blueprism®
Robotic Process Automation Software

Version 6 - Quick Guide for Developers

Blue Prism Developer's Guide to Version 6 focuses on new features and improvements made to the Version 6 that will be of particular interest to current Blue prism Developers. The intended audience for this guide is assumed to be familiar with Blue Prism Version 5.

This guide covers the following areas of the Blue Prism application where significant improvements have been achieved:

- Surface Automation
- New Tesseract Functionality
- Multiple Actions in One
- Changes to Control Room
- Robot Screen Capture

For details on other improvements in Version 6 such as improved analytics, multi-lingual user interface, enhanced support for mainframe emulators, cloud deployment, WCF and Veracode certification lease consult the v6 User Guide - Feature Summary in the product documentation area of the Blue Prism Portal.

Surface Automation

Region Editor has been enhanced with the following new features:

- Location Method
- Search Padding
- Region Location
- Image Matching Tolerance

Location Method and Search Padding

In versions 4 and 5 of Blue Prism you could only locate a region via it's coordinates. This limitation meant that you had to first read an image from the coordinates and compare it to a previously saved image to be certain the region is referring to the correct part of the screen. This still exists in Version 6 and is referred to as Coordinates in the Location Method combo box in region Editor.
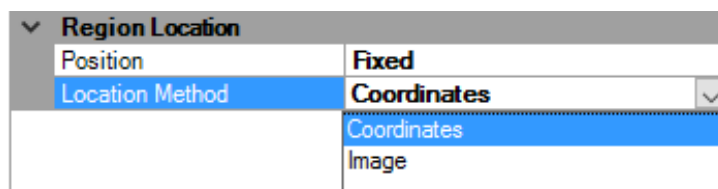

The big improvement in Version 6 is that the region can now be located by Image. The Image Location Method determines the location of the image by searching for it in a padded search area you set. When identifying a region a padded area is drawn round the region to show the area Blue Prism will search for the image.
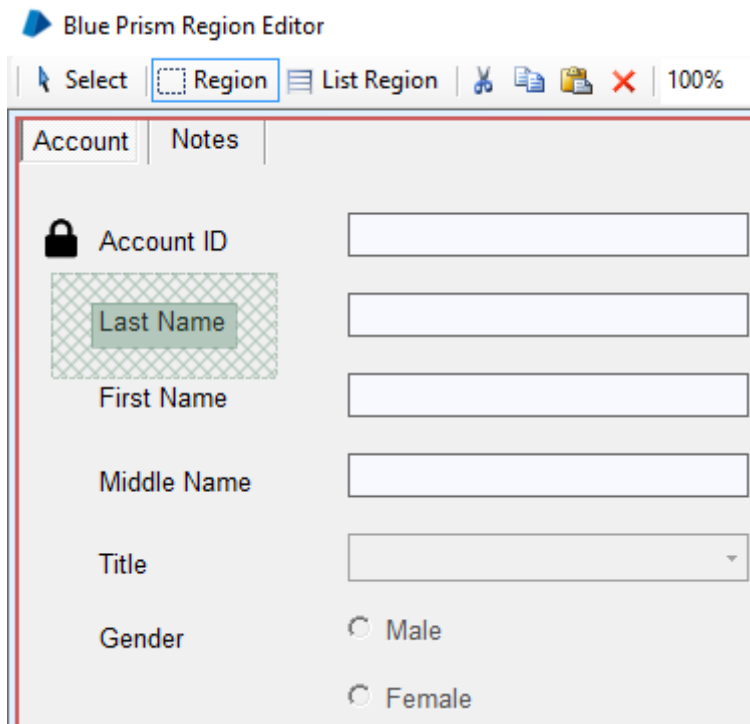
This allows you, in a wait stage for example, to use the Check Exists function as you would with any normal element. Blue Prism will wait until the element image in Application Modeller appears within the padded search area. Similarly, a Navigate Stage Global Mouse Click function will locate the element image within the padded area to determine the coordinate positions of the image before clicking them. In previous versions this functionality would have needed to be built by the developer requiring significant development time.

Region Location

Region Location configures the way the region is identified by Blue Prism during execution. The is a new concept of anchoring between elements that creates a relationship between regions. One region can be defined in relative terms to another region. In the following example, ZIP / Postcode appears on the screen twice. Anchoring to the type of address allows unique identification of each application element:
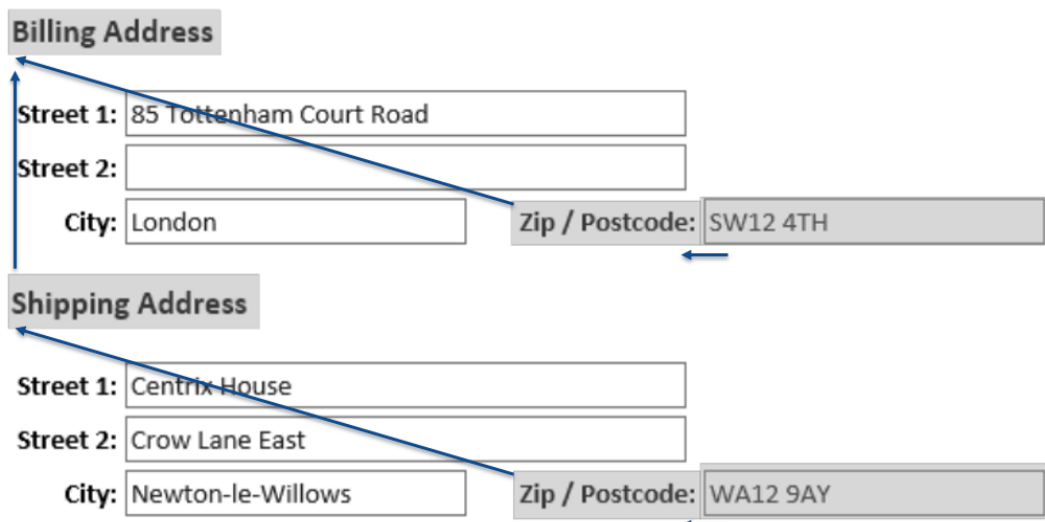
To accomplish this anchoring, define a Region for Billing Address. Position is either Fixed or Anywhere. Fixed if we are confident that the Region will be located at the coordinates plus Search Padding. Anywhere if we do not know where it will appear. When using Anywhere, Search Padding configuration is disabled:

Then define a Region for Shipping Address. Use Relative Position and specify Relative Parent:

Then define a Region for Shipping Zip / Postcode:

To identify Shipping Zip / Postcode, Blue Prism will first identify Billing Address and then Shipping Address. That should be taken into consideration when modelling because each search takes resources.

Image Matching Tolerance

In versions 4 and 5 a complimentary VBO called Utility - Image Search was made available to allow you to specify a colour tolerance when comparing images. This was required due to the risk of very slight differences in colour presentation in production environment runtime resources. Colour Tolerance will relax requirements for a match in terms of an image's R, G and B colour components. Valid values are 0 to 255. This tolerance factor is now natively supported in Version 6 when Blue Prism is searching for images. You can set the colour tolerance in Region Editor or via the element's attributes in Application Modeller

Region Location	
Position	Fixed
Location Method	Image
Search Padding	20, 15, 20, 15
Colour Tolerance	10
Greyscale	False

Image Matching Tolerance is applicable only to the Image Location Method. This method allows for the configuration of Grayscale to match images. Grayscale set to True will compare both images in shades of black and white.

New Tesseract Functionality

Blue Prism Version 6 comes with Tesseract version 3.05 that allows text recognition using 16 bit character set. This greatly expands the number of languages that can be read by Blue Prism. Language packs can be downloaded and deployed on Blue Prism Resources.

Tesseract language packs from versions prior to Version 6 are not supported with this release. If upgrading to Version 6, new language packs must be installed. Directions are provided in the product Help. The language packs can be downloaded from: https://github.com/tesseract-ocr/tesseract/wiki/Data-Files

Multiple Actions in One

In previous versions of Blue Prism where an arbitrary pause was required it would involve the creation of an extra stage and a sequence of pauses could result in a long chain of stages. This was typical when using Surface Automation. In Version 6 the navigate stage is enhanced to accommodate arbitrary pauses. Dynamic Wait stages should still be used if a Navigation stage results in change in the application.

Version 5.0   =   Version 6.0
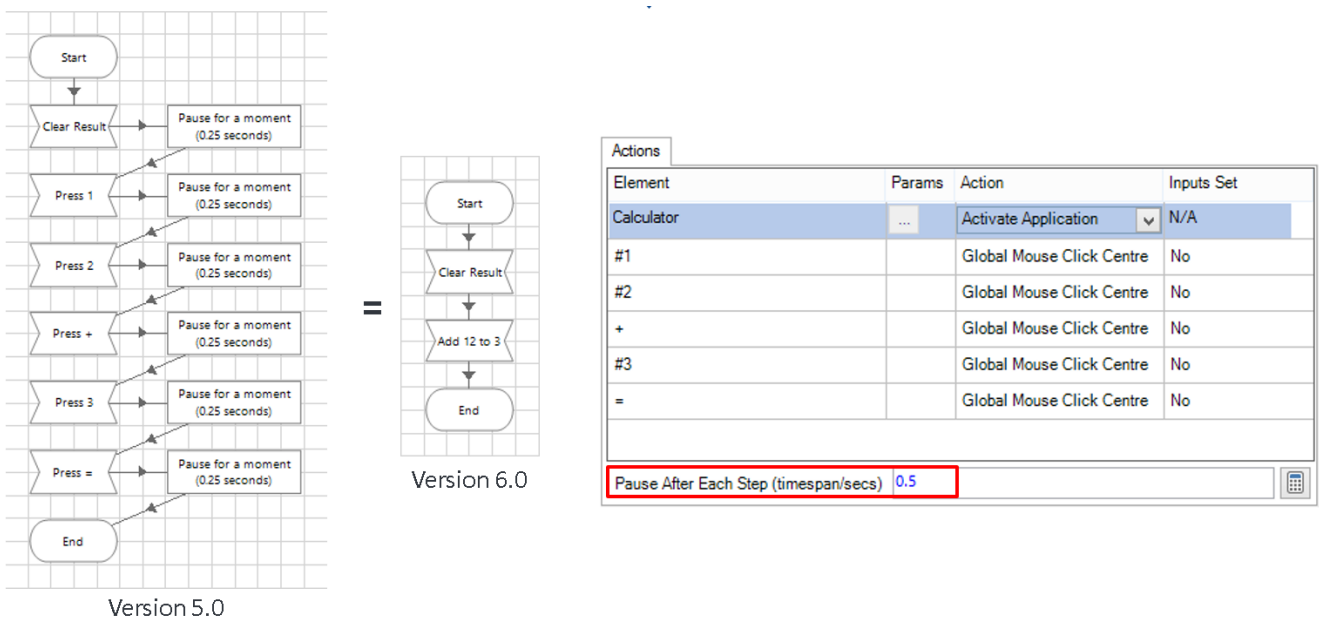
In addition to a pause between different Actions within the same Navigate stage, a time interval can be defined for a delay between "key strokes" within the same Global Send Keys Action. This can accommodate slow or poorly connected target systems where global send key functions can be unpredictable. In previous version you would be looping through the text to send and applying a small pause. The Version 6 functionality allows for quicker development and a more compact and concise process and object flow diagrams:

Changes to Control Room

Improvements have been made to the Control Room to provide greater visibility and ease of management of the Blue Prism digital workforce. The Controller is now capable of applying multi-select filters to the Processes and Resources on the Session grid and save as custom Session Views. Processes and Resources can be selected individually, or as Groups. Control Room Session Views can be exported as reports, which facilitates ad-hoc report grouping.

Control Room can also warn a controller if an action is taking longer than expected to complete. This allows the Controller to become aware of a possibly stuck process and remediate accordingly. Previously, the Controller would need to be monitoring work queues looking for Work Cases that do not change their status for too long. Now the warning is displayed on the Session view.
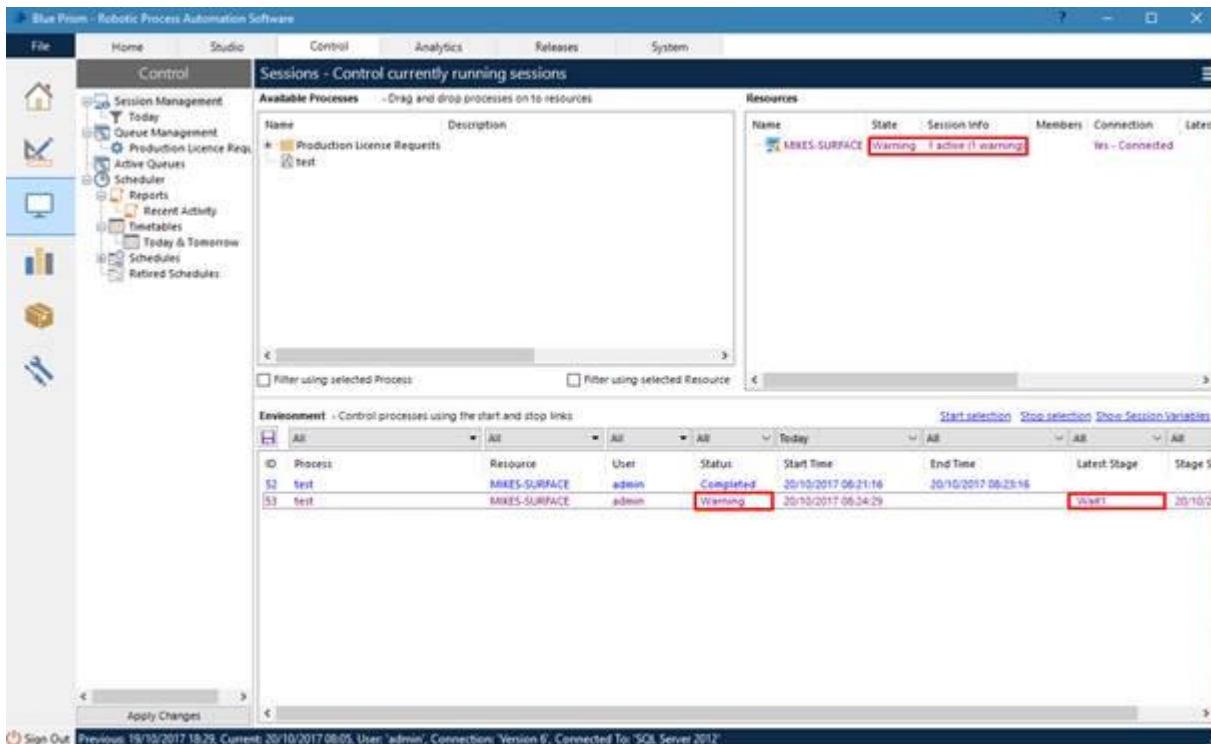
The default warning threshold is set in System Manager under the General Settings.
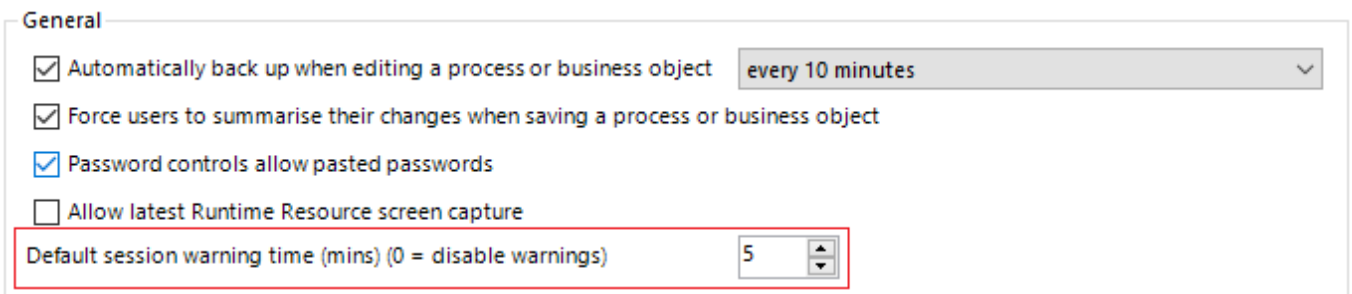
Individual Process and Object actions can override this default setting.
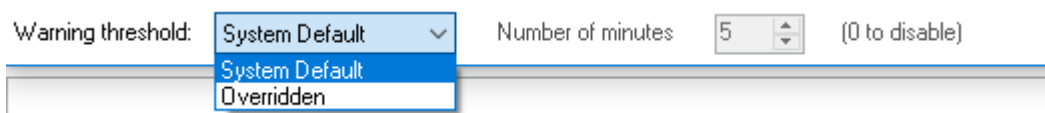
Robot Screen Capture

In previous version of Blue Prism when a production process was throwing exceptions sometimes it was difficult to determine the reasons without seeing what was happening on the screen. To view the the exception required access to product runtime resources and a replay of the specific case.

Blue Prism has enhanced Exception troubleshooting by allowing screen capture when the Exception in thrown. The image is stored in the Blue Prism database. The screen capture feature must be enabled in the system settings for the checkbox to take any effect. Only the latest screen capture will be stored for any runtime resource. Only processes running in control room will create screen captures. During debugging of the process screen captures are not taken but a message will be logged to indicate when a screen capture would have been made.
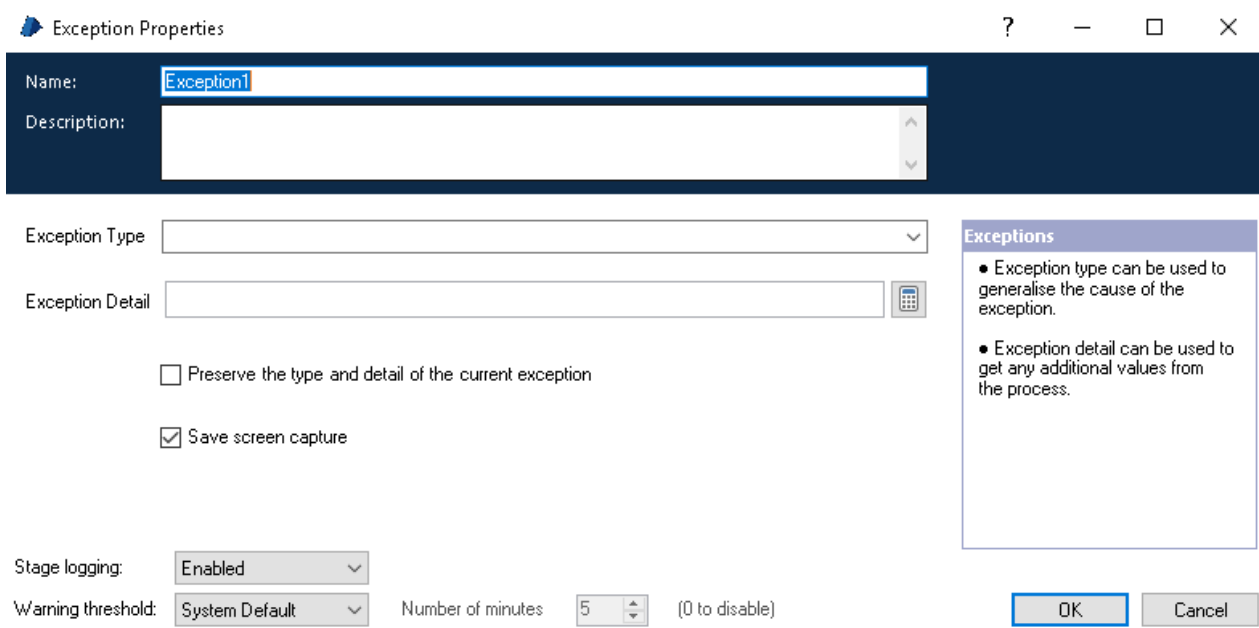
When using this feature, the following points should also be considered:

- The functionality is enabled/disabled via a system-wide setting.

- Screen captures can only be viewed by users with the appropriate permission.

- The screen capture functionality requires that a default encryption scheme has been configured and is valid.

- Only the latest screen capture per Runtime Resource will be stored.