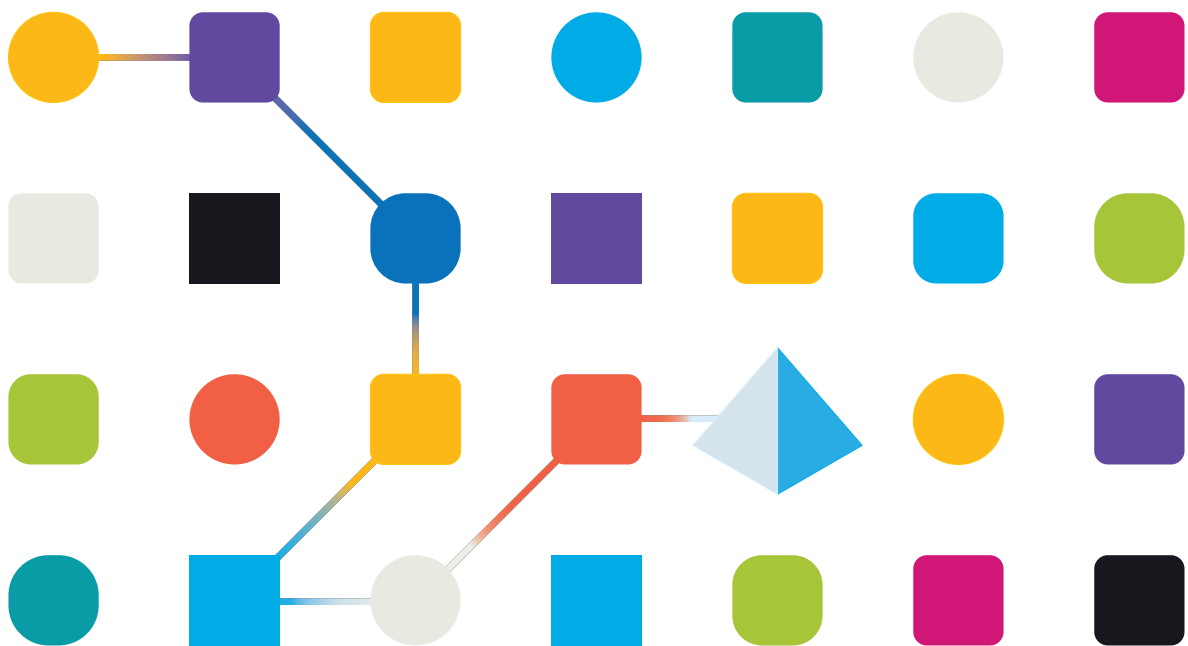




Blue Prism 7.1

Scheduler User Guide

Document Revision: 1.0



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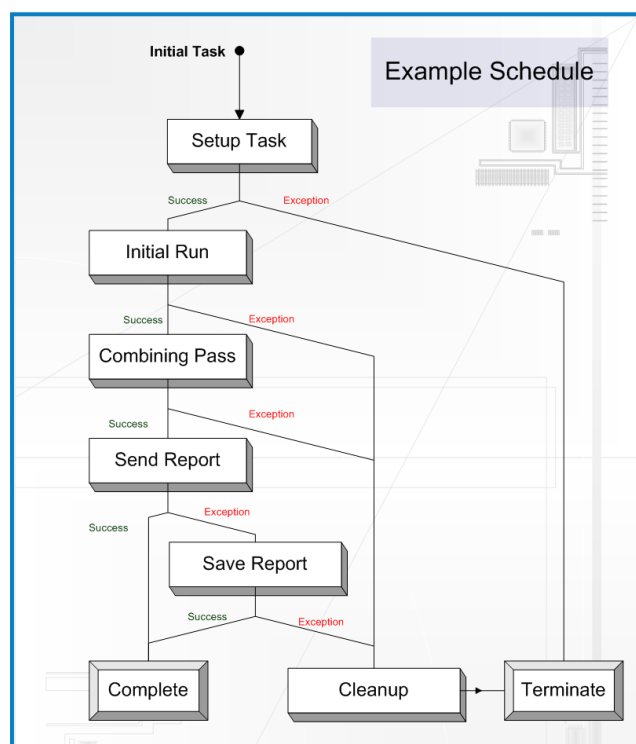
Introduction

This guide provides an overview on using the scheduling feature in Blue Prism, including configuration, schedules, tasks, reports and timetables.

The scheduler allows Blue Prism to execute processes at specified times and repeat their execution at various intervals. The scheduler runs as part of a configured [Blue Prism Server Service](#), which has access to the Blue Prism environment and the processes held on it.


Schedules run as a background process waiting for the next schedule activation time and then executing any schedules due to run at that time. The schedule activation times are interpreted using the time zone configured for a particular schedule.

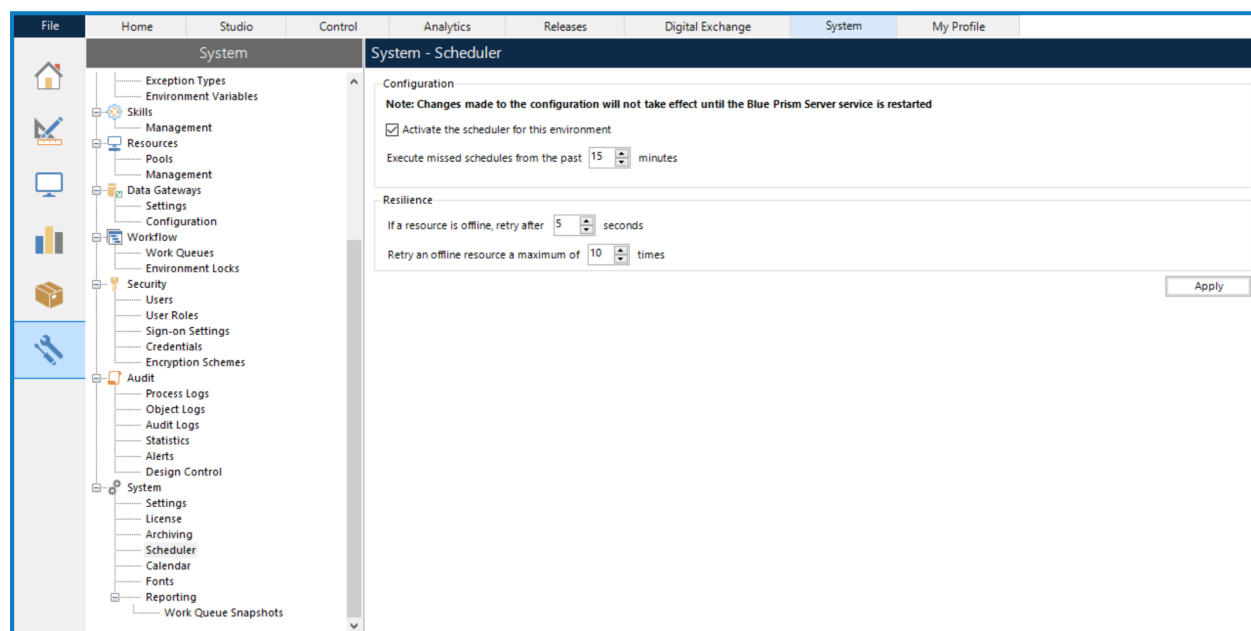
The following diagram shows an example of a schedule workflow:




Scheduler configuration

The scheduler can be enabled within System > System - Scheduler and configured for a particular connection to the Blue Prism database. By default, the scheduler does not run on a new connection.


 The scheduler will not run if there is no server service running a connection to the Blue Prism database.



 You need the **System Manager > System – Scheduler** permission enabled on the Security - User Roles screen to configure the scheduler for a connection.

To enable and configure the scheduler:

1. Select **Activate scheduler for this environment**.
Deselect the check box to disable the scheduler.
2. Restart the Blue Prism server service for the scheduler to be enabled.
3. To configure how far back the scheduler should check for recent schedules which should have executed while the scheduler was not active, enter the number of minutes in the **Execute missed schedules from the past** field. If you do not want the scheduler to check for missed schedules, enter 0.

 The setting is only effective when the scheduler is starting up. It has no effect on a running scheduler. Schedules which have successfully executed in the configured period will not be executed again. If a schedule has been missed multiple times during the configured period, it will only be executed once.

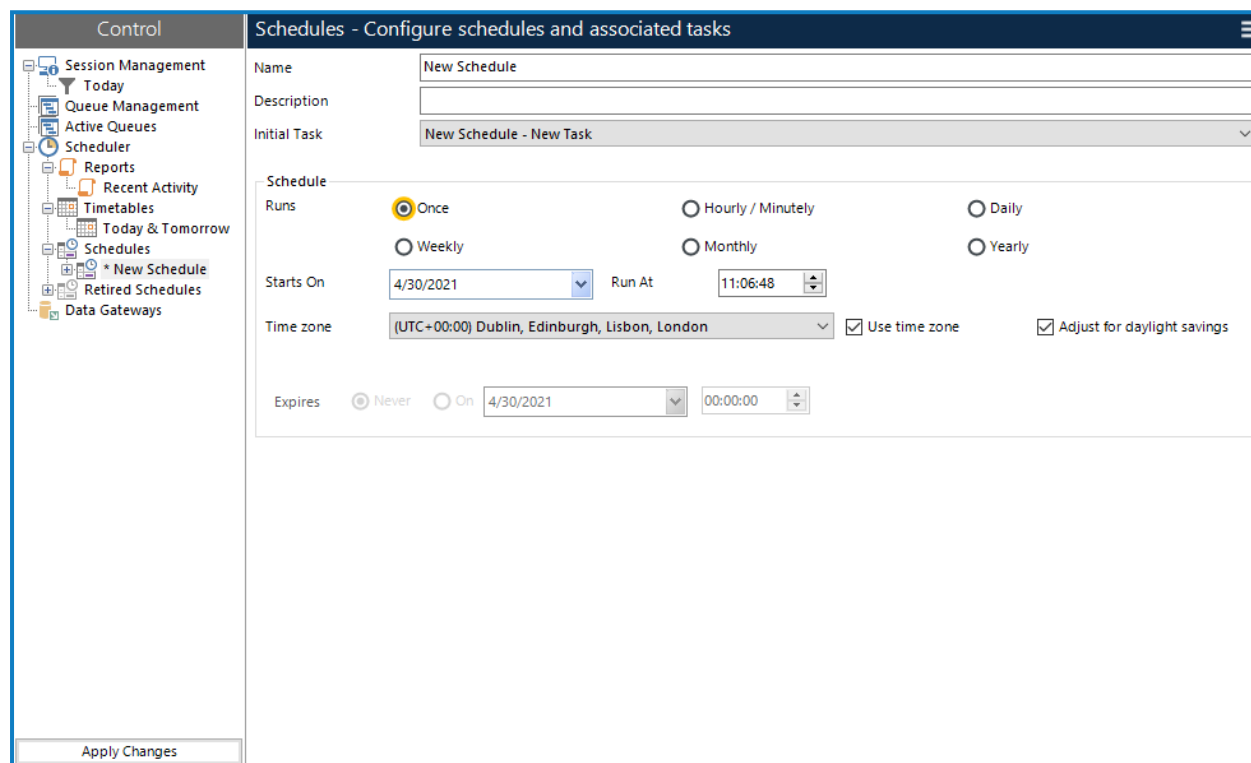
4. To configure the number of seconds to wait before the scheduler attempts to run a process on an offline resource, enter a number into the **If a resource is offline, retry after n seconds** field.
5. To configure the number of times the scheduler should check whether an offline resource has become available, enter a number into the **Retry an offline resource a maximum of n times** field. If you do not want to configure the scheduler to not retry an offline resource at all, enter 0.
6. Click **Apply** to save your changes.

Configure scheduler elements

Scheduler elements can be configured in Control Room by expanding the Scheduler node in the navigation panel.

 This area is only available if the currently logged-in user has the View Schedules permission as a minimum. For more details, see [User permissions](#).

The navigation panel allows you to create and delete reports, timetables, and schedules. The detail panel allows you to view and configure the details of the selected element.



The following elements are available under the Scheduler node in the navigation panel:

- **Reports** – Provide a mechanism for viewing scheduler activity for specified schedules over a given date range. You can select and recall multiple reports by selecting them in the navigation panel. The default **Recent Activity** report shows all reports for today and the previous seven days for all active schedules.
- **Timetables** – Used to predict which schedules will run and when based on their current configuration. The default **Today & Tomorrow** timetable shows all scheduled instances of a schedule for today and tomorrow.
- **Schedules (and their associated tasks and sessions)** – Can be created by clicking the Schedules node. A new schedule and its initial task are created when Blue Prism is installed – this schedule is empty and will never run until it is edited and saved to the database.

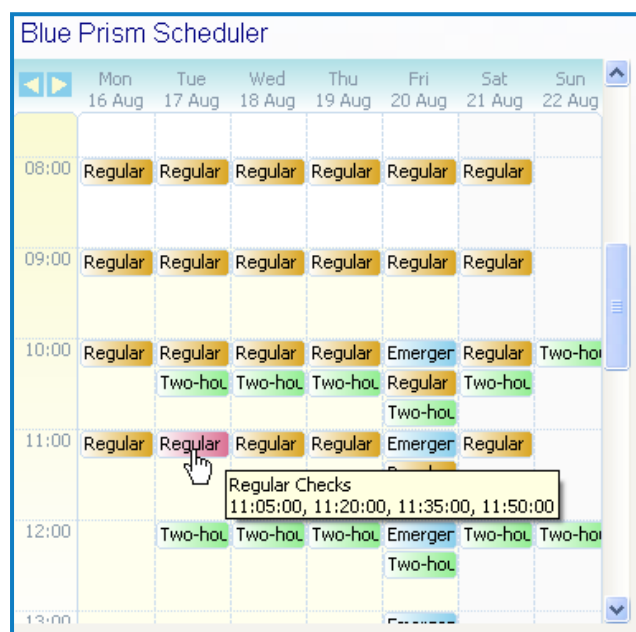
Schedules are made up of tasks which are also selectable in the navigation panel, but can only exist within a schedule.

- **Retired Schedules** – When you retire a schedule it is deactivated and removed from any reports or timetables, and the data is stored under this node, from where it can be restored or deleted. A retired schedule cannot be modified without restoring it first.

If any data is changed within the scheduler, the appropriate element in the navigation panel is prefixed with an asterisk to indicate that there is unsaved data for that element.

Scheduler diary

When you click on one of the group nodes (Reports, Timetables or Schedules), a schedule diary displays – the data shown in the diary will vary depending on which node has been selected. The diary shows a seven day view of schedule instances; reports of schedule instances which have run in the past, timetables of upcoming schedule instances or a combination of both.



The following features are available:

- When you hover over a diary entry, the exact time(s) of the schedules within that hour display in a tooltip.
- When you click a diary entry, the schedule that it refers to is opened in the schedule manager.
- The left/right arrows in the top left of the diary can be used to go back or forward seven days using the current view.
- The height of the hours grid row can be modified by dragging a dividing line up (to reduce the height of the hours) or down (to increase the height). Double-clicking a dividing line will set the height to be just large enough to view the largest number of entries within the currently displayed dates.

Apply changes

Click **Apply Changes** at the bottom of the navigation panel to save any changes made to the scheduler to the database.

Schedules

A schedule represents the point of execution of a set of tasks. Each schedule is self-contained and contains various data, such as name and description, timing data and a set of tasks to perform.

When a schedule is executed, its initial task is executed first and the subsequent tasks to perform are determined based on the outcome of that task. Thus, the tasks within a schedule are executed serially.

A schedule cannot be executed concurrently with itself. For example, if a schedule starts at 12:00 GMT and is scheduled to run again at 13:00 GMT, if at 13:00 GMT the schedule is still running, it will not be executed again.

You can create schedules in the navigation panel in Control Room under the Scheduler node and configure their settings in the detail panel.

The screenshot displays the 'Schedules - Configure schedules and associated tasks' configuration window. The left-hand navigation pane lists various system components, with 'Scheduler' selected under the 'Control' section. The main configuration area contains the following elements:

- Name:** A text field containing 'New Schedule'.
- Description:** An empty text field.
- Initial Task:** A dropdown menu showing 'New Schedule - New Task'.
- Schedule Section:**
 - Runs:** Radio buttons for 'Once' (selected), 'Hourly / Minutely', 'Daily', 'Weekly', 'Monthly', and 'Yearly'.
 - Starts On:** A date picker set to '4/30/2021'.
 - Run At:** A time picker set to '11:06:48'.
 - Time zone:** A dropdown menu showing '(UTC+00:00) Dublin, Edinburgh, Lisbon, London'.
 - Expires:** Radio buttons for 'Never' and 'On', followed by a date and time picker set to '4/30/2021' and '00:00:00'.
 - Use time zone:** A checked checkbox.
 - Adjust for daylight savings:** A checked checkbox.
- Apply Changes:** A button at the bottom left of the configuration area.

Schedules can be configured to execute from a particular date, repeating at various intervals and expiring on a particular date.


The time zone in which the schedule should be run can be selected from the drop-down list and will be applied when schedules are run.

The tasks which form the schedule's execution plan can be configured using the [Tasks](#) element.

Create a schedule

To create a schedule, right-click the Schedules element in the navigation panel and select **New Schedule**.

A new schedule populated with default values will be created and automatically selected in the detail panel. Update the schedule name and add a description if required.

 Until the schedule is saved, it does not exist on the database and will not be executed by a running scheduler.

Configure a schedule

Running once

When a new schedule is created, it will have an automatically generated name and will initially be set to run once at the current date and time.

To create a schedule which just runs once at a specified date and time, enter the date in the **Starts On** field and the time in the **Run At** field.

Running hourly

A schedule can be executed at hourly intervals which fall in between specified times.

To run a schedule hourly:

1. Select the **Hourly/Minutely** option.
2. In the Run hourly/minutely section, select the first **Every** option and enter the number of hours.

You can configure it to run every hour, every 2 hours, and so on, up to a maximum of 999 hours.

By default, the schedule will run each interval it is due to run, but this can be further constrained by setting the times between which the schedule should be executed. Activation times outside those specified will not cause the schedule to execute.

The screenshot shows the 'Schedule' configuration window. Under the 'Runs' section, the 'Hourly / Minutely' radio button is selected. The 'Starts On' field is set to '5/1/2021' and the 'Run At' field is set to '11:29:59'. The 'Time zone' is set to '(UTC+00:00) Dublin, Edinburgh, Lisbon, London', with 'Use time zone' and 'Adjust for daylight savings' checked. In the 'Expires' section, 'Never' is selected. The 'Run hourly / minutely' section shows 'Every 1 hour(s)' selected, with 'between 12:00:00 AM and 11:59:59 PM' and 'Only on days in calendar' checked. A dropdown menu at the bottom shows 'Working Week / No Holidays'.

3. Optionally, select **Only on days in the calendar** to configure the schedule to run hourly hourly on work days as defined in a predefined calendar. Select the required calendar from the drop-down list.

This close-up shows the 'Run hourly / minutely' section. 'Every 1 hour(s)' is selected. The 'between' field is set to '00:00:00' and the 'and' field is set to '23:59:59'. The 'Only on days in the' checkbox is checked, and a dropdown menu is open showing 'Working Week / No Holidays' as the selected calendar.

4. Click **Apply Changes** to save your changes.

Running minutely

The configuration of a schedule running at minute intervals is similar to that of a schedule running at hour intervals with the difference that you have to select the second **Every** option and enter the number of minutes.

To set the schedule to run at times which fall in between specified boundaries, for example, only at night or only during working hours, select the **Only on days in the calendar** option.

Run hourly / minutely

☐ Every 1 hour(s)

☒ Every 5 minute(s)

between 00:00:00 and 23:59:59

☒ Only on days in the

Working Week / No Holidays calendar

Running daily

A schedule can be executed at daily intervals or on working days specified in a predefined calendar.

To run a schedule daily:

1. Select the **Daily** option.
2. In the Run daily section, select **Every** option and enter the number of days.
You can configure the schedule to run every day, every 2 days, and so on, up to a maximum of 999 days.
3. Optionally, select **Only on days in the calendar** and set the schedule to only run on working days specified in that calendar.

Schedule

Runs

☐ Once ☐ Hourly / Minutely ☒ Daily

☐ Weekly ☐ Monthly ☐ Yearly

Starts On 5/1/2021 Run At 11:29:59

Time zone (UTC+00:00) Dublin, Edinburgh, Lisbon, London ☒ Use time zone ☒ Adjust for daylight savings

Expires ☒ Never ☐ On 4/30/2021 00:00:00

Run daily

Every 1 day(s)

☐ Only on days in calendar

For more details, see [Calendars](#).

Running weekly

A schedule can be executed at weekly intervals on the same day as the start date, or on the first/last working day according to a specified calendar.

To run a schedule weekly, select the **Weekly** option. You can configure it to run every week, every 2 weeks, and so on, up to a maximum of 999 weeks.

Schedule

Runs

☐ Once ☒ Weekly ☐ Hourly / Minutely ☐ Monthly ☐ Daily ☐ Yearly

Starts On: 5/3/2021 Run At: 11:29:59

Time zone: (UTC+00:00) Dublin, Edinburgh, Lisbon, London ☒ Use time zone ☒ Adjust for daylight savings

Expires: ☒ Never ☐ On 4/30/2021 00:00:00

Run weekly

Every 1 week(s)

☒ On Mondays ☒ On the First working day in calendar

By default, the schedule will run every week on the same day as the start date. This can be modified to run on the first or last working day of the week as specified in the calendar.


Run weekly

Every 1 week(s)

☐ On Mondays ☒ On the First working day in calendar

Working Week / No Holidays

By selecting the **On the [nth] working day in calendar** option, selecting whether the schedule should run on the first or last working day, and specifying the calendar, the schedule can be configured to run on the first or last working day of the week.

 Internally, the first day of the week is considered to be Monday, so if, for example, a calendar is configured to work from Sunday to Friday, Monday will be considered the first working day and Sunday will be considered the last working day of any given week (other holidays aside).

For more details, see [Calendars](#).

Running monthly

A schedule can be executed at monthly intervals on the same date as the start date (or the last day of the month or first day of the subsequent month if that date doesn't exist, for example, 31st February), or on the first, second, third, fourth, fifth or last specified weekday of the month (for example, first Thursday, third Thursday, last Friday), or on the first or last working day according to a specified calendar.

To run a schedule monthly, select the **Monthly** option. You can configure it to run every month, every 2 months, and so on, up to a maximum of 999 months.

Schedule

Runs

☐ Once ☐ Hourly / Minutely ☐ Daily

☐ Weekly ☒ Monthly ☐ Yearly

Starts On 5/3/2021 **Run At** 11:29:59

Time zone (UTC+00:00) Dublin, Edinburgh, Lisbon, London ☒ Use time zone ☒ Adjust for daylight savings

Expires ☒ Never ☐ On 4/30/2021 00:00:00

Run monthly

Every 1 month(s)

☒ On the 3rd

☐ On the First Monday

☐ On the First working day in the following calendar

By default, the schedule will run every month on the same date as the start date, skipping any months in which the date doesn't exist.

Instead of skipping, the schedule can be configured to run on the last day of the month, or the first day of the following month if the configured date doesn't exist for a particular month. This can be set by selecting the appropriate value from the adjacent drop-down.

Alternatively, the schedule can be configured to run every month on a counted occurrence of a weekday within the month, for example, first Friday, last Wednesday, and so on.

Run monthly

Every 1 month(s)

☒ On the 31st or if it doesn't exist: the first day of the next month

☐ On the First Monday

☐ On the First working day in the following calendar

This is activated by selecting the **On the [nth] [weekday] of the month** option and selecting the following:

- Which occurrence of the day it should run on : First, Second, Third, Fourth, Fifth or Last.

If the specified occurrence doesn't occur in a month, it is skipped for that month, for example, if the Fifth Thursday was selected and a month occurred with only four Thursdays in it, the schedule would not execute in that month.

- Which weekday it should run on.

The schedule can also be configured to run every month on the first or last working day of the month, according to a specified calendar.

This is activated by selecting the **On the [nth] working day in calendar** option, and selecting the following:

- Whether the schedule should run on the first or last day of the month according to the calendar.
- Which calendar should be used to determine the working days.

☐ On the 31st or not in that month if it doesn't exist

☐ On the First Monday of the month

☒ On the First working day in the calendar

Working Week / No Holidays

For more details, see [Calendars](#).

Running yearly


A schedule can be executed at yearly intervals on the same date as the start date, skipping any years in which that date doesn't exist, for example, if configured to run on 29th February starting in a leap year, this will skip each year until the next leap year.

To run a schedule yearly, select the **Yearly** option. You can configure it to run every year, every 2 years, and so on, up to a maximum of 999 years.

The screenshot shows the 'Schedule' configuration window. Under the 'Runs' section, the 'Yearly' radio button is selected. The 'Starts On' date is 5/31/2021, and the 'Run At' time is 11:29:59. The 'Time zone' is set to '(UTC+00:00) Dublin, Edinburgh, Lisbon, London', with both 'Use time zone' and 'Adjust for daylight savings' checked. The 'Expires' section shows 'Never' selected. The 'Run yearly' section shows 'Every 1 year(s)'.

Set a time zone

The **Use time zone** option is enabled by default when creating a schedule in Control Room. You can select the required time zone from the drop-down list and it will be applied when the schedule is run.

 If the **Use time zone** option is disabled, the schedule will use the time zone of the application server on which the scheduler is operating.

Select the **Adjust for daylight savings** option if you want the schedule to automatically update to reflect daylight savings changes in the selected time zone.

This screenshot shows the same 'Schedule' configuration window, but with the 'Time zone' dropdown menu open. The menu lists various time zones, including '(UTC+00:00) Dublin, Edinburgh, Lisbon, London', '(UTC+00:00) Monrovia, Reykjavik', '(UTC+00:00) Sao Tome', '(UTC+01:00) Casablanca', '(UTC+01:00) Amsterdam, Berlin, Bern, Rome, Stockholm, Vienna', '(UTC+01:00) Belgrade, Bratislava, Budapest, Ljubljana, Prague', '(UTC+01:00) Brussels, Copenhagen, Madrid, Paris', '(UTC+01:00) Sarajevo, Skopje, Warsaw, Zagreb', '(UTC+01:00) West Central Africa', '(UTC+02:00) Amman', '(UTC+02:00) Athens, Bucharest', '(UTC+02:00) Beirut', '(UTC+02:00) Cairo', '(UTC+02:00) Chisinau', '(UTC+02:00) Damascus', '(UTC+02:00) Gaza, Hebron', '(UTC+02:00) Harare, Pretoria', '(UTC+02:00) Helsinki, Kyiv, Riga, Sofia, Tallinn, Vilnius', '(UTC+02:00) Jerusalem', '(UTC+02:00) Juba', '(UTC+02:00) Kaliningrad', '(UTC+02:00) Khartoum', '(UTC+02:00) Tripoli', '(UTC+02:00) Windhoek', '(UTC+03:00) Baghdad', and '(UTC+03:00) Istanbul'. The 'Run hourly / minute' section shows 'Every 1' and 'between 12:00:00'. The 'Only on days in' checkbox is unchecked.

▶ This [video](#) shows you how to adjust time zones in the Blue Prism scheduler.

Set an expiry date

By default, when a schedule is configured to execute at regular intervals, the schedule is set to never expire.

You can specify an expiry date and time which will cause the schedule to stop being executed on or after the specified date/time.

To specify an expiry date and time, select the **On** option and the required date and time in the Expires section.

The screenshot shows the 'Schedule' configuration window. The 'Expires' section is active, with the 'On' radio button selected. The expiry date is set to 6/30/2021 and the time is 00:00:00. A calendar pop-up is visible, showing the month of June 2021, with the 30th highlighted. The 'Run monthly' section is also visible, showing the schedule runs every 1 month(s) on the 3rd of the month.

Set an initial task to execute

The screenshot shows the 'Initial Task' section of the configuration window. The 'Initial Task' dropdown is set to 'New Schedule - New Task'. The 'Schedule' dropdown is set to '<none>'. The 'Runs' section shows the 'Once' radio button selected.

When a schedule is first created, a blank task is also created and set as the initial task to execute when the schedule is activated.

If an alternative is required, the **Initial Task** drop-down can be used to select the task which should be the first one executed.

For more details, see [Tasks](#).

Trigger a schedule

You can trigger a schedule, regardless of its timing data, by right-clicking it and selecting **Run Now**. This will cause a marker to be written to the database which the scheduler will pick up the next time it checks for changes.

The scheduler checks for changes to schedule data every 30 seconds, so the schedule should execute within no more than 30 seconds, assuming that a scheduler is running on the same database that the Blue Prism interactive client is connected to.

The **Run Now** option triggers a schedule immediately regardless of whether the schedule has been configured to run in a specific time zone or not.


Stop a schedule

To stop a schedule from running, right-click it and select **Stop**. Any active sessions created by the schedule that are running will be terminated and the current instance of the schedule will be stopped, preventing any further associated tasks from being performed.

Save a schedule

A changed schedule can be saved by right-clicking it and selecting **Save**. The tasks within the schedule are checked to see if the schedule could enter into an infinite loop. If it can, a warning message displays. Click **Yes** to continue and save the schedule, or click **No** and amend the schedule.


Alternatively, by clicking **Apply Changes**, all changed schedules, reports, and timetables will be saved.

 By default, if the **Execute missed schedules from the past** option has been enabled in **System > System - Scheduler**, updated schedules will run immediately when saved using the **Apply Changes** button if the start date and time of the schedules falls within the setting range. This is more likely to occur when creating a new schedule, because the start date and time are set to the user's current date and time. If a schedule should not run immediately when updated, it is recommended to set the start date and time of the schedule in the future before saving it. This applies to new, amended, or unretired schedules.

Clone a schedule

You can copy a schedule by right-clicking it and selecting **Clone**.

A schedule is created with the same timing data, tasks, and sessions as the initial schedule.

 The newly cloned schedule will not be saved to the database until it is explicitly saved, either by right-clicking and selecting **Save**, or by clicking **Apply Changes** at the bottom of the navigation panel.


Remove a schedule

Schedules can be removed in one of two ways – by retiring or deleting them. Retired schedules can be restored, whereas deleted schedules are unrecoverable.

Removed schedules, regardless of the method of removal, will not be executed by the scheduler and will not show up in any reports or timetables.

Retire a schedule

You can deactivate a schedule by right-clicking it and selecting **Retire**. The schedule will be moved into the **Retired Schedules** node of the left-hand side pane.

 The action of retiring a schedule is executed immediately – it does not need to be saved separately.

The screenshot shows the 'Overview- Configure schedules and associated tasks' window. On the left is a navigation pane with a tree view containing 'Session Management', 'Queue Management', 'Scheduler', 'Reports', 'Timetables', 'Schedules', 'New Schedule', 'Retired Schedules', 'Two Hour Report', and 'New Schedule (1)'. The main panel displays the configuration for the 'Two Hour Report' schedule. Fields include 'Name' (Two Hour Report), 'Description' (empty), and 'Initial Task' (New Schedule (1) - New Task). The 'Schedule' section has 'Runs' options: 'Once' (selected), 'Hourly / Minutely', 'Daily', 'Weekly', 'Monthly', and 'Yearly'. 'Starts On' is set to 'Wed 25 November 2015' and 'Run At' is '15:06:53'. The 'Expires' section has 'Never' (selected), 'On', and a date/time field set to 'Mon 30 November 2015 15:00:00'.

Retired schedules can be selected in the navigation panel, and their settings can be viewed in the detail panel, but not edited from there.


Restore retired schedules

You can restore a retired schedule by right-clicking it and selecting **Unretire**. This action happens immediately and does not need to be saved separately.

As soon as a schedule is restored, it is eligible to be activated by a running scheduler.

Delete a schedule

You can delete a schedule by right-clicking it and selecting **Delete**.

 This fully deletes the schedule if it has not been executed by the scheduler. Otherwise, the data remains on the database for auditing purposes, but it can no longer be referenced by the application user interface or the scheduler.

Configure schedule alerts

It is possible to configure alerts to be sent at specified stages of a schedules execution. For details on how to configure schedule alerts, see [Process alert configuration](#).

Tasks

A task represents a component of a schedule. It defines a set of sessions which are to be executed concurrently and it provides a combined status outcome of those sessions so that the scheduler can determine which task to execute next.

A session is a top level process which runs on a runtime resource. Each task can contain an arbitrary number of sessions. When the task is executed, each session is first created and, once they are all registered and pending on their host resources, they are executed.

When a schedule is created in Control Room, a task called **New Schedule – New Task** is automatically created within the schedule. The initial task within the schedule defaults to this task.

The screenshot displays the 'Schedules - Configure schedules and associated tasks' interface. The left-hand navigation pane shows a tree structure with 'Scheduler' highlighted. The main configuration area is titled 'Schedules - Configure schedules and associated tasks'. It includes the following elements:

- Name:** New Schedule - New Task
- Description:** (empty text box)
- On Complete:** Stop (dropdown menu)
- On Exception:** Abort (dropdown menu)
- Post Completion Delay (s):** 0 (input field)
- Fail fast on any errors:** ☒
- Available Processes:** A list containing 'Default'.
- Available Resources:** A list containing 'Default'.
- Scheduled Sessions:** A table with headers 'Process Name' and 'Resource Name'.
- Buttons:** 'Apply Changes' at the bottom left.

A task can be configured to run a number of different processes on runtime resources, and specify subsequent tasks to pass control to, depending on the outcome of those processes when executed.

Create a task

To create a task, right-click the appropriate schedule in the navigation panel and select **New Task**.

A new task, populated with default values, will be created and automatically selected underneath the schedule node. Update the task name and add a description if required.

Configure a task

Set the task execution order

See Setting the schedule's initial task for details on how to specify which task should be executed first when a schedule is activated.

The task which to be executed after this task has completed successfully can be specified by selecting the appropriate task from the **On Complete** drop-down list. The **Stop** option indicates that the schedule should complete after this task has completed.

The task which to be executed after this task has been terminated can be specified by selecting the appropriate task from the **On Exception** drop-down list. The **Abort** option indicates that the schedule should terminate after this task has terminated.

The screenshot shows a task configuration form with the following fields:

- Name:** First Task
- Description:** (empty)
- On Complete:** Stop
- On Exception:** Abort
- Post Completion Delay (s):** 0
- Fail fast on any errors:** ☒

Session failure detection

By default, a task is configured to fail fast on any errors, that is to immediately terminate the task if any sessions fail to start or terminate due to an exception. This can be overridden by deselecting the **Fail fast on any errors** check box.

- If a task is set to fail fast, all sessions and the task will be terminated when any errors in any of the sessions occur, for example, if a resource couldn't be contacted or was too busy to create a session, or if a session raised an exception and terminated abnormally. This means that a task is marked as terminated if any sessions fail.
- If a task is set not to fail fast, a task is only terminated if an error occurs in all of its sessions – and that task termination only takes place when the last running session is detected to have failed. Any individual session executions which cause an error are logged, but any other running sessions continue. If not failing fast, a task is marked as terminated only if *all* of its sessions fail.

Maintain scheduled sessions

When a task is executed, all sessions defined within it will be run concurrently.

There are no restrictions on sessions within a task. For example, multiple processes can be specified to run on the same resource. If such processes are exclusive, the task will be terminated due to the fact that the resource is too busy to run anything other than the first process.

Create a session

A scheduled session is created when a published process is dragged onto a resource, or vice versa.

The screenshot shows the Blue Prism interface with the following components:

- Available Processes:** A list of processes with columns 'Name' and 'Description'. One process is visible: 'Gather Data' with description 'Gather the data for day from the various systems and c'.
- Available Resources:** A list of resources with columns 'Name', 'State', and 'Members'. One resource is visible: 'BLUEPRISM' with state 'Connected'.
- Environment:** A section for controlling processes using start and stop links. It includes a table with columns: ID, Process, Resource, User, Status, Start Time, and End.

ID	Process	Resource	User	Status	Start Time	End
1	Gather Data	BLUEPRISM	admin	Terminated	24/11/2015 15:09:36	24/1

Once a session has been created, it will be listed in the Scheduled Sessions list.

There are no restrictions on the number of sessions within a task. Multiple sessions can be created within a task across available resources and multiple processes can be scheduled to run on the same resource.

- The scheduler can only create and run sessions on public resources (started with the “public” switch for example Automate.exe /public /resourcepc).
- If multiple processes are scheduled to run on the same resource, and any of the processes are exclusive, the task will be terminated as the resource is too busy to run anything other than the exclusive process.
- Consider scheduling sessions to run on resource pools rather than individual resources. Resource pools give the benefit of greater reliability to schedules as Blue Prism has several available resources to choose from, rather than having a single resource to depend on. See [Resource pools](#) for more details.

Set process parameters

If a process in a session requires startup parameters, they can be configured by right-clicking the appropriate session and selecting **Startup Parameters** from the context menu.

See [Start parameters](#) for further details.

Post completion delay(s)

If a value is entered in this field, a delay of between 0 and 1500 seconds is added to the end of a scheduled task before allowing the next task in the schedule to commence.

Delete a session

Right-click the session and select **Delete** to remove the session from the task.

Save a task

A task cannot be saved directly – changes to a task implicitly cause changes in its parent schedule, so in order to save a task, its schedule must be saved.

For more details, see Schedules.

Copy a task

A task can be copied and pasted either to its parent schedule (cloning the task), or to a different schedule altogether.

Due to the way this is implemented, copying and pasting can only be performed within a single instance of the Blue Prism application – it cannot be copied from one running application and pasted into another.

To copy a task:

1. Right-click it and select **Copy**.
2. Right-click the target schedule in the navigation panel and select **Paste**.



This does not use the system clipboard and, as such, is unaffected by other cutting / copying operations. This also means that the copied task does not exist outside of the currently executing schedule manager.

Delete a task

Right-click a task in the navigation panel and select **Delete**.



Any references to the task by another task (as its next task in the **On Complete** or **On Exception** drop-down list) or by the schedule (as its initial task) will be reset to the default when the task is deleted.

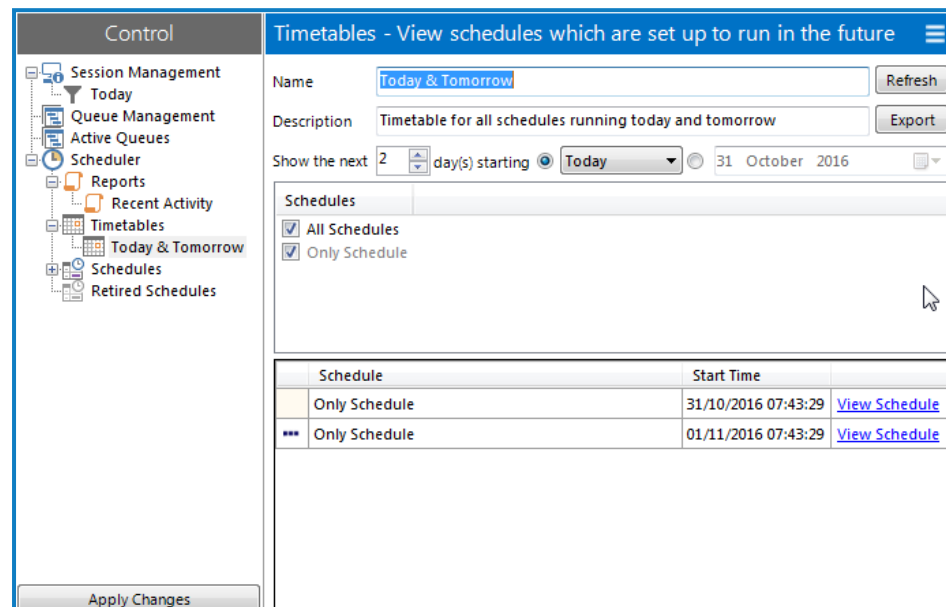
Configure task alerts

You can configure alerts to be sent at specified stages of a task execution as part of a schedule execution. For details on how to configure task alerts, see [Process alert configuration](#).

Timetables

Timetables provide a view of a filtered list of schedules and their calculated execution times within a specified date range.

When a timetable is selected in the navigation panel in Control Room, it displays in the detail panel.




From here, you can select the schedules to view and specify the date range.

A default timetable called **Today & Tomorrow** is created when Blue Prism is installed. This displays a list of all schedules which have activation times falling on today's or tomorrow's date.

Create a timetable

To create a timetable, right-click **Timetables** in the navigation panel and select **New Timetable**.

A new timetable is created and populated with default values. You can update the default name and add a description if required.

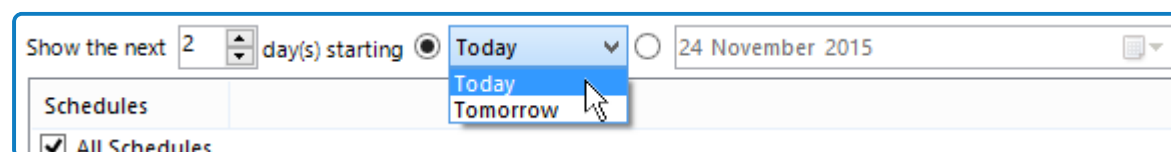
 The actual timetable data will not be populated until you click the **Refresh** button next to the Name field, which implicitly saves the timetable to the database.

Configure a timetable

Set the date range

You can set the timetable to show an arbitrary number of days of executed schedules, starting on a specified day.

You can select how many days worth of data should display in the timetable.



If you want the timetable to run on a specific day, select a date from the calendar.

Select the schedules

The timetable can list any or all active or expired schedules. Expired schedules will not appear in the actual timetable data unless a date in the past is specified.

A schedule is included in the timetable if selected in the Schedules list.

If **All Schedules** is selected, the timetable will automatically include any further schedules which are created following the configuration of the timetable.

View a timetable

The timetable is run when the timetable is first selected in the navigation panel and when the timetable is saved.

Clicking **Refresh** next to the Name field runs it manually – this implicitly saves the timetable to the database.

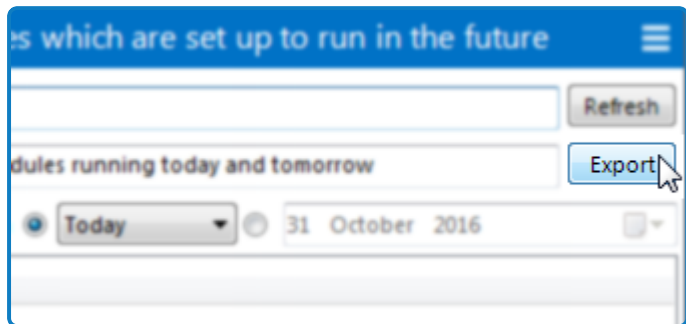
The timetable itself consists of a list of schedule activations which are configured to occur within the specified date range. It will show the schedule name and the time at which the schedule is configured to execute, as well as show a link to the schedule that the timetable entry refers to.

Clicking **View Schedule** displays the associated schedule.

Schedule	Start Time	
MIRefresh	27/11/2015 02:00:00	View Schedule
*** appmodeltests	27/11/2015 15:43:46	View Schedule
*** MIRefresh	28/11/2015 02:00:00	View Schedule

Export a timetable

To export a timetable to a TXT or CSV file, click the **Export** button next to the Description field while the timetable is open.



Save a timetable

You can save a timetable in the following ways:

- Right-click it in the navigation panel and select **Save**.
- Click the **Apply Changes** button at the bottom of the panel, which will save all changed schedules, reports and timetables.
- Click the **Refresh** button next to the Name field, which will implicitly save the report to the database.

Delete a timetable

To delete a timetable, right-click it in the navigation panel and select **Delete**.

Reports

Reports provide a view of a filtered list of active schedules which have been executed within a specified date range.

When you select a report under the Scheduler node in the navigation panel in Control Room, its details display in the details panel.

Control

- Session Management
 - Today
- Queue Management
- Active Queues
- Scheduler
 - Reports
 - * Recent Activity
 - Timetables
 - Today & Tomorrow
 - Schedules
 - Retired Schedules

Reports - View schedules and tasks that have run in the past

Name: Recent Activity [Refresh](#)

Description: Reports for all schedules which ran yesterday and today [Export](#)

Show the last 5 day(s) ending Today 26 November 2015

Schedules

- ☒ All Schedules
- ☒ New Schedule
- ☒ Only Schedule

	Schedule	Start Time	End Time	Server		
✓	New Schedule	24/11/2015 14:43:10	24/11/2015 14:43:14	BPSEVER101:8199	View Log	View Schedule
✗	New Schedule	24/11/2015 14:45:20	24/11/2015 14:45:24	BPSEVER101:8199	View Log	View Schedule
✓	New Schedule	24/11/2015 14:46:50	24/11/2015 14:46:53	BPSEVER101:8199	View Log	View Schedule

[Apply Changes](#)

From here, you can set which schedules to report on and the date range.

A default report called **Recent Activity** is created when Blue Prism is installed, which displays a list of all schedules which have executed either yesterday or today.

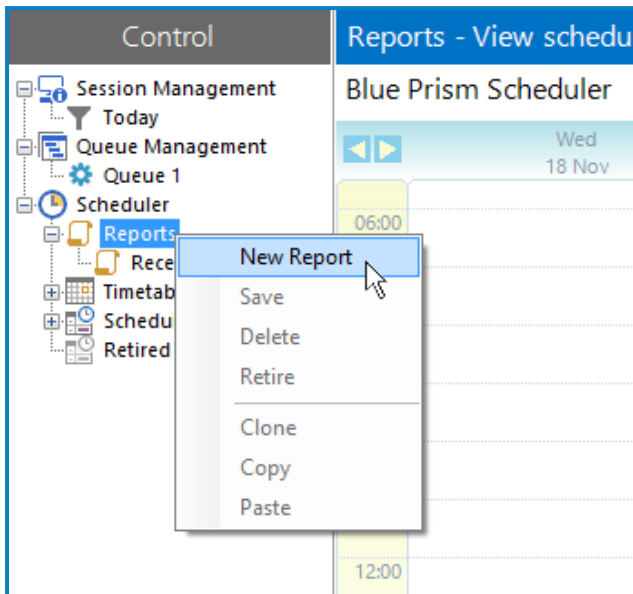
Clicking an entry will open the schedule which the entry represents. Future times/dates are grayed out, indicating that there will be no report data for those times.



If a schedule has been retired or deleted, it will not display in any reports.

Create a report

Right-click the Reports element in the navigation panel and select **New Report**.



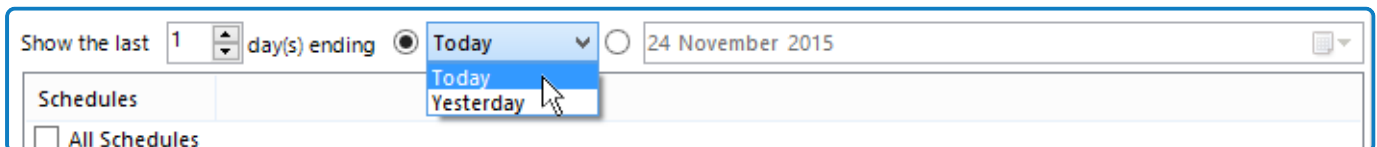
A new report is created and populated with default values. The actual report data will not be populated until you have clicked **Refresh** next to the Name field or from the menu button, which implicitly saves the report to the database.

Configure a report

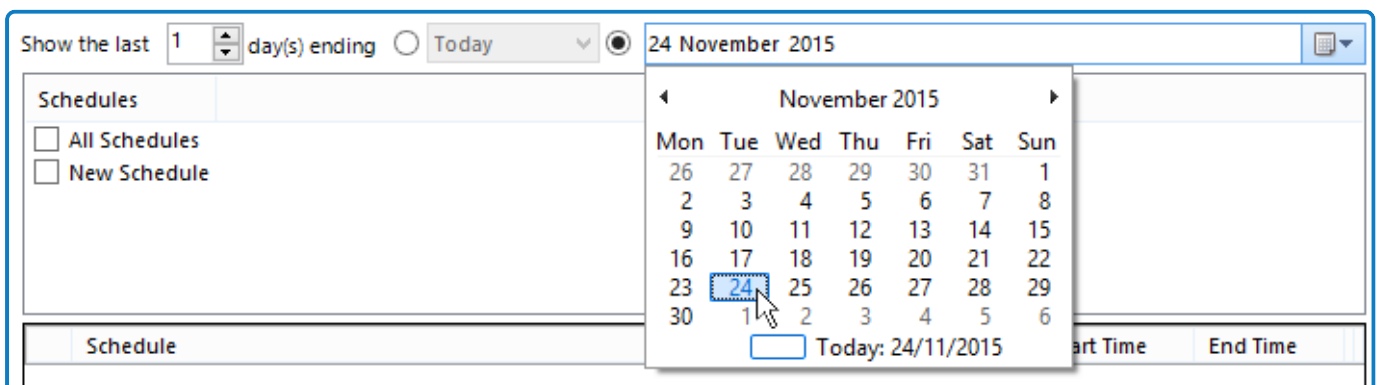
Set the date range

You can set the report to show an arbitrary number of days of executed schedules, ending on a specified day.

You can select how many days worth of data should be included in the report.



If you want the report to run on a specific day, select a date from the calendar.



Select the schedules

The report can list any or all active or expired schedules.

A schedule is included in the report by selecting it in the Schedules list.

If **All Schedules** is selected, the report will automatically include any further schedules which are created following the configuration of the timetable.

Schedules

☒ All Schedules
☒ New Schedule

View a report

The report is run when the report is first selected in the navigation panel and when the report is saved.

Clicking the **Refresh** button next to the report name field runs it manually – this implicitly saves the report to the database.

The report itself consists of a list of schedule activations which occurred within the specified date range. It will show the schedule name, the time at which the schedule was executed, the time at which it finished (or blank if no end time is recorded, typically if it is still running), the hostname and port of the server instance which ran the schedule and links to the schedule log and the schedule itself.

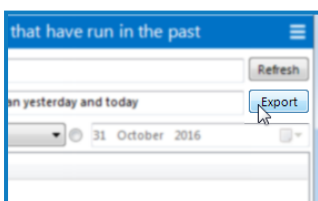
To view the schedule log for that instance, click **View Log**.

To view the associated schedule, click **View Schedule**.

	Schedule	Start Time	End Time	Server		
✓	New Schedule	24/11/2015 14:43:10	24/11/2015 14:43:14	BPSERVER101:8199	View Log	View Schedule
✗	New Schedule	24/11/2015 14:45:20	24/11/2015 14:45:24	BPSERVER101:8199	View Log	View Schedule
▶	New Schedule	24/11/2015 14:46:50		BPSERVER101:8199	View Log	View Schedule

Export a report

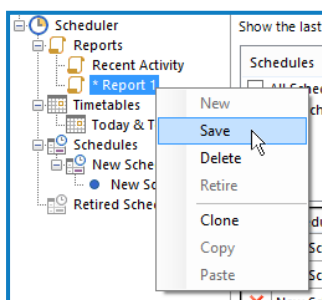
To export a report to a TXT or CSV file, click the **Export** button next to the Description field while the report is open.



Save a report

You can save a report in the following ways:

- Right-click it in the navigation panel and select **Save**.



- Click the **Apply Changes** button at the bottom of the navigation panel, which will save all changed schedules, reports and timetables.
- Click the **Refresh** button next to the Name field, which will implicitly save the report to the database.

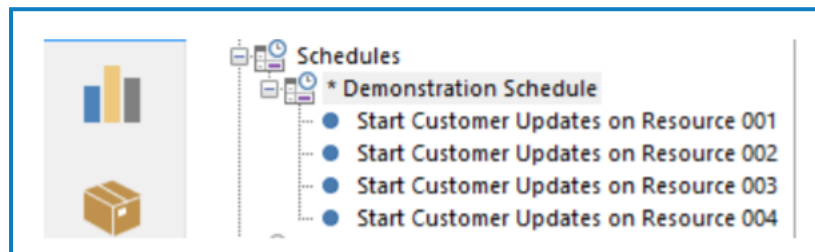
Delete a report

To delete a report, right-click it in the navigation panel and select **Delete**.

Troubleshooting

Infinite loops

An infinite loop can be configured within a schedule where a dependent task is configured to return to the initial task, typically on exception. For example in the schedule below, tasks 2, 3, and 4 have been configured to start the Blue Prism process on an alternative resource when the previous task is an exception.



We could configure task 4 to call task 1 on exception. However, if a scenario emerges that causes the process to fail instantly, for example, missing credentials, then the number of failed process sessions and scheduler updates will cause the Blue Prism database to fill up with log entries. This puts other running processes at risk and could slow overall Blue Prism performance. The only way to remove such an infinite loop is to take down the Blue Prism application server. A better design would be for task 4 in our example to call a process that sends an email alert or create further tasks (5, 6, 7) to start the process.

I am unable to configure the scheduler in System Manager

Ensure that you have the correct permissions to perform this action. Contact your system administrator to check or assign the appropriate permissions. For more details, see [User permissions](#).

I have made changes to the scheduler configuration in System Manager, but they don't appear to be having any effect

Ensure that the Blue Prism server service has been restarted since you made your changes. The changes will not be activated until the service is restarted. Ensure that no sessions are running before restarting the service.

I am unable to create schedules and tasks in Control Room

Ensure that you have the correct permissions to perform this action. Contact your system administrator to check or assign the appropriate permissions. For more details, see [User permissions](#).

Expected schedules have not executed

Ensure the following conditions are met:

- The Blue Prism Server Service is running. This is required to trigger schedules.
- The resource(s) on which the task(s) are scheduled to run were online at execution time. Ensure the resource(s) are visible and connected from the perspective of the application server.
- The resource(s) on which the task(s) are scheduled to run are public resources.
- The schedule is not configured to run on a date that doesn't exist in the month (for example, configured to run on the 31st of the month and it was not executed in April).
- The schedule is configured to run on the correct day of the week. Remember that in Blue Prism, the first day of the week is always Monday and the last day of the week is always Sunday.

- The day on which the schedule has executed is configured to be a working day in the calendar being used by the schedule.
- Check whether the resource on which the session has been scheduled has been subsequently moved to a resource pool. A schedule can only be run on a resource pool or a specified resource that is not part of a resource pool. A schedule originally configured to run on a specified resource which has subsequently been moved to a resource pool will fail. For more details, see [Resource pools](#).
- Multiple processes that are scheduled to run on the same resource concurrently are able to do so. If multiple processes are scheduled to run on the same resource and any of the processes use any objects with a run mode set to exclusive, the task will be terminated as the resource is too busy to run anything other than the exclusive process.
- The domain on which the target resource is hosted is included in the application server's domain suffix search list. The Blue Prism scheduler runs on the application server. When a schedule is triggered, the scheduler sends a TCP/IP message to the resource to start the schedule using the host name of the resource. If the resource is hosted on a different domain to the application server, the host cannot be found if the domain on which the target resource is hosted on is not included in the application server's domain suffix search list.
- When configuring schedules it is necessary to consider that the execution is based on the time zone for which the application server is configured. Additionally, when there are multiple Blue Prism servers deployed for a given environment that are configured to execute schedules, it is important to specify a common time zone. The time zone of the runtime resources and the interactive clients is not taken into account as part of the scheduled execution.
- The event logs from the application servers have been reviewed.

I am not able to run a schedule manually when in a different time zone

When manually running a schedule from Control Room via the **Run Now** option, its execution may fail if your local time zone (which is also the time zone of the Blue Prism interactive client) is different from the timezone of the Blue Prism application server.

This can be remedied by manually changing the timezone in your Windows settings to match the application server or by configuring a terminal server or jump box and running the interactive client from that jump box in the same region as the application server.

In Citrix VDEs, a Citrix administrator will need to set the time zone for the interactive client machines to the same timezone as the application server. Once this has been configured correctly, you will then be able to run the schedule manually via the **Run Now** option.

A number of sessions started via a schedule have terminated unexpectedly

Check whether the sessions all belong to the same task. A failure of any session within a task will cause the whole task to fail. Therefore, if multiple sessions are scheduled, a failure of any of these sessions will cause all the other sessions to terminate. Deselect the **Fail fast on any errors** option.

Queue items are automatically marked as an exception for no obvious reason

As described above, the **Fail fast on any errors** setting is designed to fail all sessions in a task if any one of them fails. When this happens, any queue item currently being worked will be marked as an exception when the session terminates. When investigating this type of queue item exception, the logs may suggest the session failed for no apparent reason and without handling the queue item correctly. The reason for this is the scheduler terminated the session abruptly because the **Fail fast on any errors** option was enabled.

A process started by the scheduler is not performing as expected

Ensure the start-up parameters have been input correctly in the task. For more details, see [Start parameters](#).