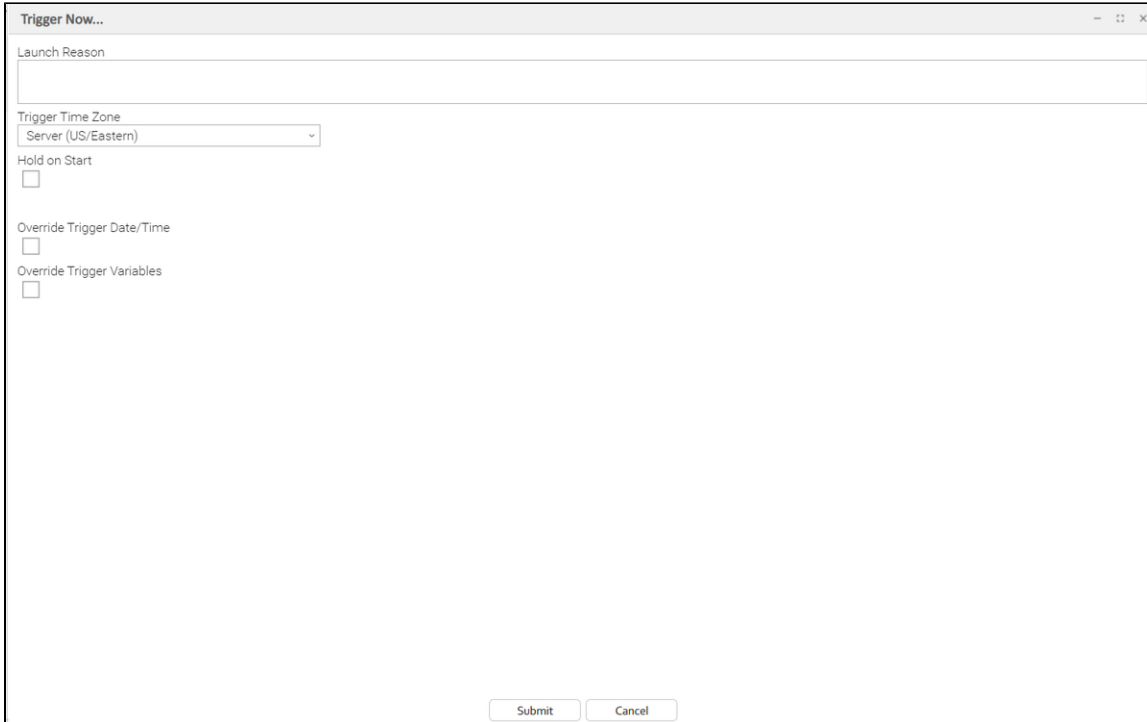
From the [Automation Center](#) navigation pane, select **Triggers > <trigger type>**. The Triggers list for that trigger type displays.

Step 2

Right-click the trigger whose tasks you want to launch to display an [Action menu](#).

Step 3

Click **Trigger Now...**. The Trigger Now... pop-up dialog displays.



The screenshot shows a dialog box titled "Trigger Now...". It contains the following fields and options:

- Launch Reason:** A text input field.
- Trigger Time Zone:** A dropdown menu currently showing "Server (US/Eastern)".
- Hold on Start:** A checkbox that is unchecked.
- Override Trigger Date/Time:** A checkbox that is unchecked.
- Override Trigger Variables:** A checkbox that is unchecked.

At the bottom of the dialog, there are two buttons: "Submit" and "Cancel".

Step 4

The **Trigger Time Zone** field displays, by default, the time zone of the trigger, but you can change it to any time zone in the drop-down list for

Step 5

If you want to put the task instances in [held](#) status when the tasks specified in the trigger are started, select **Hold on Start**. A **Hold Reason** for tasks start.

Step 6

Select **Override Trigger Variables** to display a Variable window in the Trigger Now... pop-up dialog. Any variables already attached to the tr

Name	Value	Description
V1	1	
V2	2	

Note

Additionally, you also can select **Override Trigger Date/Time** if you want to launch the tasks specified in the trigger by a specific dat

Step 7

To add a variable to the list, click the + icon and enter a **Name** and **Value** for the variable.

To remove a variable from the list, click it and then click the - icon.

Step 8

Click **Submit** to launch the tasks named in the trigger. The variable information in the list is used where referenced in the tasks. After launchi

Using the Variables Tab Method

Step 1

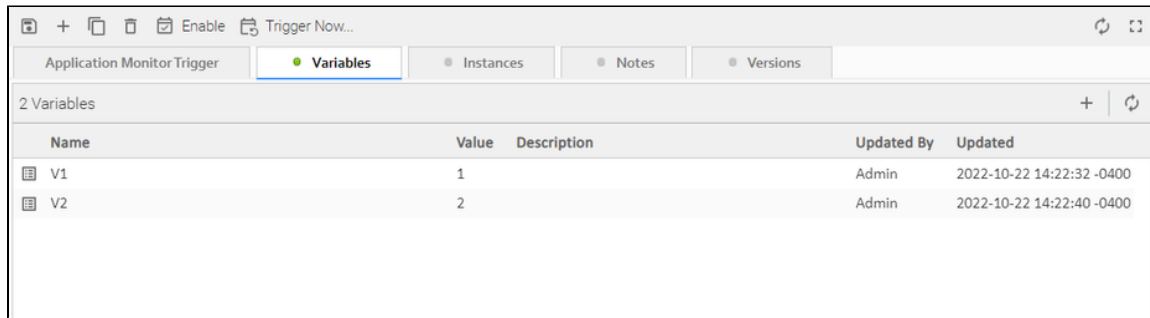
From the [Automation Center](#) navigation pane, select **Triggers > <trigger type>**. The Triggers list for that trigger type displays.

Step 2

[Open](#) the trigger whose tasks you want to launch. The Trigger Details for that trigger displays.

Step 3


Click the **Variables** tab. The Trigger Variables list displays.

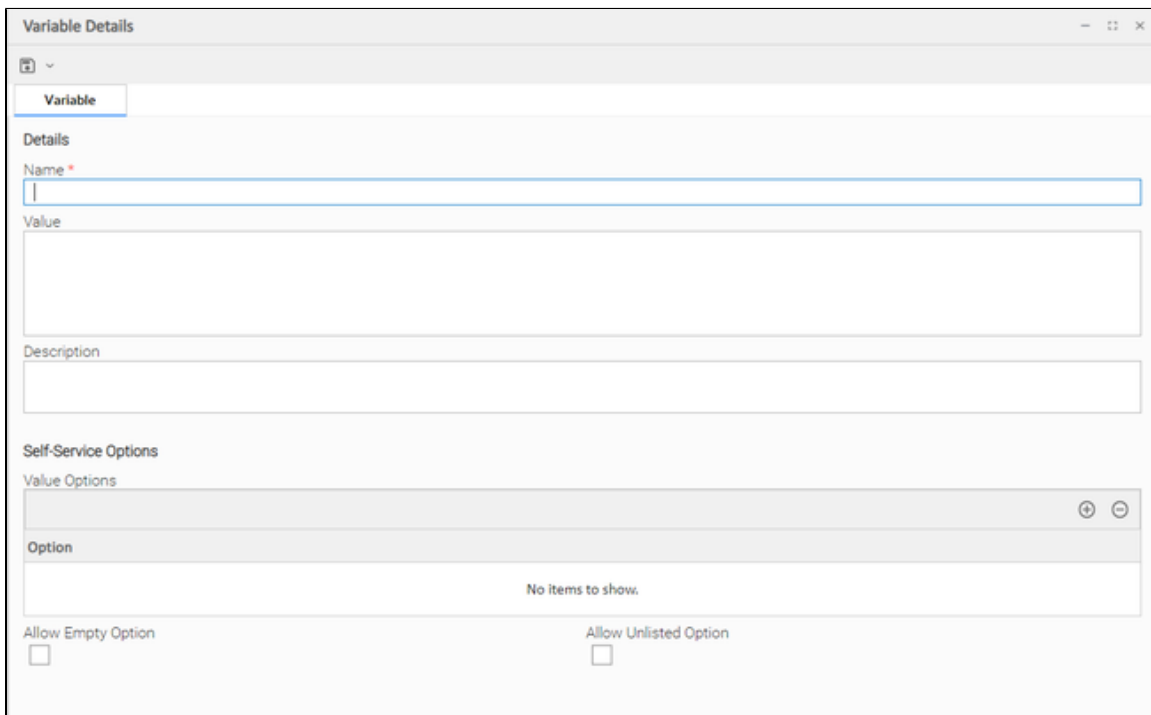


Name	Value	Description	Updated By	Updated
V1	1		Admin	2022-10-22 14:22:32 -0400
V2	2		Admin	2022-10-22 14:22:40 -0400

Step 4

To add a variable:

1. Click the  button. A Variables Details pop-up displays.



Variable Details

Variable

Details

Name *

Value

Description

Self-Service Options

Value Options

Option

No items to show.

Allow Empty Option

Allow Unlisted Option

2. Enter a Name, Value, and Description for the variable, and then click **Save**.

Step 5

To update a variable:

1. Click the icon next to a variable **Name** on the Trigger Variables list to displays the Variables Details pop-up .
2. Change the Name, Values, and/or Description of the variable, and then click **Update**.

Step 6

Click the **<trigger type> Trigger** tab.

Step 7

Click the **Trigger Now** button to launch the tasks named in the trigger.

Triggering by Date and Time

- [Overview](#)
- [Trigger by Date/Time](#)

Overview

Universal Controller provides for the triggering of tasks at the present time or another specific date and time.

Trigger by Date/Time

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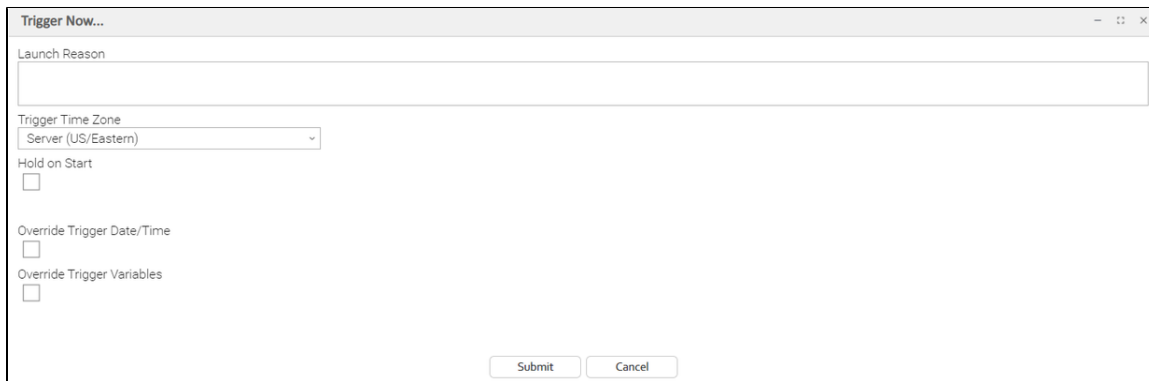
From the [Automation Center](#) navigation pane, select **Triggers** > **<trigger type>**. The Triggers list for that trigger type displays.

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Right-click the trigger whose tasks you want to launch to display an [Action menu](#).

S
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3

Click **Trigger Now....** The Trigger Now... pop-up dialog displays.



S
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4

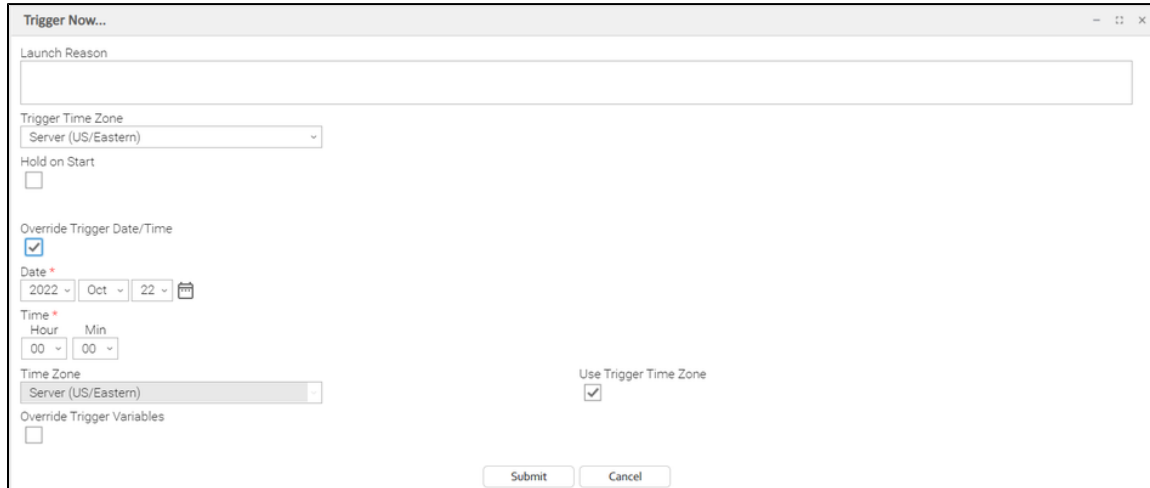
The **Trigger Time Zone** field displays, by default, the time zone of the trigger, but you can change it to any time zone in the drop-down list for this particular execution of the trigger to run in.

S
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If you want to put the task instances in [held](#) status when the tasks specified in the trigger are started, select **Hold on Start**.

S
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6

Select **Override Trigger Date/Times** to display fields in the Trigger Now... pop-up dialog that allow you to select a Date, Time, and Time Zone for this execution of the trigger.



Step 7 If the **Trigger Time Zone** field displays in the pop-up, the **Time Zone** field, by default, is read-only and displays the time zone in the **Trigger Time Zone** field, since the **Use Trigger Time Zone** field is checked.

If you want the trigger to run in a different time zone for the selected **Date** and **Time**, un-check the **Use Trigger Time Zone** field and select a time zone from the **Time Zone** drop-down list.

The **Trigger Time Zone** and **Time Zone** fields allow the trigger to run as if in one time zone, and also allow the Date and Time of the trigger to be based upon another time zone. For example, you could execute Trigger Now... to run at a specific date and time with respect to the **Time Zone**, and yet the trigger itself will run based upon the **Trigger Time Zone**.

If the task is a Workflow, **Trigger Time Zone** lets you select a time zone for this specific launch of the Workflow so that it runs, and evaluates both Run Criteria and Execution Restrictions, according to that time zone.

Step 8 You also can select **Override Trigger Variables** if you want to launch the tasks specified in the trigger while supplying values for variables used by the tasks (see [Triggering with Variables](#)).

Step 9 Click **Submit** to launch the tasks named in the trigger. The variable information in the list is used where referenced in the tasks. After launching the tasks, the Controller deletes the contents of the list.

Forecasts



Displaying Trigger Forecast Information

[Overview](#)

[Forecast Calendar](#)

[Forecast List](#)

[Forecast Calculation](#)

[Forecast Re-Calculation](#)

[Setting up Forecasting](#)

[Next Scheduled Time](#)

[List Qualifying Times](#)

Displaying Trigger Forecast Information

- [Overview](#)
- [Forecast Calendar](#)
- [Forecasts List](#)
- [Forecast Details](#)
 - [Forecast Details Field Descriptions](#)
- [Forecast Calculation](#)
- [Forecast Re-Calculation](#)
- [Setting up Forecasting](#)
- [Next Scheduled Time](#)
 - [Overdue Timers](#)
- [List Qualifying Times](#)

Overview

Four methods are available for displaying forecasting information on time-based triggers (Time, Cron, and Temporary) and the tasks they launch:

- [Forecast Calendar](#) displays a calendar showing tasks scheduled to run based on Time, Cron, and Temporary triggers. Where data is available, the estimated end time for each task also is calculated and displayed.
- [Forecasts List](#) displays a sequential list of the tasks shown in the [Forecast Calendar](#).
- [Next Scheduled Time](#) field in Time, Cron, and Temporary trigger Details identifies the next time a trigger will launch its task(s).
- [List Qualifying Times](#) button in Time and Cron triggers Details displays a list of the next 30 qualifying dates and times.

Each of these methods is described below.

See [Forecasting a Workflow for a Specific Date/Time](#) for displaying Workflow forecast information.

Forecast Calendar

For [enabled](#) Time, Temporary, and Cron triggers where forecasting has been specified, Universal Controller writes an entry to the Forecast Calendar (and the [Forecasts List](#)) for each time that a trigger task is scheduled to run within the next N days, where N is the forecast period specified in the [Forecast Period in Days](#) Universal Controller system property.

To display the Forecast Calendar, from the [Automation Center](#) navigation pane select **Triggers > Forecast Calendar**.

Dashboards × Triggers × Forecast Calendar ×						
< Nov 2022 >						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
		08:00pm stonebranch-windowstaski-01	08:00pm stonebranch-windowstaski-01	08:00pm stonebranch-windowstaski-01	08:00pm stonebranch-windowstaski-01	08:00pm stonebranch-windowstaski-01
08:00pm stonebranch-windowstaski-01	08:00pm stonebranch-windowstaski-01	08:00pm stonebranch-windowstaski-01	08:00pm stonebranch-windowstaski-01	08:00pm stonebranch-windowstaski-01	08:00pm stonebranch-windowstaski-01	08:00pm stonebranch-windowstaski-01
08:00pm stonebranch-windowstaski-01	08:00pm stonebranch-windowstaski-01	08:00pm stonebranch-windowstaski-01	08:00pm stonebranch-windowstaski-01	08:00pm stonebranch-windowstaski-01	08:00pm stonebranch-windowstaski-01	08:00pm stonebranch-windowstaski-01
08:00pm stonebranch-windowstaski-01	08:00pm stonebranch-windowstaski-01	08:00pm stonebranch-windowstaski-01	08:00pm stonebranch-windowstaski-01	08:00pm stonebranch-windowstaski-01	08:00pm stonebranch-windowstaski-01	08:00pm stonebranch-windowstaski-01
08:00pm stonebranch-windowstaski-01	08:00pm stonebranch-windowstaski-01	08:00pm stonebranch-windowstaski-01	08:00pm stonebranch-windowstaski-01	08:00pm stonebranch-windowstaski-01	08:00pm stonebranch-windowstaski-01	08:00pm stonebranch-windowstaski-01
08:00pm stonebranch-windowstaski-01	08:00pm stonebranch-windowstaski-01	08:00pm stonebranch-windowstaski-01	08:00pm stonebranch-windowstaski-01			

To display Details about an entry in the Forecast Calendar, click the entry. A [Forecast Details](#) pop-up displays. (You also can display Forecast Details by clicking an entry in the [Forecasts List](#).)

To refresh the forecast data (for the displayed month only), click the Refresh icon.

Forecasts List

The Forecasts list displays information about every entry in the [Forecast Calendar](#), plus information on tasks within a Workflow launched by a trigger.

To display the Forecasts List, from the [Automation Center](#) navigation pane select **Triggers > Forecasts**.

Trigger	Task	Task Type	Workflow	Launch Time	End Time	Run/Skip Evaluation	Simulation
stonebranch-timetrigger-02	stonebranch-timertask-01	Timer		2023-03-08 15:00:00 -0500	2023-03-08 15:00:00 -0500	Run	No
stonebranch-timetrigger-02	stonebranch-timertask-01	Timer		2023-03-08 17:00:00 -0500	2023-03-08 17:00:00 -0500	Run	No
stonebranch-crontrigger-01	stonebranch-windowstask-01	Windows		2023-03-08 20:00:00 -0500	2023-03-08 20:00:00 -0500	Run	No
stonebranch-timetrigger-02	stonebranch-timertask-01	Timer		2023-03-09 09:00:00 -0500	2023-03-09 09:00:00 -0500	Run	No
stonebranch-timetrigger-02	stonebranch-timertask-01	Timer		2023-03-09 11:00:00 -0500	2023-03-09 11:00:00 -0500	Run	No
stonebranch-timetrigger-02	stonebranch-timertask-01	Timer		2023-03-09 13:00:00 -0500	2023-03-09 13:00:00 -0500	Run	No
stonebranch-timetrigger-02	stonebranch-timertask-01	Timer		2023-03-09 15:00:00 -0500	2023-03-09 15:00:00 -0500	Run	No
stonebranch-timetrigger-02	stonebranch-timertask-01	Timer		2023-03-09 17:00:00 -0500	2023-03-09 17:00:00 -0500	Run	No
stonebranch-crontrigger-01	stonebranch-windowstask-01	Windows		2023-03-09 20:00:00 -0500	2023-03-09 20:00:00 -0500	Run	No
stonebranch-timetrigger-02	stonebranch-timertask-01	Timer		2023-03-10 09:00:00 -0500	2023-03-10 09:00:00 -0500	Run	No
stonebranch-timetrigger-02	stonebranch-timertask-01	Timer		2023-03-10 11:00:00 -0500	2023-03-10 11:00:00 -0500	Run	No
stonebranch-timetrigger-02	stonebranch-timertask-01	Timer		2023-03-10 13:00:00 -0500	2023-03-10 13:00:00 -0500	Run	No
stonebranch-timetrigger-02	stonebranch-timertask-01	Timer		2023-03-10 15:00:00 -0500	2023-03-10 15:00:00 -0500	Run	No
stonebranch-timetrigger-02	stonebranch-timertask-01	Timer		2023-03-10 17:00:00 -0500	2023-03-10 17:00:00 -0500	Run	No
stonebranch-crontrigger-01	stonebranch-windowstask-01	Windows		2023-03-10 20:00:00 -0500	2023-03-10 20:00:00 -0500	Run	No
stonebranch-timetrigger-02	stonebranch-timertask-01	Timer		2023-03-11 09:00:00 -0500	2023-03-11 09:00:00 -0500	Run	No
stonebranch-timetrigger-02	stonebranch-timertask-01	Timer		2023-03-11 11:00:00 -0500	2023-03-11 11:00:00 -0500	Run	No
stonebranch-timetrigger-02	stonebranch-timertask-01	Timer		2023-03-11 13:00:00 -0500	2023-03-11 13:00:00 -0500	Run	No
stonebranch-timetrigger-02	stonebranch-timertask-01	Timer		2023-03-11 15:00:00 -0500	2023-03-11 15:00:00 -0500	Run	No
stonebranch-timetrigger-02	stonebranch-timertask-01	Timer		2023-03-11 17:00:00 -0500	2023-03-11 17:00:00 -0500	Run	No
stonebranch-crontrigger-01	stonebranch-windowstask-01	Windows		2023-03-11 20:00:00 -0500	2023-03-11 20:00:00 -0500	Run	No
stonebranch-timetrigger-02	stonebranch-timertask-01	Timer		2023-03-12 10:00:00 -0400	2023-03-12 10:00:00 -0400	Run	No
stonebranch-timetrigger-02	stonebranch-timertask-01	Timer		2023-03-12 12:00:00 -0400	2023-03-12 12:00:00 -0400	Run	No
stonebranch-timetrigger-02	stonebranch-timertask-01	Timer		2023-03-12 14:00:00 -0400	2023-03-12 14:00:00 -0400	Run	No
stonebranch-timetrigger-02	stonebranch-timertask-01	Timer		2023-03-12 16:00:00 -0400	2023-03-12 16:00:00 -0400	Run	No
stonebranch-crontrigger-01	stonebranch-windowstask-01	Windows		2023-03-12 20:00:00 -0400	2023-03-12 20:00:00 -0400	Run	No
stonebranch-crontrigger-01	stonebranch-windowstask-01	Windows		2023-03-13 20:00:00 -0400	2023-03-13 20:00:00 -0400	Run	No
stonebranch-crontrigger-01	stonebranch-windowstask-01	Windows		2023-03-14 20:00:00 -0400	2023-03-14 20:00:00 -0400	Run	No
stonebranch-timetrigger-02	stonebranch-timertask-01	Timer		2023-03-15 10:00:00 -0400	2023-03-15 10:00:00 -0400	Run	No
stonebranch-timetrigger-02	stonebranch-timertask-01	Timer		2023-03-15 12:00:00 -0400	2023-03-15 12:00:00 -0400	Run	No
stonebranch-timetrigger-02	stonebranch-timertask-01	Timer		2023-03-15 14:00:00 -0400	2023-03-15 14:00:00 -0400	Run	No
stonebranch-timetrigger-02	stonebranch-timertask-01	Timer		2023-03-15 16:00:00 -0400	2023-03-15 16:00:00 -0400	Run	No
stonebranch-crontrigger-01	stonebranch-windowstask-01	Windows		2023-03-15 20:00:00 -0400	2023-03-15 20:00:00 -0400	Run	No
stonebranch-timetrigger-02	stonebranch-timertask-01	Timer		2023-03-16 10:00:00 -0400	2023-03-16 10:00:00 -0400	Run	No
stonebranch-timetrigger-02	stonebranch-timertask-01	Timer		2023-03-16 12:00:00 -0400	2023-03-16 12:00:00 -0400	Run	No
stonebranch-timetrigger-02	stonebranch-timertask-01	Timer		2023-03-16 14:00:00 -0400	2023-03-16 14:00:00 -0400	Run	No

To display the [Details](#) about a Forecast in the list, either:

- Click the Details icon next to the **Trigger** Name to display a Forecast Details pop-up.
- Click the Forecast entry in the list to display the Forecast Details below the list.

(You also can display Forecast Details by clicking an entry in the [Forecast Calendar](#).)

Forecast Details

Forecast Details displays information about the task, workflow, agent, and trigger associated with a trigger Forecast.

(For a workflow, only details about tasks and triggers are available.)

You can displays Forecast Details either by:

- Clicking an entry in the [Forecasts Calendar](#).
- Clicking an entry in the [Forecasts List](#).

Forecast Details
- ☐ ✕

Forecast
● Child Forecast

Details

Task <input style="width: 95%;" type="text" value="stonebranch-windowstask-01"/>	Trigger <input style="width: 95%;" type="text" value="stonebranch-crontrigger-01"/>
Task Type <input style="width: 95%;" type="text" value="Windows"/>	Launch Time <input style="width: 95%;" type="text" value="2022-10-31 20:00:00 -0400"/>
Workflow <input style="width: 95%;" type="text"/>	End Time <input style="width: 95%;" type="text" value="2022-10-31 20:00:00 -0400"/>
Member of Business Services <input style="width: 95%;" type="text"/>	Run/Skip Evaluation <input style="width: 95%;" type="text" value="Run"/>
Simulation <input type="checkbox"/>	
Agent <input style="width: 95%;" type="text" value="qa-win7-x64 - WIN7X64"/>	Agent Cluster <input style="width: 95%;" type="text"/>
Agent Variable <input style="width: 95%;" type="text"/>	Agent Cluster Variable <input style="width: 95%;" type="text"/>
	Cluster Broadcast <input style="width: 95%;" type="text"/>
	Cluster Broadcast Variable <input style="width: 95%;" type="text"/>

Click the Details icon next to any field to view Details of that record.

See the [field descriptions](#) below for a description of all fields in the Forecast Details.

Forecast Details Field Descriptions

The following table describes the fields and tabs that display in the Forecast Details.

Field Name	Description
Details	This section contains detailed information about the forecast.
Task	Name of the task selected in the Forecast Calendar. The icon is a link to the Task Details for this task.
Task Type	Task type of this task.
Workflow	For tasks included in a Workflow: Name of the Workflow in which this task is included. The icon is a link to the Workflow Details for this Workflow.
Member of Business Services	One or more Business Services that this task belongs to.
Trigger	Name of the trigger that will launch this task (or the Workflow in which this task is included). The icon is a link to the Trigger Details for this trigger.
Launch Time	Calculated start time of this task.
End Time	Calculated end time of this task.
Run/Skip Evaluation	<p>Evaluation, based on run/skip criteria specified for this task via the Workflow Task Details, of whether this task will run or skip when the Workflow is run.</p> <ul style="list-style-type: none"> • Run <ul style="list-style-type: none"> • A variable condition is not specified, and the forecasted task is scheduled to run based on the criteria. • Run* <ul style="list-style-type: none"> • A variable condition is specified, and the forecasted task is tentatively scheduled to run based on the variable data available at the time of the forecast but is subject to change at run time. • Skip <ul style="list-style-type: none"> • A variable condition is not specified, and the forecasted task is scheduled to skip based on the criteria. • Skip* <ul style="list-style-type: none"> • A variable condition is specified, and the forecasted task is tentatively scheduled to skip based on the variable data available at the time of the forecast but is subject to change at run time. • Not Evaluated <ul style="list-style-type: none"> • A variable condition is specified, however, an unresolved variable and/or function was detected during the evaluation.

	Tasks, including Workflows, launched directly by the trigger will always have a run/skip evaluation of Run . Likewise, tasks within a launched Workflow that do not have any run or skip defined will always have a run/skip evaluation of Run .
Simulation	Indication of whether or not this forecast is based on the simulated launch of this trigger.
Agent	Name of the Agent resource record that identifies the machine where the task will run.
Agent Variable	Variable that will be resolved at run time to the name of the Agent resource that identifies the machine where the task will run.
Agent Cluster	Name of the Agent Cluster resource record from which an Agent that identifies the machine where the task will run on is selected.
Agent Cluster Variable	Variable that will be resolved at run time to the name of the Agent Cluster resource from which an Agent that identifies the machine where the task will run on is selected.
Cluster Broadcast	Name of the Agent Cluster resource record that specifies the group of Agents to broadcast to. At launch time, an instance of the task will be created for each Agent in the cluster. Each instance displays separately in the Activity Monitor.
Cluster Broadcast Variable	Variable that will resolve at launch time to the name of the Agent Cluster resource record that specifies the group of Agents to broadcast to. At launch time, an instance of the task will be created for each Agent in the cluster. Each instance displays separately in the Activity Monitor.
Tabs	This section identifies the tabs across the top of the Forecast Details that provide access to additional information about the forecast.
Child Forecasts tab	For Workflows only; Displays a list of forecast information for tasks within this Workflow (see Forecast List , below).

Forecast Calculation

As the tasks are run, the Controller calculates the end time of each Forecast entry. The calculation is the average run time, based on task instances that already have run. This information is updated each time you display the forecast.

As task instances run within the Controller, task instance durations are collected, allowing the Controller to calculate their average run time. The average run time is used to determine the estimated end time provided on each Forecast entry. For task instances that run within a triggered Workflow, an average start offset within the Workflow, along with the average run time, are used to determine the estimated launch time and end time.

To reset the statistics information collected by the Controller for a particular task or Workflow, use the **Reset Statistics** command under [Task Permissions](#).

Forecast Re-Calculation

Certain changes in the system will automatically cause a re-calculation of forecast data. However, not all changes will result in immediate re-calculation.

Changes to the Details of an enabled trigger that impact the schedule of that trigger or the tasks launched by that trigger will result in an immediate re-calculation of the Forecast data for that trigger.

Changes to the agent, agent variable, agent cluster, agent cluster variable, or broadcast cluster fields of a task will be reflected immediately in the any forecast data referring to that particular task.

Changes to the Details of a Workflow launched by a trigger or a calendar used by a trigger (including the custom days within the calendar) will result in the forecast data of an associated trigger being flagged for re-calculation, as indicated by the Forecast Recalculation Required field. Any forecast data flagged for re-calculation will be re-calculated automatically at 12:00 a.m. (midnight) daily.

Whenever Override Calendar options are modified for a workflow, any forecast data associated with that workflow will be flagged for recalculation at the midnight refresh.

Statistics for a particular task may not be available at the time the original forecast calculation occurs. Therefore, the accuracy of estimated end times for triggered tasks, as well as the estimated start and end times of tasks launched within a triggered Workflow, may be inaccurate. The current accuracy of a Forecast record is indicated by the End Time Accuracy field. The End Time Accuracy is based upon the number of task instance runs for which historical data has been collected *at the time of forecast calculation*. It can have one of the following values.

Runs	Accuracy
0	0
1	Low
2-9	Medium
10+	High

Any Forecast data with accuracy that can be improved significantly through re-calculation will be re-calculated automatically at 12:00 a.m. (midnight) daily.

For any Forecast data for which you wish to force an immediate re-calculation, use the **Recalculate Forecast** command from the Trigger record or from the Workflow record.

Note

By default, the Forecast Recalculation Required and End Time Accuracy columns are not included in the Forecasts list. However, you can add them to the list.

Setting up Forecasting

Warning

We strongly discourage enabling forecasting for very frequent and predictable trigger schedules.

For example, if you enable forecasting on a trigger that runs every 30 seconds, that would generate - at a minimum - 89,280 forecast records, based on the default configuration of 31 days of forecasting. If that trigger launches a Workflow task, it would generate an extra 89,280 forecast records per task within the workflow.

For these types of triggers, the forecast feature does not provide much insight, yet it requires a very large amount of processing to compute.

Use the following points as a checklist when setting up forecasting:

- Forecasting is supported for the following trigger types: [Time](#), [Temporary](#), and [Cron](#).
- In the trigger Details, enable the **Forecast** field.
- Specify the number of days for which you want scheduled tasks to display in the Forecast Calendar / Forecast List (default is 31):
 1. From the **Administration** navigation pane, select **Configuration > Properties**. (You need administrative privileges to access this function.)
 2. Click **Forecast Period In Days** Value column and enter the number of days you want in the forecast period.
- Enable the trigger. (Disabling the trigger removes all related entries from the Forecast calendar / Forecast list.)

Next Scheduled Time

For enabled Time, Temporary, and Cron triggers, the Controller calculates the next scheduled time and displays it on the Triggers list, as well as on the All Triggers and Active Triggers lists, for those trigger types.

Name	Description	Enabled	Next Scheduled Time	Time Style	Day Style
stonebranch-timettrigger-01		⊕	2022-11-01 13:00:00 -0400	Time	Simple
stonebranch-timettrigger-02	Run Every Two Hours During Business Hours except Holidays	⊖		Time Interval	Simple
stonebranch-timettrigger-03		⊕	2022-11-01 00:00:00 -0400	Time	Simple
stonebranch-timettrigger-04		⊖		Time	Simple
stonebranch-timettrigger-05		⊖		Time	Complex

The next scheduled time also displays in the trigger Details:

Time Trigger Details: stonebranch-timetrigger-01
- ☐ ×

Disable Trigger Now... List Qualifying Times...

Time Trigger
● Variables
● Instances
● Notes
● Versions

General

Name * Version

Description

Member of Business Services

Calendar * Time Zone

Task(s) *

Purge By Retention Duration

Forecast Simulate

Status

Status	Next Scheduled Time
Enabled	2022-11-01 13:00:00 -0400
Enabled By	Enabled Time
Admin	2022-10-31 14:44:41 -0400

Overdue Timers

If the Controller has been stopped for a significant amount of time (more than two days), upon start-up, and under certain conditions, overdue Triggers could be ignored and disabled. If a Trigger's timer (the Trigger's [next scheduled time](#)) is considered "stale/expired," the timer will be ignored and the associated Trigger will be disabled.

If this occurs, there will be log messages similar to the following:

```
Found overdue timer exceeding restart threshold limit of 2 days. Timer
overdue by: 3 Days 1 Hour 57 Minutes 52 Seconds (2016-06-27 14:15:00 -0400)
**** Timer is being cancelled *** TriggerTimerHandlerBean [...]
```

```
Disabling Trigger since stale timer was found and the next scheduled time
was stale TimeTriggerBean [...]
```

A "stale/expired" trigger is calculated based on the value of the [uc.overdue.timer.startup.threshold](#) Universal Controller start-up property (default is 2 days). If the default is specified, any enabled Trigger with a next scheduled time older than two days will be considered "stale/expired."

The property can be changed to a larger amount to avoid this behavior, if desired.

List Qualifying Times

For Time and Cron triggers, you can display a list of dates and times for when the trigger (if enabled) will be satisfied.

Note

This list differs from the [Forecasts list](#), which shows scheduled task instances as opposed to qualifying times.

Step 1

In the trigger Details for a Cron or Time trigger, click the **List Qualifying Times** button. A **List Qualifying Times Input** pop-up dialog displays.



List Qualifying Times...

Number of Dates/Times
30

Start Date
2022 ▾ Oct ▾ 31 ▾ 

Submit

Step 2 In the **Number of Dates/Times** field, enter the number of dates and times that you want to be listed (default = 30, maximum = 1000).

Step 3 Enter / select a **Start Date** from when you want the list of Dates and Times to begin.

Step 4

Click the **Submit** button to display a table of **Qualifying Dates and Times**.

Qualifying Times

stonebranch-timetrigger-01

Listing From: 2022-10-31 14:47:04 -0400

User/Trigger Timezone: US/Eastern

Tue, Nov 01, 2022 13:00:00 EDT -0400
Tue, Nov 08, 2022 13:00:00 EST -0500
Tue, Nov 15, 2022 13:00:00 EST -0500
Tue, Nov 22, 2022 13:00:00 EST -0500
Tue, Nov 29, 2022 13:00:00 EST -0500
Tue, Dec 06, 2022 13:00:00 EST -0500
Tue, Dec 13, 2022 13:00:00 EST -0500
Tue, Dec 20, 2022 13:00:00 EST -0500
Tue, Dec 27, 2022 13:00:00 EST -0500
Tue, Jan 03, 2023 13:00:00 EST -0500
Tue, Jan 10, 2023 13:00:00 EST -0500
Tue, Jan 17, 2023 13:00:00 EST -0500
Tue, Jan 24, 2023 13:00:00 EST -0500
Tue, Jan 31, 2023 13:00:00 EST -0500
Tue, Feb 07, 2023 13:00:00 EST -0500
Tue, Feb 14, 2023 13:00:00 EST -0500
Tue, Feb 21, 2023 13:00:00 EST -0500
Tue, Feb 28, 2023 13:00:00 EST -0500
Tue, Mar 07, 2023 13:00:00 EST -0500
Tue, Mar 14, 2023 13:00:00 EDT -0400