

BPA
Platform

Technical Overview

BPA Platform 2020

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An Introduction to Business Processes

Business Process Management (BPM) software is a powerful technology, enabling organisations to streamline business systems through the automation of processes and communications across multiple systems, databases, and people — leading to improvements in process efficiency across the whole business.

Incorporating workflow technology that enables human interaction at critical stages of a business process, BPM software has a deserved reputation as one of the most valuable investments in IT that a company can make.

Product Overview

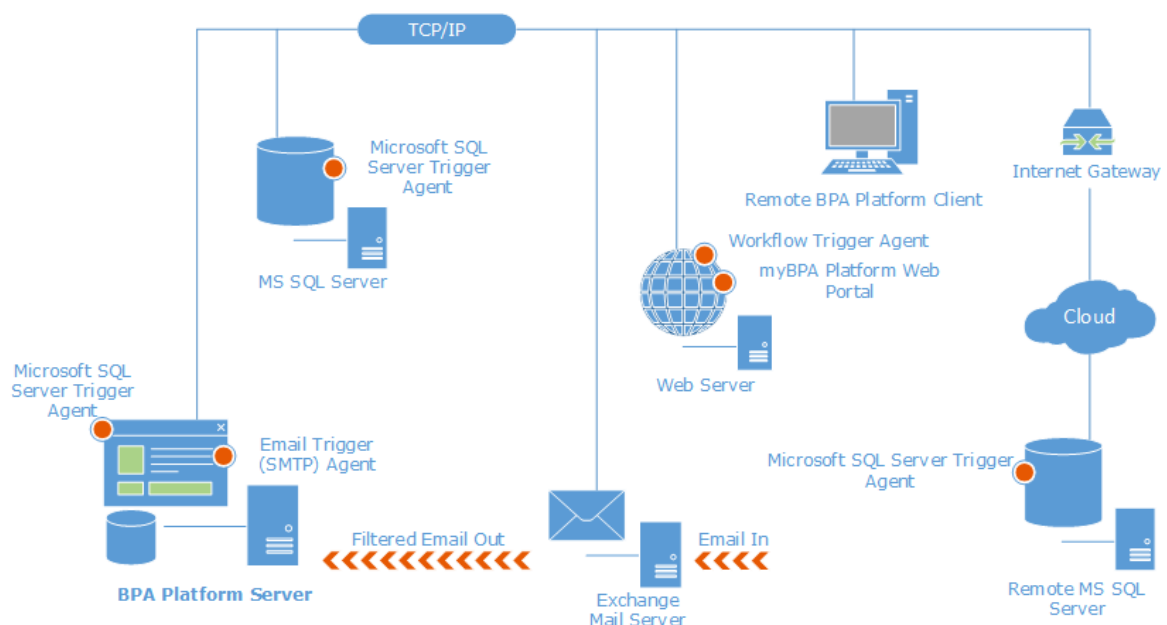
BPA Platform is a unique Business Process Management (BPM) software suite, enabling organisations to build powerful automated business processes, while leveraging the power of existing systems. The BPA Platform product range offers a scalable, cost-effective automation solution for organisations, ranging from the small-to-medium business to the large enterprise.

BPA Platform provides unrivalled functionality for the provision of BPM solutions. Its extensible process modelling capabilities enable the automation of complex manual tasks, therefore driving improvements in operational efficiency throughout the enterprise. It also provides a common automation framework across the entire information chain.

The product is built around the central concepts of "tasks" and "steps" — providing the ability to build flexible automation processes with logical building blocks. These processes integrate seamlessly with existing information sources, applications, infrastructure, and communications without the need for complex programming.

BPA Platform Components

The diagram below demonstrates an example architecture of all main BPA Platform components:



For more information about the various Agents detailed above, see [About BPA Platform Agents](#).

BPA Platform Server

The BPA Platform server consists of the tasks' runtime engine and the configuration store (back-end database) where all BPA Platform data and task information is held.

It is recommended you install the server on a dedicated machine. For a detailed description of the installation procedure, refer to the product help.

Remote BPA Platform Client

The BPA Platform client is the interface used to create and managed your tasks. This is installed locally to the BPA Platform server, or can be installed in a remote location that has access back to the BPA Platform server.

Third-Party Connectors

As well as the standard tools made available with BPA Platform, third-party connectors are also available. These connect BPA Platform to external applications and platforms, such as, CRM and ERP systems. For more information, consult the white paper library.

System Architecture

BPA Platform is Windows-based software, using a true three-tier client server model over TCP/IP, with a multi-threaded server running as a Windows service:

- ▶ The BPA Platform client — Provides all administrative and task design capabilities
- ▶ The BPA Platform server — Provides client connectivity and manages task processing
- ▶ The BPA Platform data store — Contains BPA Platform data and task information

Three-tier architecture has a number of benefits:

- ▶ Data is kept independent to network conditions as it is managed centrally by the server
- ▶ Data integrity is maintained as database operations are transactional
- ▶ Improved security as clients do not need a network share to access data

Task Performance and Processing

The BPA Platform server is multi-threaded, enabling multiple tasks to run simultaneously. This increases server processing capacity and reduces the need for queuing tasks. The number of task threads is determined by **Server** settings.

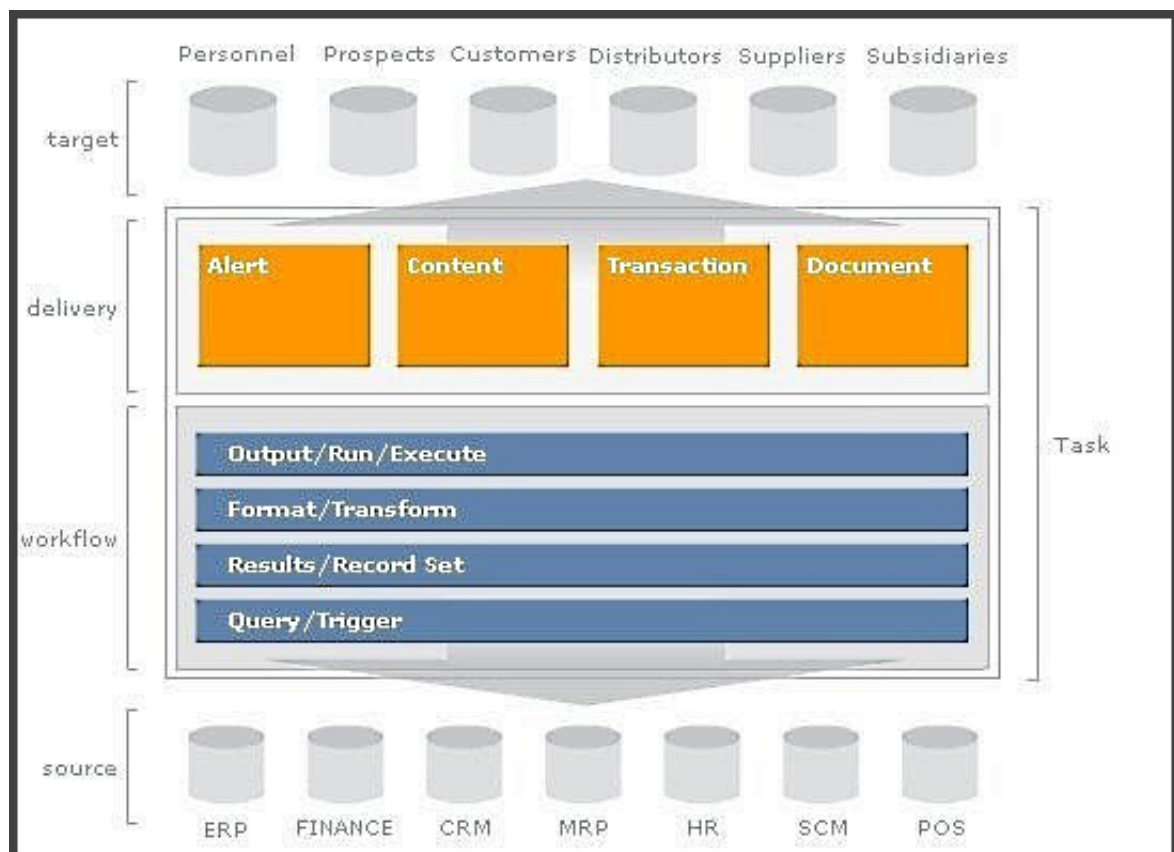
It also supports multi-processor functionality, and minimises processor context-switching.

Task Isolation

The BPA Platform server isolates a task instance from both the BPA Platform server itself and other task instances. This means that external inconsistencies, such as exceptions caused by ODBC drivers, applications, or other system APIs do not affect ongoing BPA Platform operations beyond that task instance. Such untoward occurrences are logged immediately to the [Event Log](#) and, if configured, notifications are sent to the administrator and task "owner".

Operational Schematic

This diagram demonstrates how BPA Platform provides automated BPM services, and the main components contributing to those services. It also demonstrates how BPA Platform provides greater efficiency by interacting with business partners, individuals, and systems (whether internal or external).



Tasks

Tasks are the primary entity in BPA Platform. They represent all, or a part of, a distinct business process, containing multiple interrelated steps.








By building tasks, you can design business rules that partially or completely replace a manual process. Each task provides complete control for which steps are used and in what sequence, using visual modelling techniques. A task can be scheduled periodically or triggered real-time.

Task developers can also automatically run tasks through the [BPA Platform API](#), or by integrating the [Workflow Web Service](#) into their own applications.

Tools and Steps

Tools are used to create steps within a task, providing the functional building blocks that interface with common technologies, systems, and applications. They are joined together in a logical sequence to build the business process.

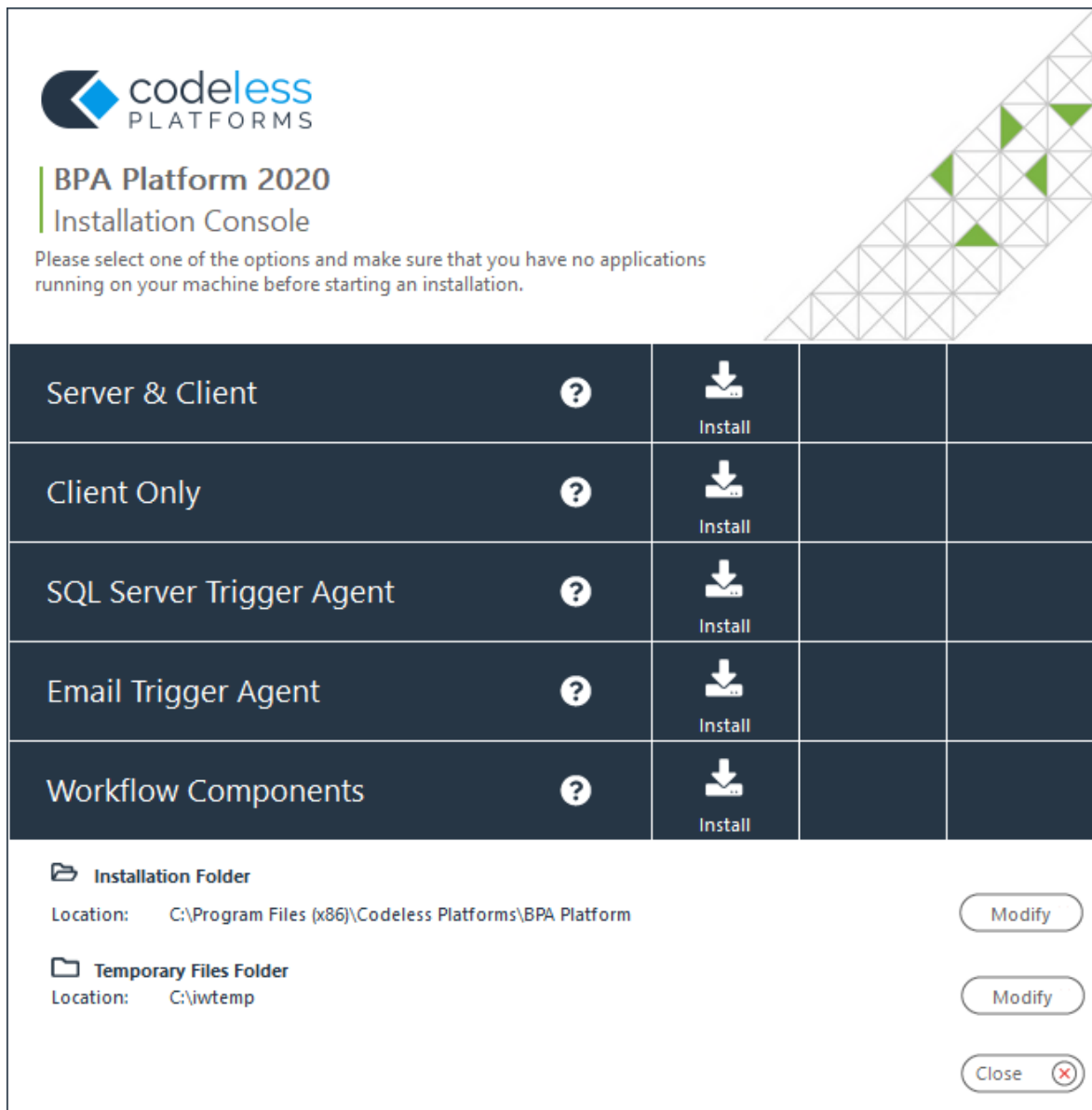
The following tool categories are available:

Tool Category	Category Icon	Description
Data Connectors		Provides a connection between BPA Platform and an external data source, such as, a relational database (RDBMS) or a CRM system, or even third party applications used with BPA Platform.
Event		Triggers a task to run based on specific criteria and exposes data through variables to other steps in the task.
Execute		Executes an external application, procedure or object, allowing developers to control the precise result of this step when using proprietary systems.
Input		Pulls information into BPA Platform from a source, such as a relational database (RDBMS), file format, or other structured source, and exposes this to other steps.
Format		Consumes and formats data, then exposes that data in a designated form to other steps.
General		Provides generic functionality to BPA Platform tasks, such as, moving files.
Output		Consumes information from Input or Format steps and outputs the information from BPA Platform into another system, application, or communication method.

For more information about the tools available in each tool category, go to [About BPA Platform Tools](#)

Installing BPA Platform

You use the same BPA Platform installation EXE to install the server, clients, and agents:



For a detailed description of how to use the Installation Console, refer to the product help.

Configuring BPA Platform

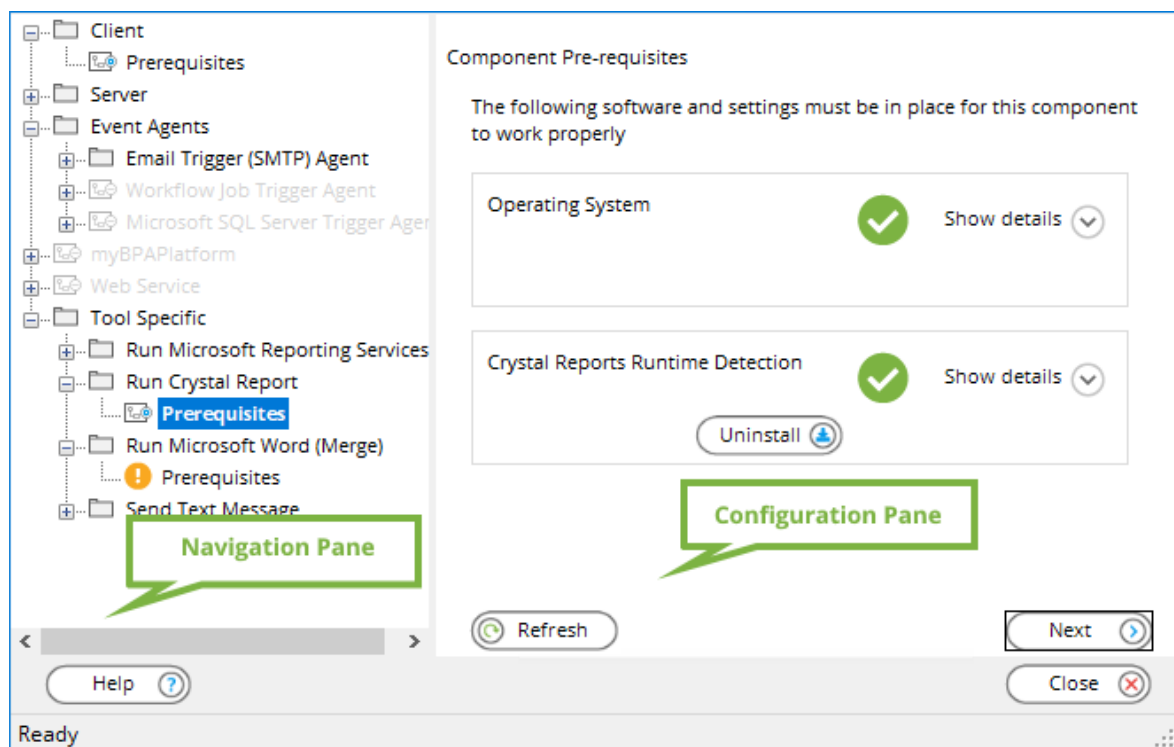
You use the BPA Platform Configurator to install third-party software that may be required by available tools. Connections to required agents are also configured here. Note that you can only launch the Configurator if logged into the machine with Administrator rights.



Configurator Features

- ▶ The installation is not stopped if the prerequisites for a selected feature are not available as these are checked by the Configurator
- ▶ Features can be configured immediately or left until required
- ▶ The Configurator launches automatically after installation is complete so you can start the configuration immediately
- ▶ The Configurator provides a graphical indication of the configuration status of each feature
- ▶ After changes have been made, you can refresh the configuration details to update their status without closing the application
- ▶ The configuration process can be saved, stopped and restarted at any time
- ▶ The Configurator can be launched at any time from either the Windows **Start** menu or from inside the Installation Console

Configurator Layout

The Configurator interface is split into two panes:



- ▶ **Navigation pane** — The navigation pane uses a tree structure, with a folder node for each installed feature. Greyed-out folders are for features not yet installed.
 -  indicates that the feature has been configured and is usable
 -  indicates that a configuration issue exists which must be rectified before that feature can be used
- ▶ **Configuration pane** — Displays configuration options for the feature highlighted in the navigation pane

Configuring BPA Platform Features

Features can be configured separately by selecting them in the navigation pane. Alternatively, you can step through the configuration process in order by clicking **Next** as each configuration is completed. Only installed and available features can be configured — the Configurator skips over the others.

About Feature Prerequisites

A **Prerequisites** node is available for each feature, as shown above.

Clicking on a **Prerequisites** node displays all that is needed for the related feature in the Configuration pane, where:



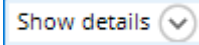


indicates those prerequisites are in place



indicates that a configuration issue exists but the feature is still usable



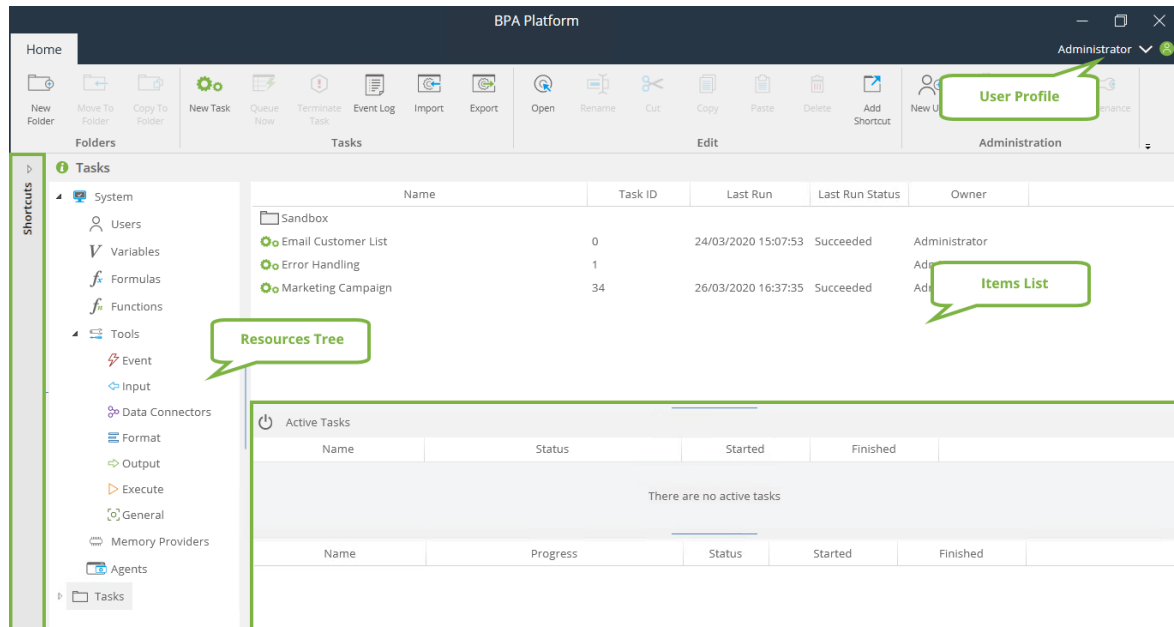
indicates the prerequisite has not been met

- ☐ Click  to see a full description of the problem. If available, click  or  to complete the prerequisite.

If required, you can complete the configuration at a later date without affecting other aspects of BPA Platform, though the feature in question remains unusable.

Navigating the BPA Platform Client

You use the BPA Platform client to maintain your BPA Platform installation including creating and maintaining tasks, running maintenance, and administering user permissions.




About the User Profile

Clicking the user profile's down arrow displays the following options:

- ▶ **Change Password** — Change the password of the currently logged in user — only visible to internal users; Windows users cannot change their passwords through BPA Platform
- ▶ **Switch User** — Logs off the current user and returns you to the client login screen
- ▶ **Exit** — As above but instead closes the client completely

About the Toolbar

The client administration tools are grouped according to function (if all the toolbar is not seen, click  to see the hidden toolbars):

Managing Folders

We recommend you group your tasks into folders for easier management.

Use the **Folders** toolbar to manage your task folders:



(**New Folder**) — Create a new folder in the highlighted node of the **Tasks** tree



(**Move To Folder**) — Moves the highlighted task to a new location



(**Copy To Folder**) — Copies the highlighted task to a new location

Managing Task Processing

Use the **Tasks** toolbar to manage task run-time: Use:



(**New Task**) to create a task in the folder currently open in **Tasks**.



(**Queue Now**) and



(**Terminate Task**) to manually start and stop tasks.



(**Event Log**) to open the full Log so may take some time to open. To view entries for a specific task, either open the Event Log and filter the entries or right-click the task itself and select **Event Log**.



(**Import**) to bring in existing tasks and their corresponding global connections and objects from another BPA Platform instance.



(**Export**) to save tasks and their corresponding global connections and objects from this BPA Platform instance.

Managing Tasks

Use the **Edit** toolbar to manage existing tasks:



Open



Rename



Cut



Copy



Paste



Delete



Add
Shortcut

Managing Your BPA Platform Installation

Use **Administration** to manage this BPA Platform instance:



(**New User**) — Create a new user.



(**Licensing**) — Coming Soon!



(**Settings**) — Coming Soon!



(**Maintenance**) — Coming Soon!



(**Help**) — Takes you to this page.



(**About**) — Lists the version and build number of your BPA Platform installation. Use this to also view

information about the hardware hosting this instance of BPA Platform (use



(**System Info**))

Using Shortcuts

You can add any frequently edited variables, tasks, tools (global configuration only) to the **Shortcuts** panel on the left. Right-click on the required item and select **Add to Shortcut Bar**.

You can also group your shortcuts according to any category you want. Right-click in the shortcut pane and select **Add new group**. Drag relevant items to the new group. You can rename the group by right-clicking the group header.

About the Resources Tree

The resources tree makes available those global settings and tasks that make up your BPA Platform installation.



(**System**) — Resources found under this node are only available to **System Administrator**-level users



([Users](#)) — Manage BPA Platform user accounts



([Variables](#)) — Manage all global variables; task variables are managed in the task itself



([Formulas](#)) — Manage all global formulas; task formulas are managed in the task itself



([Functions](#)) — Manage all global functions; task functions are managed in the task itself



([Tools](#)) — Manage the global connections for available BPA Platform tools



([Memory Providers](#)) — Manage the global connections for available memory providers



([Agents](#)) — Displays the registered Agents



(**Tasks**) — All created tasks and task folders are "stored" in this node

About the Items List

The items list shows the contents of the selected resource node.

About Active Tasks

Active Tasks ⌵ 🔍 ✕				
Name	Status	Started	Finished	
✓ DBQ - FaFF - SF	Complete	29/11/2019 14:11:46	29/11/2019 14:11:47	
Name	Progress	Status	Started	Finished
✓ Database Query (ODBC)	Complete	Complete	29/11/2019 14:11:47	29/11/2019 14:11:47
✓ Save File	1 File(s) Saved	Complete	29/11/2019 14:11:47	29/11/2019 14:11:47
✓ Format as Flat File	Processing Complete	Complete	29/11/2019 14:11:47	29/11/2019 14:11:47

The **Active Tasks** pane provides a visual representation of real-time task run-time:

- ▶ The top pane provides the status of the current task running
- ▶ The bottom pane showing the status of the steps in the task

If multiple tasks are running at the same time, the bottom pane shows the steps for the currently highlighted task in the top pane.

Setting BPA Platform Global Options

The global options affect all aspects of BPA Platform, especially all task run-times.

About the Server Tab

The **Server** tab of the Options interface allows a system administrator to configure how the BPA Platform server "listens" for connections from BPA Platform clients. It also determines how many tasks may be run asynchronously on the server.

The screenshot shows the 'Options' dialog box with the 'Server' tab selected. The dialog has a blue title bar with the text 'Options' and a close button. Below the title bar is a tabbed interface with four tabs: 'Event Log', 'Notifications', 'Categories', and 'Server'. The 'Server' tab is active, showing settings for connections and task threads.

Options

Event Log Notifications Categories

Server Impersonation Run Times and Maintenance National Holidays

Allow connections on :

IP Address :
(All addresses) ▾

Command Port :
4222

Callback Port :
4223

Settings :

Task threads :
4 ▴ ▾

Client threads :
2 ▴ ▾

Store threads :
4 ▴ ▾

OK Cancel

About the Impersonation Tab

Impersonation is where the BPA Platform server "impersonates" a Windows domain user, enabling it to access remote network locations, such as databases, files, or printers.

Why is this needed? Tasks are run using the Windows **Local System** account. This account typically does not have sufficient network access rights for such resources, resulting in failed tasks. By impersonation a valid Windows domain user, such remote resources are available to the task. Note that this only applies at task run-time; if you are logged into the BPA Platform client as a Windows domain user, or even the computer hosting BPA Platform itself, this makes no difference to the account used by running tasks.

Two types of impersonation exist:

- ▶ Global — Applies impersonation to all tasks
- ▶ Task — Applies impersonation to a single task

Where global- and task-level impersonation exists in the same BPA Platform installation, task-level impersonation overrides global.

The **Impersonation** tab is used to run all tasks under a specific domain users' credentials.

NOTE: It is only possible to browse and select Windows users if the machine being used is logged onto the domain and has access to Active Directory.

The screenshot shows the 'Options' dialog box with the 'Impersonation' tab selected. The dialog has a blue title bar with the text 'Options' and a close button. Below the title bar are four tabs: 'Event Log', 'Notifications', 'Categories', and 'Impersonation'. The 'Impersonation' tab is active, showing a section titled 'By default, Tasks will run as :'. Inside this section, there is a checkbox labeled 'Specify User'. Below the checkbox are three text input fields: 'User name :', 'Domain :', and 'Password :'. To the right of the 'User name' field is a 'Browse...' button. At the bottom right of the dialog are 'OK' and 'Cancel' buttons.

About the Run Times and Maintenance Tab

The **Run Times and Maintenance** tab is used to globally set times when tasks and maintenance routines should run. This ensures tasks do not conflict with other automated processes such as backup or data warehousing routines.

NOTE: It is also possible to customise the run-times at task level. However, the task must respect the global settings set in this tab.

The screenshot shows the 'Options' dialog box with the 'Run Times and Maintenance' tab selected. The dialog has a header bar with 'Options' and a close button. Below the header, there are four tabs: 'Event Log', 'Notifications', 'Run Times and Maintenance' (selected), and 'Categories'. Under 'Run Times and Maintenance', there are sub-tabs: 'Server', 'Impersonation', 'Run Times and Maintenance' (selected), and 'National Holidays'. The main area shows a weekly schedule grid. The grid has columns for days of the week (Sunday to Saturday) and rows for time slots from 00:00 to 23:30. The grid is mostly blue, indicating permitted time, with 'X' marks in the last column of each row, indicating maintenance time. Below the grid, there are radio buttons for 'Schedule Run Times' (selected) and 'Schedule Maintenance'. There are also checkboxes for 'Permitted time' and 'Disallowed time', and a 'Maintenance' checkbox. A text box shows '0' for 'Force maintenance initialisation timeout' in 'Day(s)'. The dialog has 'OK' and 'Cancel' buttons at the bottom right.

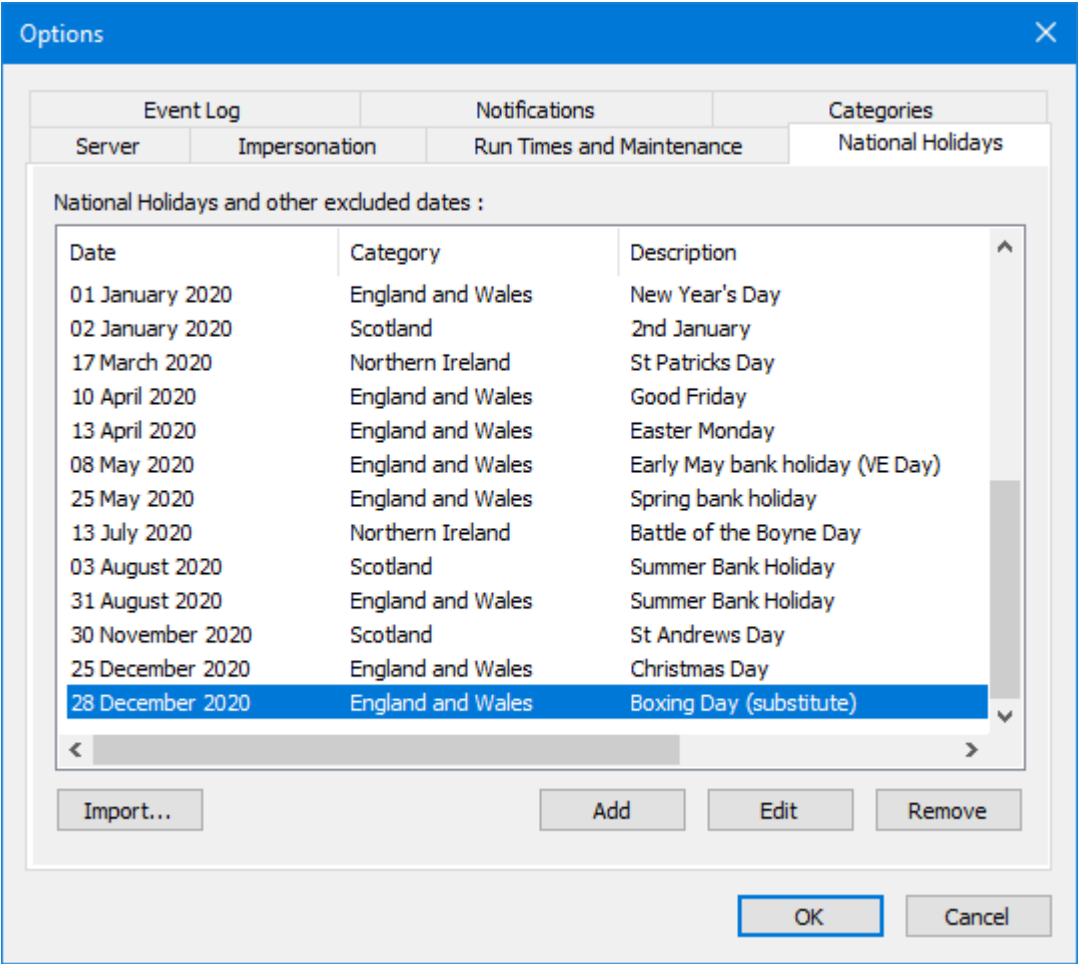
To manage instances where tasks are running when the maintenance is scheduled to start, use the following parameter to set a time period to delay maintenance being run:

▶ Force maintenance initialisation timeout

NOTE: Maintenance starts immediately after this time period has expired, irrespective of whether tasks are currently running. Tasks already in progress are allowed to complete, however no new task runs can be started until maintenance has completed.

About the National Holidays Tab

The **National Holidays** tab is used to set dates when tasks are not to be run. To enable a list of dates to be quickly compiled, an import feature is provided through which a pre-configured list of dates for a specific country may be automatically added. Alternatively, dates may be individually added and then edited or removed as required.



About the Event Log Tab

The **Event Log** tab provides a system administrator with the facility to set a global time interval in days after which event log entries are purged.

Optionally a user-defined PowerShell script can be linked to the process which will run prior to the purging of the log. This can be used to save the log data to disk, for example.

Options

Event Log

Notifications

Categories

Server

Impersonation

Run Times and Maintenance

National Holidays

Allow connections on :

IP Address :

(All addresses)

Command Port :

4222

Callback Port :

4223

Settings :

Task threads :

4

Client threads :

2

Store threads :

4

OK

Cancel

About the Notifications Tab

This feature provides the facility to set up automatic notifications by email to system administrators and task owners when selected warnings and errors occur within BPA Platform.

An administrator can configure exactly what notifications are required for the different types of potential occurrences. Administrators and task owners are alerted when an error occurs so that they can assess the situation and take remedial action if required.

Options

Server

Impersonation

Run Times and Maintenance

National Holidays

Event Log

Notifications

Categories

Notify system administrators on the following :

Warnings

☐ Task

☐ System

☐ Step

☐ Security

Errors

☐ Task

☐ System

☐ Step

☐ Security

Notify task owners on the following :

Warnings

☐ Task

☐ Step

Errors

☐ Task

☐ Step

SMTP :

Display Name :

System

From Address :

alerts@system

Server Configuration

OK

Cancel


Creating and Managing BPA Platform Tasks

This section describes the various features and interfaces of the BPA Platform client to help you create and manage tasks.

Using the Task Interface

The task interface is the main interface you create tasks with. Only users who have a **Task Administrator Server Role** can create, edit, or run tasks — see [About the Server Roles Tab](#).

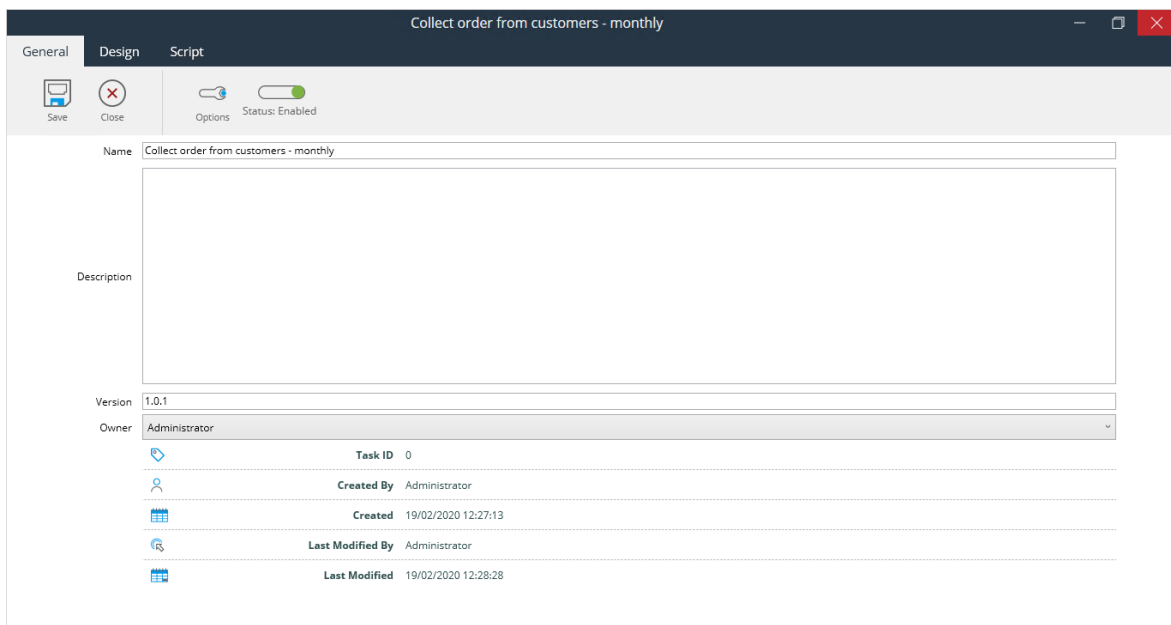
You create new tasks by either:

- ▶ Clicking  **New Task**.
- ▶ Right-clicking on **Tasks** or a child folder and selecting **New Task**

If a task folder structure is in place, you can either create the task directly in the relevant folder or in the parent **Tasks** folder and move it after creation — users must have **Edit** permissions for that folder.

About the General Tab

Use the **General** tab to name your task and set any run-time parameters, such as, debug, impersonation, and task holiday time.



The screenshot shows the 'General' tab of a task configuration window titled 'Collect order from customers - monthly'. The window has a dark header bar with the title and standard window controls. Below the header is a toolbar with 'Save', 'Close', 'Options', and 'Status: Enabled' (with a green toggle switch). The main area contains the following fields:

- Name:** 'Collect order from customers - monthly' (text input)
- Description:** A large empty text area.
- Version:** '1.0.1' (text input)
- Owner:** 'Administrator' (dropdown menu)
- Task ID:** '0' (text input)
- Created By:** 'Administrator' (text input)
- Created:** '19/02/2020 12:27:13' (text input)
- Last Modified By:** 'Administrator' (text input)
- Last Modified:** '19/02/2020 12:28:28' (text input)

Enter a meaningful **Name** for this task. If required, add a **Description** to help other users identify the task.

The **Version** number is incremented every time the task is edited and saved. You should not need to adjust this value but if you do, use the same number format.



To set impersonation, task holiday times, and other advanced features, click **(Options)** — see [About the Task Options Interface](#).

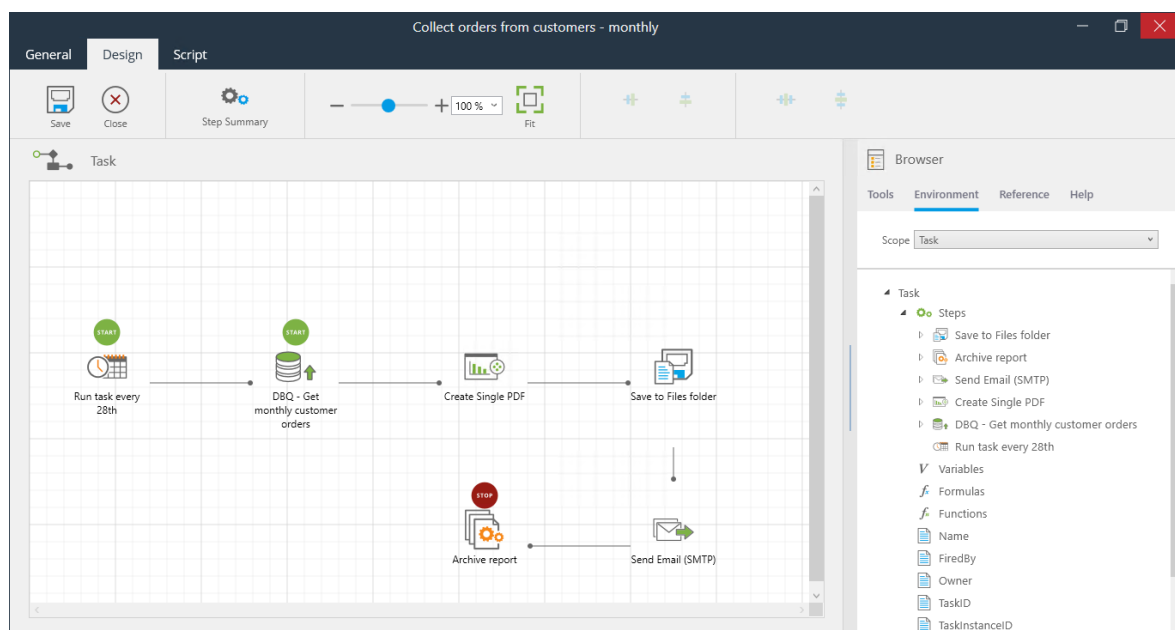
All tasks are enabled by default. Use the slider to prevent the task from running.

About the Design Tab

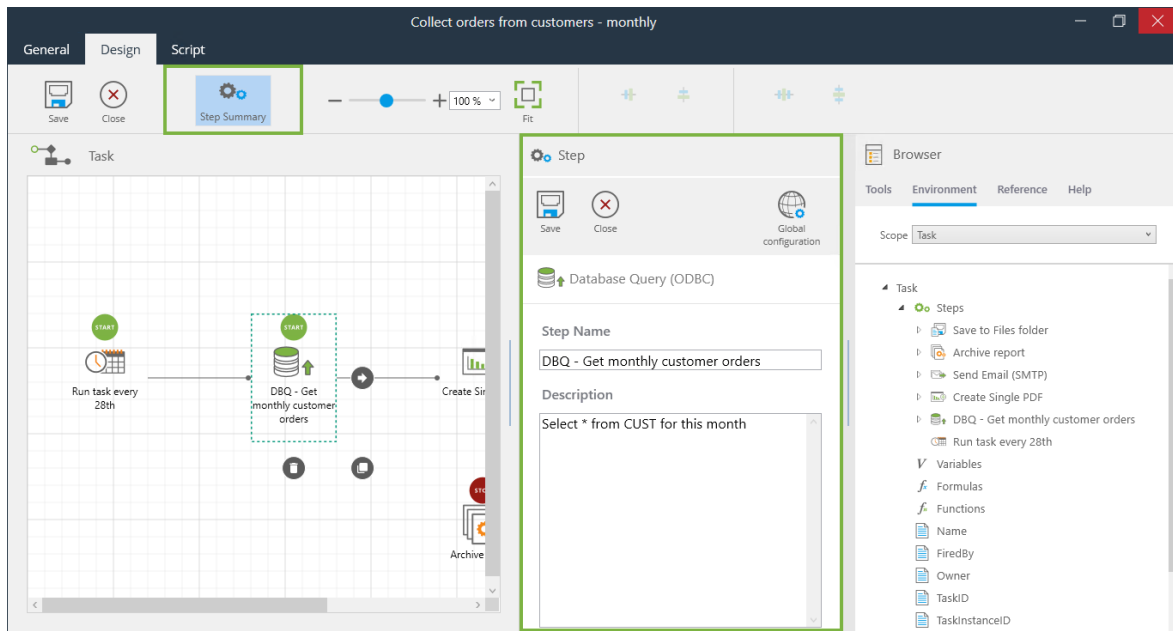
Use the **Design** tab to create new or edit existing tasks.


Task View or Step Summary

By default, the **Design** tab opens to the full task design area where you add task steps from the Task Browser on the right.



If any task steps are highlighted, you can select **Step Summary** to view the generic details of that step (these are taken from the **General** tab):



If required, you can rename the task step and amend the description from here. Additionally, if the tool requires any global connections or configurations you can access them from the **Step Summary** view — click  (**Global configuration**).

Aligning Task Steps

To move multiple task steps, click and hold to draw a box around the required steps. With multiple task steps selected, you can also use the following to align your task steps:



— Align the steps to the same horizontal line



— Align the steps to the same vertical line



— Evenly space the steps out along the horizontal line





— Evenly space the steps out along the vertical line

Note that the above buttons are only active when two or more steps are selected.



Use **(Fit)** to fit all task steps to the current design view pane.

About Start and End Steps

For each task there is a Start step, denoted by  above the step, and an End step denoted by  above the task step. Both steps can be automatically selected by the tasks or can be assigned manually — right-click in the design area and click **Automatically Choose Start Step** to toggle between selected and not.

A task may have more than one start step — If an Event tool is used to trigger the task to run, typically this and the immediately following step are both denoted as the start. This is because the Event step triggers the task to run but the actual "job" of the task is started by another step.

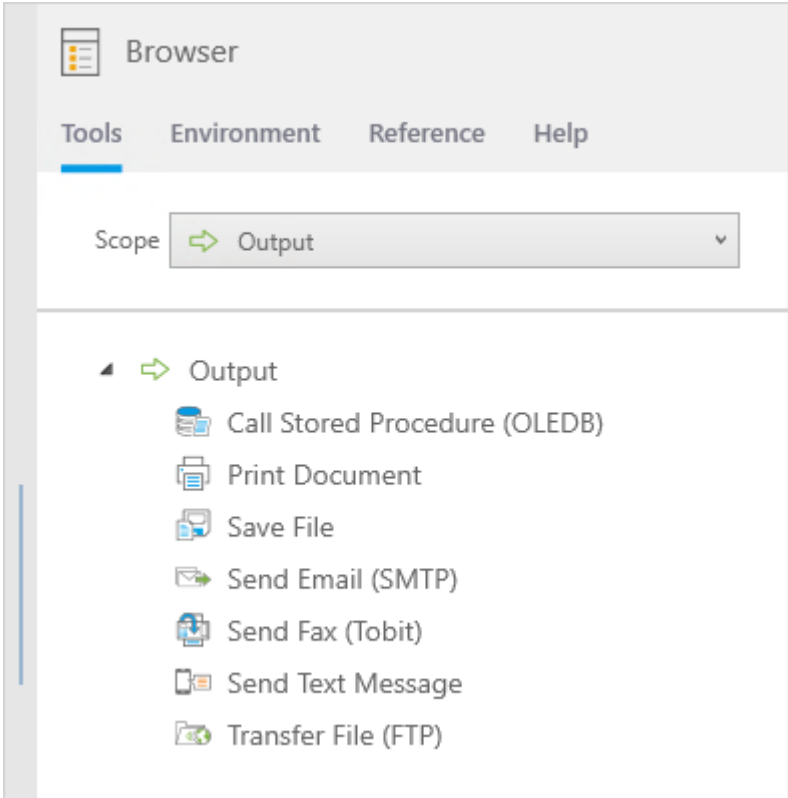
A task may also have more than one end step — If a Decision step has been added to the task, each branch would have its own end step.

About the Task Browser

The Task Browser holds all tools and properties needed to create tasks — recordsets, variables, functions, formulas, and step properties as well as available BPA Platform tools. It is available as part of the **Design** tab and again when configuring each task step.

About the Tools Tab

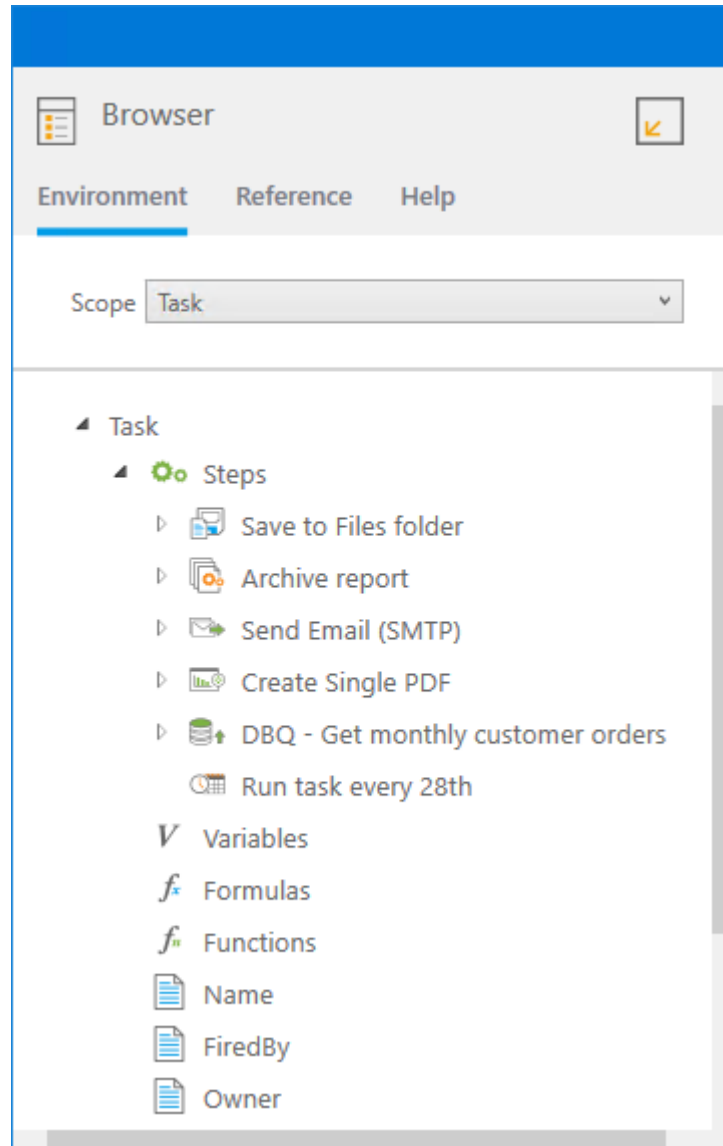
The **Tools** tab exposes all available BPA Platform tools used to create task steps. Note that this tab is only available with the Task Browser in the **Design** tab. Use **Scope** to only view tools in the specified category.



About the Environment Tab

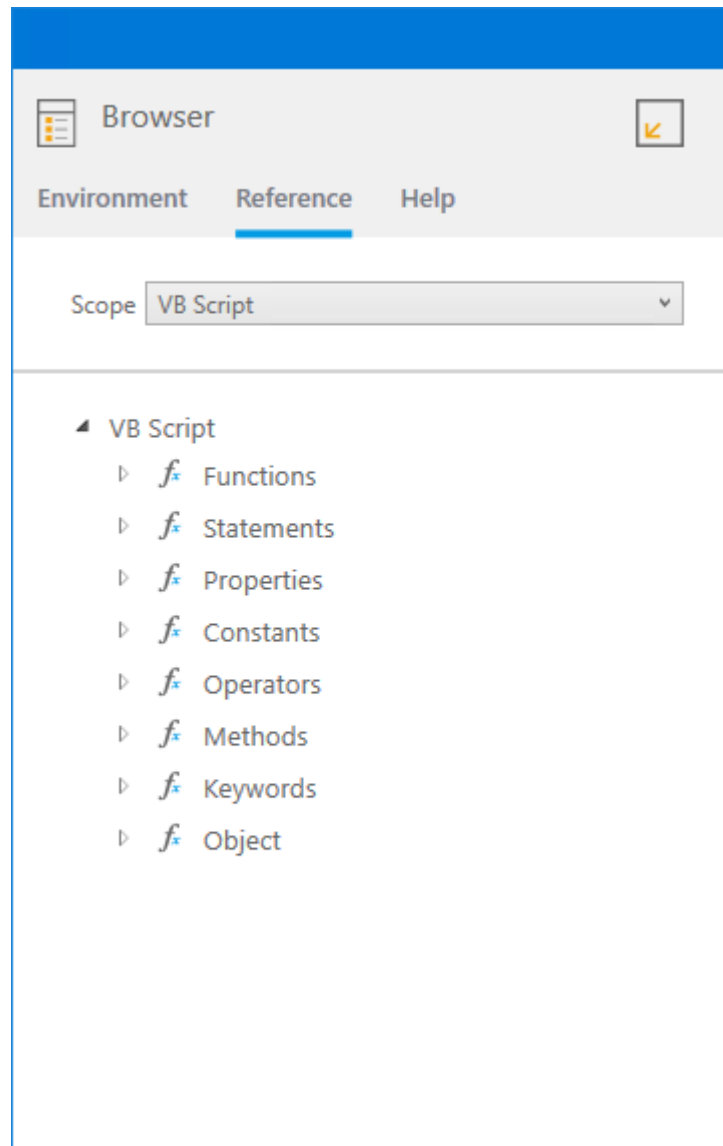
The **Environment** tab exposes all available task data that can be used by this task step — other step's data such as recordsets, variables, formulas, functions, and step properties.

Additionally, task-specific variables, formulas, and functions can be created here — right-click on the required item and select **New**.



About the Reference Tab

The **Reference** tab exposes several common Visual Basic scripts which can be used in task steps — drag-and-drop the script into a text area in the step configuration interface.

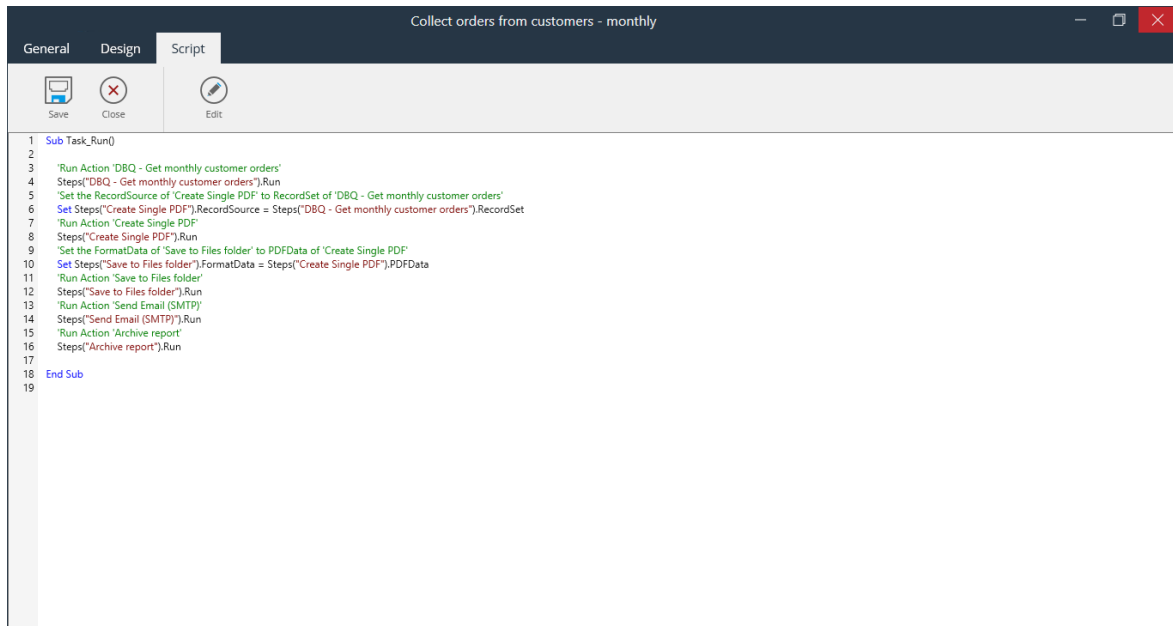


About the Help Tab

The **Help** tab displays help for that tool or tab that is currently active.

About the Script Tab

The **Script** tab displays the actual VBScript used to run the task.



Use **Edit** to adjust the script as required; however, it is not recommended you do so unless instructed by a Codeless Platforms partner as you cannot use the **Design** tab again after changing to scripting mode.

About the Task Options Interface

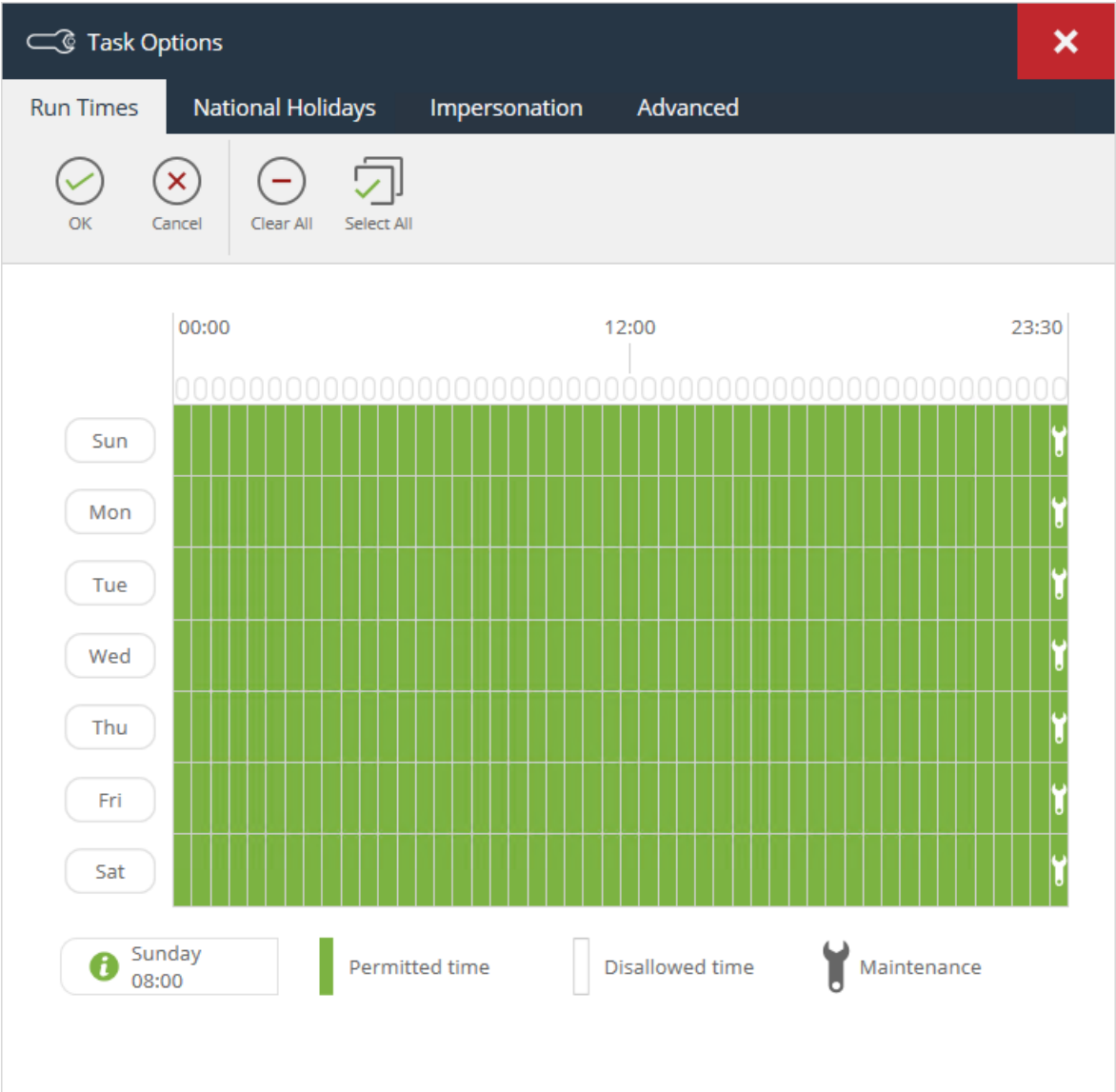
Task Options allow you to control when and how a specific task is run. These include:

- ▶ Setting valid run times — see [About the Run Times Tab](#) and [About the National Holidays Tab](#)
- ▶ Setting the user that runs the task — see [About the Impersonation Tab](#)
- ▶ Setting task disable, time-out, and concurrent instance rules — see [About the Advanced Tab](#)

You open the Task Options interface by clicking  (**Options**) in the task design's **General** tab.

About the Run Times Tab

Use the **Run Times** tab to specify the times of the day and days of the week when the task can run.



Each time block represents 30 minutes; each day has 48 blocks. Green blocks indicate allowed task run time, with white blocks indicating the times when the task cannot run. Those blocks containing a spanner indicate when maintenance is scheduled to run on the BPA Platform server. By default, tasks do not run while maintenance is being run. If a task is triggered to run during this time, whether automatically or manually, run-time is delayed until maintenance has completed, whatever time that is. Note that maintenance run-times are set globally and cannot be overridden for individual tasks — see [About the Run Times and Maintenance Tab](#).

To select / clear a timeslot, click the relevant box.

To select / clear the same timeslot for all days, click the relevant oval box at the top of the grid.

To select / clear a whole day, click the relevant label.

Click and hold to select multiple consecutive timeslots.

About the National Holidays Tab

Use the **National Holidays** tab to specify which public holidays this task does not run on. At the time of writing, you cannot specify the actual date; instead, you must choose which group of holiday to use.

Task Options

Run Times

National Holidays

Impersonation

Advanced

OK

Cancel

Prevent task run times for these National Holidays:

☐ England and Wales

☐ Northern Ireland

☐ Scotland

Holiday groups must be added first. You do this in BPA Platform's global options — see [About the National Holidays Tab](#).

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About the Impersonation Tab

Impersonation is where the BPA Platform server "impersonates" a Windows domain user, enabling it to access remote network locations, such as databases, files, or printers.

Why is this needed? Tasks are run using the Windows **Local System** account. This account typically does not have sufficient network access rights for such resources, resulting in failed tasks. By impersonation a valid Windows domain user, such remote resources are available to the task. Note that this only applies at task run-time; if you are logged into the BPA Platform client as a Windows domain user, or even the computer hosting BPA Platform itself, this makes no difference to the account used by running tasks.

Two types of impersonation exist:

- ▶ Global — Applies impersonation to all tasks
- ▶ Task — Applies impersonation to a single task

Where global- and task-level impersonation exists in the same BPA Platform installation, task-level impersonation overrides global.

Use the **Impersonation** tab to set the impersonated user for this task only.

NOTE: Only Windows users can be selected as impersonation users; you must ensure the machine hosting this instance of BPA Platform is logged into the same domain and has access to Active Directory.

Task Options

Run Times National Holidays **Impersonation** Advanced

OK Cancel

Run Task as Windows User

☐ Specify User

User Name

Domain

Password

About the Advanced Tab

Use the **Advanced** tab to handle automatic disabling of tasks, debug entries, and other such advanced features.

Task Options

Run Times

National Holidays

Impersonation

Advanced

OK

Cancel

Identification

Task ID: 2

Task Debug

☐ Enable Debug

Maximum Concurrent Instances

☒ Single Instance

☐ Multiple Instances 2

☐ Unlimited Instances

Automatic Disabling

☐ Auto-disable Task on a number of consecutive failures

1

Consecutive failures

Task Timeout

☐ Kill Task After 1 Day(s)

Debugging a Task

From time-to-time, our Support Desk may require extra information from a task run to help diagnose a problem. Select **Enable Debug** to log extra information to the Event Log. You must ensure you clear the selection when no longer needed as it creates long, verbose entries in the Log which can take up valuable database space.

Running Tasks Concurrently

If a task is queued to run multiple times in the same time period, whether by being manually run or via a trigger event, it must wait for the original task run to complete before the next one starts by default. If required, you can have the task instances run concurrently. From the **Maximum Concurrent Instances** pane, select one of the following:

- ▶ **Multiple Instances** — Specify the number of task instances that can occur at the same time
- ▶ **Unlimited Instances** — There is no limit to the number of task instances that can occur at the same time

Automatically Disabling Tasks

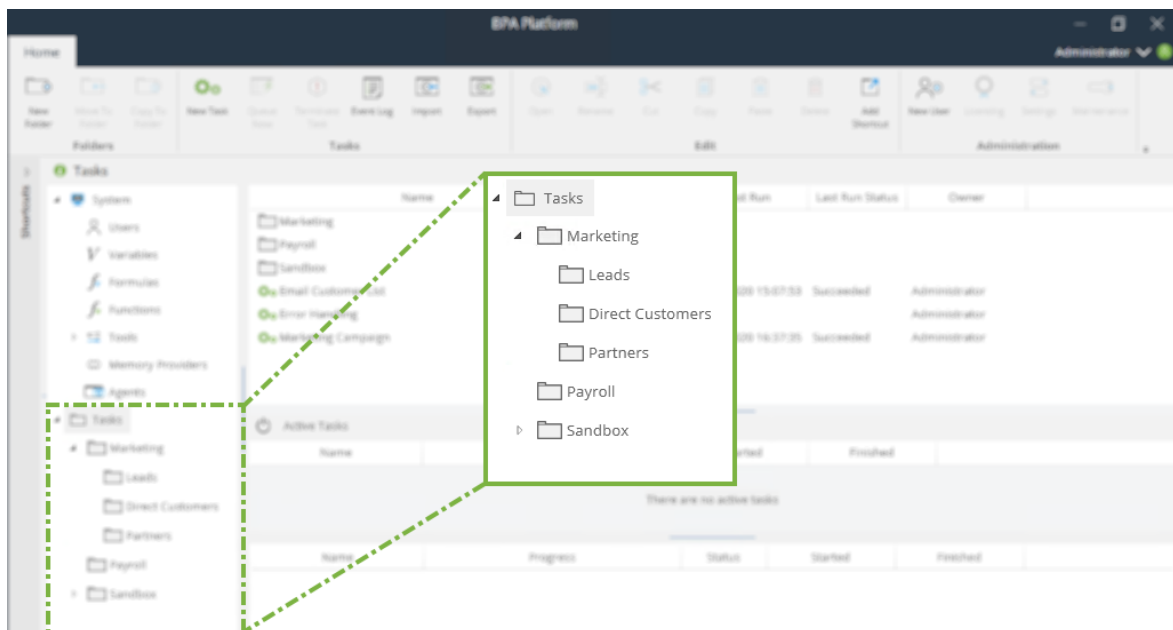
If required, you can have a task disable itself when it fails to run after a specific number of times for whatever reason. From the **Automatic Disabling** pane, enable **Auto-disable Task on a number of consecutive failures** and specify the number below.

Setting Task Time-Outs

From time-to-time, a task may continually process rather than completing; this can take up processing resources. To prevent such scenarios occurring, from the **Task Timeout** pane enable **Kill task after** and specify the number of **Day(s), Hour(s), Minute(s), or Second(s)** the task can run for before being terminated.

Using Task Folders

We recommend you group your tasks into folders for easier management. Note that there is no limit for the level of sub-folders you can create.



Setting Permissions for Task Folders

If required, you can set permissions for user access to the task folder.



New users are given full access:

- ▶ **Full Control** — Users can create sub-folders and tasks, and remove the same from this folder
- ▶ **Visible** — The folder and its contents are displayed to the user when clicked
- ▶ **Create Folder** — Users can create new sub-folders in this folder
- ▶ **Create** — User can create tasks in this folder
- ▶ **Read** — Users can only read tasks in this folder
- ▶ **Execute** — Users can manually run (all) tasks in this folder (right-click the task and select **Queue Now**)
- ▶ **Edit Own** — Users can only edit those tasks and sub-folders they have created in this folder
- ▶ **Edit All** — Users can edit any task or sub-folder created in this folder
- ▶ **Delete Own** — Users can only delete tasks and sub-folder they have created in this folder
- ▶ **Delete All** — Users can delete any task or sub-folder created in this folder














About BPA Platform Tools









Tools are used to create steps in a task, which are then linked together to form the "task plan". Steps expose and consume information each other in different ways depending on their specific purpose.

The following BPA Platform tools are available to you to create tasks (note that some tools appear in multiple tool categories):

Icon	Tool Name	Tool Category
	Applications Platform Connector	Data Connectors
	Call COM Object	Execute

Icon	Tool Name	Tool Category
	Call Stored Procedure (OLEDB)	Input, Data Connectors, Output, and Execute
	Call Task	Execute
	Convert Recordset to XML	Format
	Convert XML to Recordset	Format
	Create Workflow Job	Format
	Database Query (ODBC)	Input and Data Connectors
	Database Query (OLEDB)	Input and Data Connectors
	Decision	General
	Email Trigger (SMTP)	Event
	File Management	General
	Filter Data	General
	Format as Flat File	Format
	Format as HTML	Format
	Format as HTML Pro	Format

Icon	Tool Name	Tool Category
	Format as Text	Format
	Import Flat File	Input
	Import XML Document	Input
	Microsoft SQL Server Trigger	Event
	Oracle Trigger	Event
	Parse Text	General
	Print Document	Output
	Retrieve Text Message	Input
	Run Crystal Report	Format
	Run External Program	Execute
	Run Microsoft Reporting Services	Format
	Run Microsoft Word (Merge)	Format
	Run VBScript	Execute
	Save File	Output

Icon	Tool Name	Tool Category
	Schedule	Event
	Send Email (SMTP)	Output
	Send Fax (Tobit)	Output
	Send Text Message	Output
	Transfer File (FTP)	Output
	Transform Data	Format
	Web Service Connector	Data Connectors
	Workflow Job Trigger	Event

Each tool's white paper is available to download from

<https://www.codelessplatforms.com/community/resources/white-paper-library/>.

About BPA Platform Agents

BPA Platform agents are a distributed component residing on another machine. Agents monitor for occurrences of an event for a particular process. When such an event is identified, the agent notifies the BPA Platform server to queue the relevant task(s). Related data can also be passed to the server for the tasks.

Agent	Description
<i>Email Trigger (SMTP) Agent</i>	<p>The Email Trigger (SMTP) Agent works with the Email Trigger (SMTP) tool to process incoming SMTP messages. It can run on the same or separate computer to the server. It launches tasks when messages arrive that match filter rules previously configured within a Email Trigger (SMTP) step for a task.</p> <p>It interfaces with Microsoft Virtual SMTP Server which is part of the Microsoft Internet Information Services. When a message is received by the Virtual SMTP Server, a copy of the message is passed to the Agent which in turn decides if there are any tasks to run.</p>
<i>Microsoft SQL Server Trigger Agent</i>	<p>The Microsoft SQL Server Trigger Agent is a service that sits between BPA Platform and SQL Server. It is installed onto any SQL Server instance and is responsible for both maintaining the triggers in SQL Server and for handling the running of a task once a trigger has been fired.</p> <p>When a SQL Server trigger is fired, a connection is made to the Agent service which then launches the relevant task.</p> <p>BPA Platform also supports the use of triggers on a SQL Server failover cluster, enabling the firing of triggered tasks from whichever server in the cluster is active at the time. An Agent must be installed on each node, starting with the active node. However, because all are monitoring the same SQL Server instance, the BPA Platform client sees only a single Agent registration.</p>
<i>Oracle Trigger Agent</i>	<p>The Oracle Trigger Agent is a service that sits between BPA Platform and an Oracle server. It can be installed onto any Oracle Server. It is responsible for both maintaining the triggers in Oracle Server, and for handling the running of a task once a trigger has been fired.</p> <p>When an Oracle trigger is fired, a connection is made to the agent service which then launches the applicable task.</p>
<i>Schedule Agent</i>	<p>The Schedule Agent is a service that resides on the BPA Platform server (BPA Platform Schedule Agent) and, unlike the other agents, is automatically included in the server installation. The agent is responsible for both maintaining task schedules and for handling the running of tasks at the scheduled date and time. When a schedule is reached the agent service launches the applicable task.</p>
<i>Workflow Job Trigger Agent</i>	<p>The Workflow Job Trigger Agent is a Windows service which resides on one or a number of Web Server computers. It connects to and monitors all configured Create Workflow Job and Workflow Job Trigger steps on its associated BPA Platform server. These are retrieved and cached locally.</p> <p>The Workflow Job Trigger Agent checks the IIS server and verifies that the currently configured folders can handle Workflow Jobs if requested.</p>

About BPA Platform Variables

Variables are created and used extensively throughout BPA Platform and can either have fixed values or values that are dynamically populated when a task is run.

Two classes of variable can be created.

About Global Variables

Global variables are available for all tasks in this BPA Platform installation. Only users with **System Administrator** or **Variable Administrator** rights can create global variables. However, once created, global variables can be used by any task.

FileName

General

Details

OK

Cancel

Variable Details

Type

Variant

Parameter

Encrypted

Array

Parameter Attributes

Scope

Global

Variable Value

Current Value

C:\Files

New Value

C:\Files

Set

About Task Variables

Task variables are only available for the specific task they are created for. Users with **Task Administrator** rights can create task variables.

EmailCxn

General

Details

OK

Cancel

V

Variable Details

Type

Variant

☒ Parameter

☐ Encrypted

☐ Array

Parameter Attributes

In, Out

Scope

Task Instance

V

Variable Value

Default Value

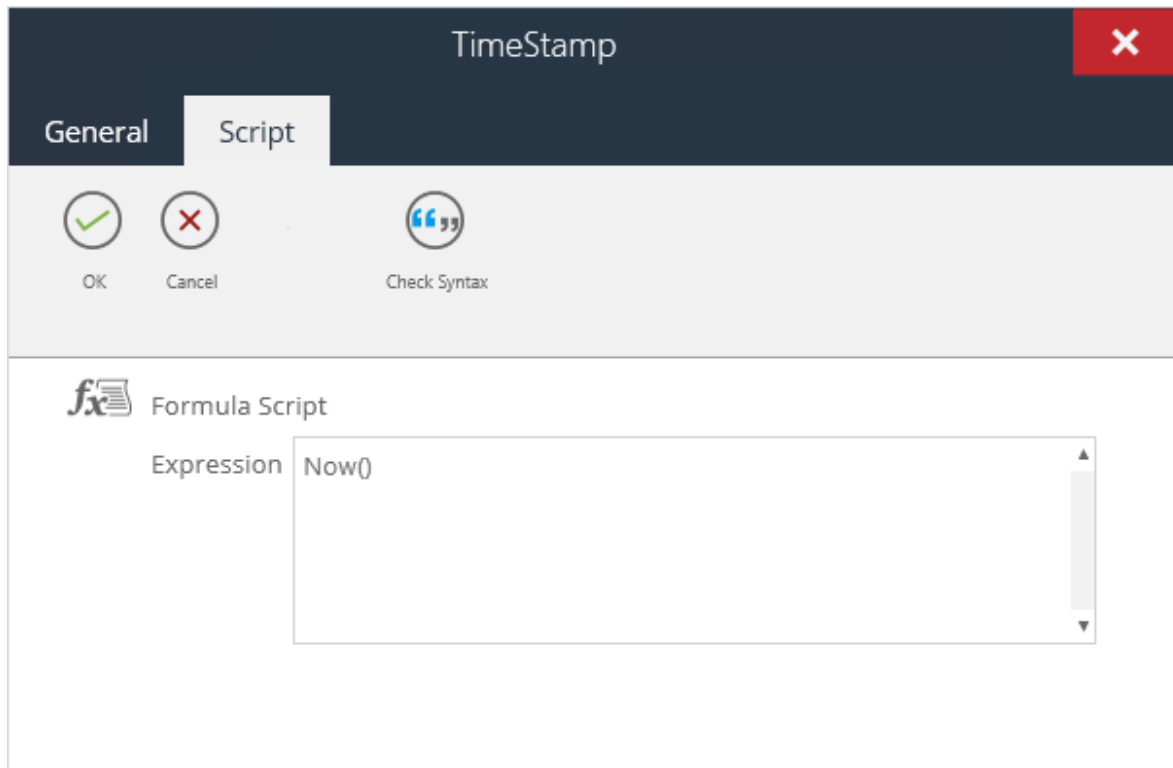
Internal

When exporting tasks, task variables are automatically included.

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About BPA Platform Formulas

Formulas are VBScript expressions that return a value taken from outside BPA Platform, such as a date or timestamp.



Two classes of formula can be created.

About Global Formulas

Global formulas are available for all tasks in this BPA Platform installation. Only users with **System Administrator** or **Formula Administrator** rights can create global formulas. However, once created, global formulas can be used by any task.

About Task Formulas

Task formulas are only available for the specific task they are created for. Users with **Task Administrator** rights can create task formulas.

When exporting tasks, task formulas are automatically included.

About BPA Platform Functions

Functions execute a series of VBScript statements that return a value.

Convert_Date_YYYY_MM_DD

GeneralParametersScript

OK

Cancel

Remove

Add

Edit

Move Down

Move Up

Function Parameters

Name	Attributes
TheDate	ByVal

Convert_Date_YYYY_MM_DD

GeneralParametersScript

OK

Cancel

Check Syntax

Function Script

```
' Convert_Date_YYYY_MM_DD
Function Convert_Date_YYYY_MM_DD(ByVal TheDate)

    If TheDate = "" Then
        strDate = CDate(Date)
    Else
        strDate = CDate(TheDate)
    End If

    strDay = DatePart("d", strDate)
    strMonth = DatePart("m", strDate)
    strYear = DatePart("yyyy", strDate)
    If strDay < 10 Then
        strDay = "0" & strDay
    End If
```

Two classes of function can be created.

About Global Functions

Global functions are available for all tasks in this BPA Platform installation. Only users with **System Administrator** or **Function Administrator** rights can create global functions. However, once created, global variables can be used by any task.

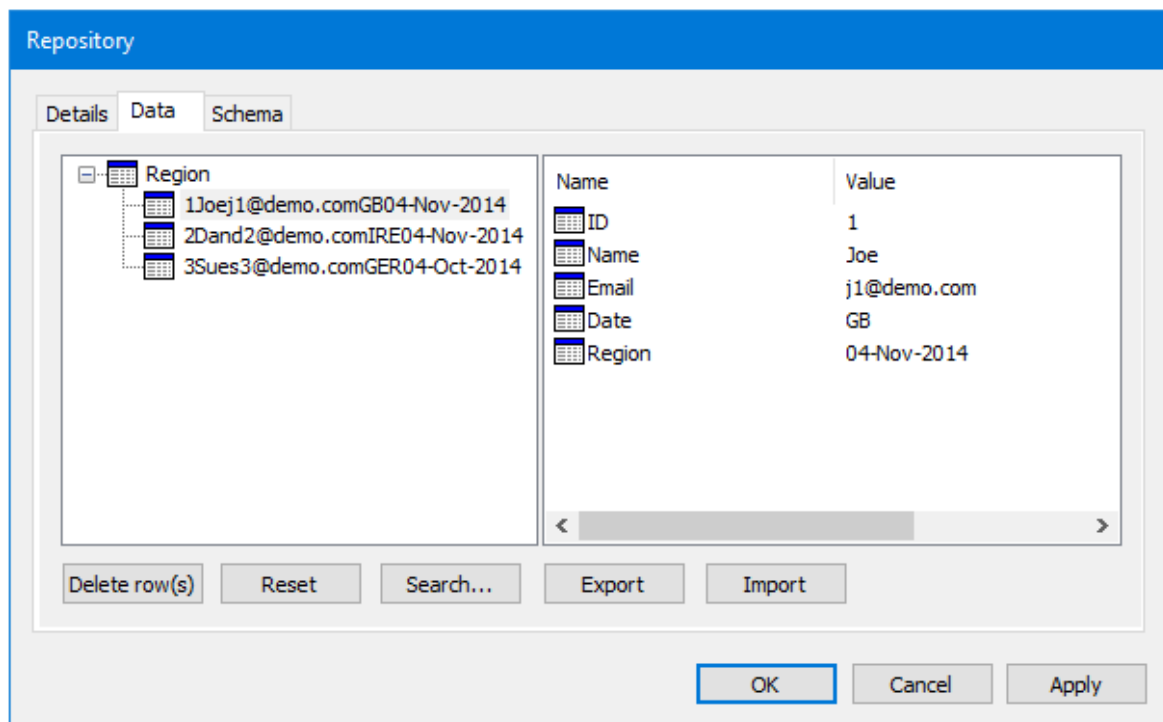
About Task Functions

Task functions are only available for the specific task they are created for. Users with **Task Administrator** rights can create task functions.

When exporting tasks, task functions are automatically included.

About Repositories

Repositories are used by the Internal Memory feature to store memorised data in BPA Platform's proprietary database format.



You can edit the repository's data and schema independently of the task that creates them.

You can also create repositories independent of a task which can then be used by multiple tasks.

Example Use Cases

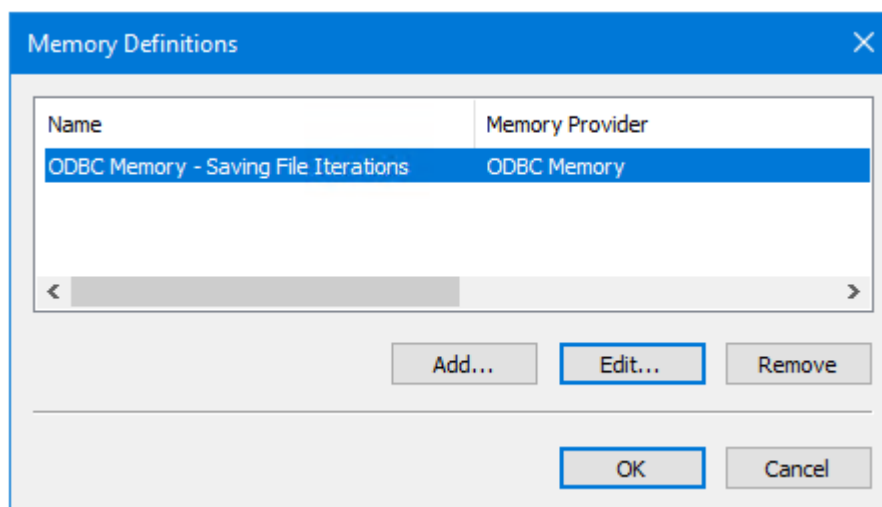
The following are just a few examples of how exposing memorised data in a Repository can be used:

- ▶ A Repository can be exported and imported as a `.xml` file which retains all Repository information, including the hierarchical data structure.
- ▶ Repository data and schema information can be exported or imported as a `.csv` file.
- ▶ A Repository can be selected for use in any task so that different columns are populated from different data sources.
- ▶ Repository data values can be manually edited, rows deleted or the Repository "reset" by deleting all the data.
- ▶ The Repository schema can be edited to change column details, insert or delete columns to match the data source, and even insert child rows in the schema to create a hierarchical data structure.
- ▶ Using a Filter Data step, the current Repository data for a task can be compared to a new recordset produced at task run-time to filter the data passed to the Output step for processing. A Repository search allows rows in a selected schema to be returned and displayed.
- ▶ An advanced Repository search enables single or multiple search expressions to be constructed.

About Memory Definitions

Memory is used to store specific task data, such as recordset data, variables, and formulas. You use memory definitions to ensure tasks only run when certain conditions have been met based on the memorised data. For example, where customer credit limit notifications are stored in memory, you can have the Send Email (SMTP) step check the memorised data to ensure the notification is not resent to the same customer.

Users must have permission to use **Memory Definitions**.



You can create any number of memory definitions.

The following memory definition types are available:

About Internal Memory

The Internal Memory feature uses a Repository to memorise task data, by mapping fields from the recordset against Repository fields.

The screenshot shows the 'Internal Memory' configuration window. It has a blue title bar. Inside, there's a 'Name' field with 'Row Memory' entered. Below it is a 'Repository Name' field with 'Tasks\Transform Data\Save File - 2' and a 'Select Repository...' button. A section titled 'Items to Memorise' contains a table with columns: Repository Column, Value, Key, Stored, Display, and Encrypted. Below the table are four radio button options: 'Do not memorise' (with a 'Remove' button), 'Memorise information for each row processed' (selected), 'Memorise information for each row processed based on a rule' (with an 'Edit...' button), and 'Memorise one-off summary information'. There's also a 'Use Transactions' checkbox with three sub-options: 'Commit Repository Rows on Success', 'Commit Repository Rows on Failure', and 'Commit Repository Rows based on a rule' (with an 'Edit...' button). At the bottom are 'OK' and 'Cancel' buttons.

Features include:

- ▶ The current Repository data for a task may be compared to a new recordset produced at task run-time to filter the data passed to the Output Step for processing
- ▶ Repository data can be exported as XML or CSV for backup purposes or use in other applications
- ▶ Previously exported XML files can be imported into BPA Platform
- ▶ Previously exported or new CSV files can be imported into BPA Platform
- ▶ A Repository may be selected for use in any task so that different columns may be populated from different data sources
- ▶ Repository data values can be edited, rows deleted, or the Repository "reset" by deleting all the data

- ▶ The Repository schema may be edited to change column details, insert columns or delete columns to match the data source

About ODBC Memory

You use the ODBC memory feature to create a definition that memorises data for a selected table, columns, or both, from a specified ODBC data source at task run-time. Instead of mapping the data into a Repository, the data is written back into the applicable table.

ODBC Memory

Memory Options

Name: ODBC Memory

ODBC Data Source: Connection to Training DB

Table: ACC_MGR_SALES Browse...

Columns:

Name	Value	Key
ORDER_NUMBER	(not mapped)	
ORDER_DATE	(not mapped)	
DESPATCH_STATUS	(not mapped)	
TRANSIT_STATUS	(not mapped)	
ACCOUNT_REF	(not mapped)	
NAME	(not mapped)	

Edit SQL... Clear

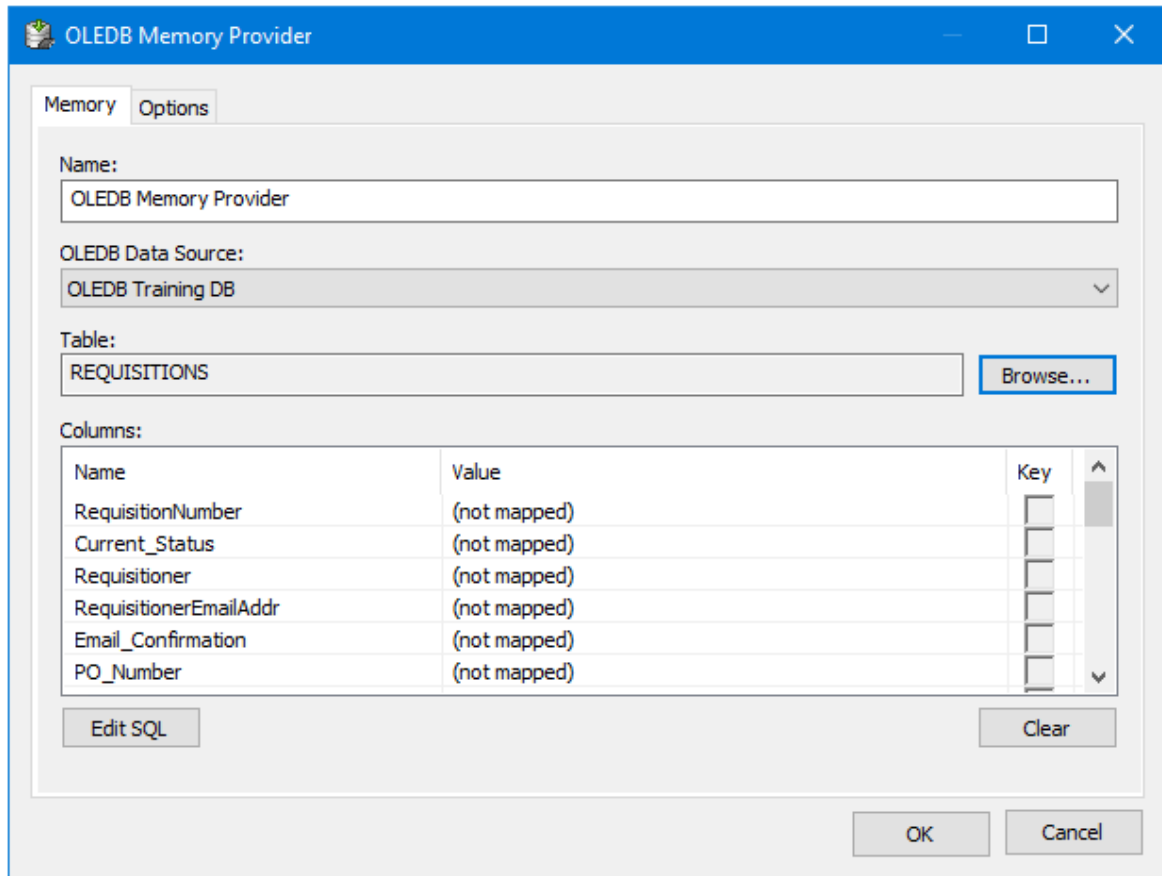
OK Cancel

Features include:

- ▶ Memorise data using an compliant data source
- ▶ Transaction support
- ▶ Memorise based on rules created in VBScript

About OLEDB Memory

You use the OLEDB memory feature to create a definition that memorises data for a selected table, columns, or both, from a specified OLEDB data source at task run-time. Instead of mapping the data into a Repository, the data is written back into the applicable table.



The screenshot shows the 'OLEDB Memory Provider' configuration window. It has two tabs: 'Memory' and 'Options'. The 'Memory' tab is active. The 'Name' field is set to 'OLEDB Memory Provider'. The 'OLEDB Data Source' is set to 'OLEDB Training DB'. The 'Table' field is set to 'REQUISITIONS', with a 'Browse...' button next to it. Below the table field is a 'Columns' section with a table listing columns and their values. The columns are: Name, Value, and Key. The values for the first five columns are '(not mapped)'. The 'Key' column has a checkbox next to it. There are 'Edit SQL' and 'Clear' buttons at the bottom of the 'Columns' section. At the bottom of the window are 'OK' and 'Cancel' buttons.

Name	Value	Key
RequisitionNumber	(not mapped)	<input type="checkbox"/>
Current_Status	(not mapped)	<input type="checkbox"/>
Requisitioner	(not mapped)	<input type="checkbox"/>
RequisitionerEmailAddr	(not mapped)	<input type="checkbox"/>
Email_Confirmation	(not mapped)	<input type="checkbox"/>
PO_Number	(not mapped)	<input type="checkbox"/>

Features include:

- ▶ Memorise data using an compliant data source
- ▶ Transaction support
- ▶ Memorise based on rules created in VBScript

About Call Stored Procedure Memory

You use the Call Stored Procedure memory feature to create a definition that memorises data for a selected table, columns, or both, from a specified OLEDB data source by executing a stored procedure at task run-time. Instead of mapping the data into a Repository, the data is written back into the applicable table. The stored procedure is responsible for storing the parameters in the required format.

Transaction options allow a procedure execution to only be committed when criteria has been met, such as a successful or failed iteration, or based on a rule.

Call Stored Procedure Memory

Memory Options

Name: Call Stored Procedure Memory (OLEDB)

OLEDB Data Source: OLEDB Training DB

Stored Procedure: SP_write_account_mgrs_sales;1 [Browse...](#)

Parameters Mapping:

Name	Type	Attributes	Value
@order_number	DBTYPE_I4	Input	NULL
@order_date	DBTYPE_WCHAR	Input	NULL
@despatch_status	DBTYPE_WCHAR	Input	NULL
@transit_status	DBTYPE_WCHAR	Input	NULL
@account_ref	DBTYPE_WCHAR	Input	NULL
@name	DBTYPE_WCHAR	Input	NULL
@address_1	DBTYPE_WCHAR	Input	NULL
@address_2	DBTYPE_WCHAR	Input	NULL

[Refresh](#) [Clear](#)


[OK](#) [Cancel](#)

Features include:

- ▶ Memorise data using an compliant data source
- ▶ Transaction support
- ▶ Memorise based on rules created in VBScript

About Running Tasks

You create new tasks by either:

- ▶ Clicking  **New Task**.
- ▶ Right-clicking on **Tasks** or a child folder and selecting **New Task**

If a task folder structure is in place, you can either create the task directly in the relevant folder or in the parent **Tasks** folder and move it after creation — users must have **Edit** permissions for that folder.

The [task interface](#) opens.

To run a task manually, you do the following:

1. Log into BPA Platform.
2. From the resources tree, expand the **Tasks** folder structure and locate the relevant task.
3. From the items list (right), right-click on the required task, and select **Queue Now**.

If required, you can select more than one task (hold down **CTRL** and select each task in turn) and queue them at the same time.

Alternatively, you can use the following methods to automatically run a task:

- ▶ Use the Schedule tool to execute tasks at a specific date and time or on a regular schedule
- ▶ Use other **Event** tools to trigger a task to run

For a detailed description of how to create a task, see [How to Create a Basic Task](#).

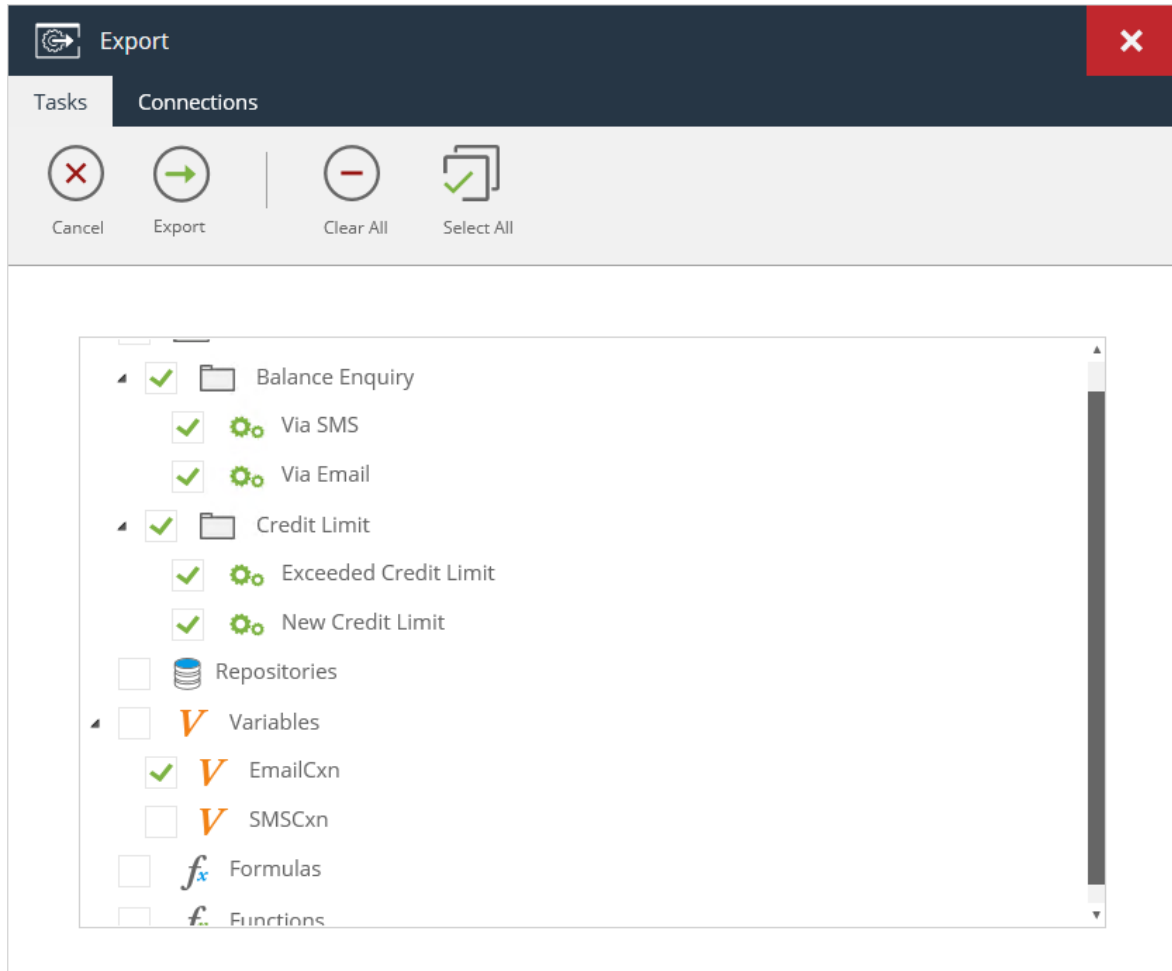
Task Practises to Avoid

The following recommendations are made about task practises to avoid:

- ▶ Do not create tasks that contain multiple **Event** steps (see [Tools and Steps](#)) that initiate different parts of the task flow.
- ▶ Do not create tasks that contain multiple unconnected task flows.
- ▶ Do not create tasks that daisy-chain unrelated activities from a single event, such as a single Schedule step initiating tasks involving unrelated information, people, or systems.
- ▶ Do not create looping tasks, where there is no explicit endpoint. Tasks must have a definitive start and endpoint for a single process flow.

Exporting Tasks and Task Data

You can export your BPA Platform data for use in other BPA Platform installations. BPA Platform files have a **.TKS** or **.CONNECTION** file extension. **.TKSS** files are locked BPA Platform solutions — refer to your Codeless Platforms partner.



Click  (**Export**) in the **Tasks** toolbar to create the files.

What Can Be ?

NOTE: User accounts and Agent configurations (Microsoft SQL Server Trigger Agent, Email Trigger (SMTP) Agent, and Workflow Job Trigger Agent) are not included in the tasks or connection files.

Objects Included in the .TKS File

▶ Task folders and contents

Sub-folders are automatically included when the parent folder is selected. If sub-folders are not required, you can clear the selection before exporting.

▶ Tasks and associated properties

Associated task data is included when a task is exported, that is, task variables, task formulas, task functions, memory definitions, and repositories as well as the task process itself.

▶ Repositories

Note that repositories can be separately exported through the **Repository** interface (see [Exporting the Repository Data Set](#)). This method creates an **.XML** or **.CSV** file instead.

▶ Global formulas

▶ Global functions

▶ Global variables

Objects Included in a .CONNECTION File

▶ Any global connection or configuration created in your BPA Platform instance

NOTE: When exporting the global configuration for the Call Task tool, any users created specifically for this tool are not included in the export. These must be recreated manually in the new BPA Platform instance before importing the **.CONNECTION** file.

Importing Tasks and Task Data

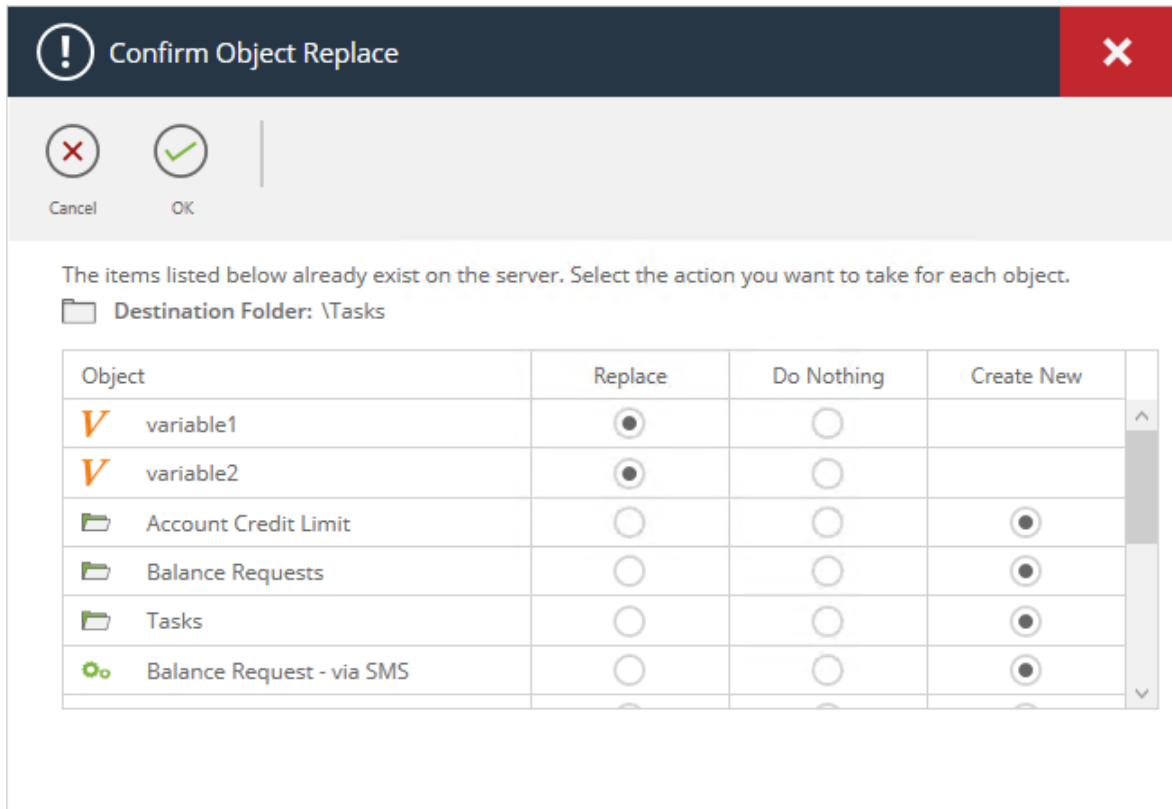
Exported BPA Platform data can be imported into any BPA Platform instance running the same or higher version than it was created in. This feature is particularly useful where a sandbox environment is used for testing purposes before going live. Exported BPA Platform files have a **.TKS** or **.CONNECTION** file extension. **.TKSS** files are locked BPA Platform solutions — refer to your Codeless Platforms partner.

To import a BPA Platform file, do one of the following:







- ▶ Click  (**Import**) in the **Tasks** toolbar to load the files into BPA Platform

- ▶ Right-click on any folder in the top-level **Tasks** folder and select **Import** — if doing this method when importing the tasks file, be aware that

If any object in the tasks or connection file already exists in the BPA Platform instance, you are prompted for which action to take (**Replace**, **Do Nothing**, or **Create New** — this appends **(1)** to the object name after import):



The dialog box is titled "Confirm Object Replace" with a dark blue header bar containing a white exclamation mark icon and a red close button. Below the header is a light gray bar with "Cancel" (with a red X icon) and "OK" (with a green checkmark icon) buttons. The main content area has a light gray background and contains the text: "The items listed below already exist on the server. Select the action you want to take for each object." Below this text is a label "Destination Folder: \Tasks" with a folder icon. A table follows with the following data:

Object	Replace	Do Nothing	Create New
 variable1	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
 variable2	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
 Account Credit Limit	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
 Balance Requests	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
 Tasks	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
 Balance Request - via SMS	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

About BPA Platform User Accounts

During initial installation, only the Administrator account is created (which cannot be removed). This account has full access to all BPA Platform features. From then on, any account with **System Administrator** or **Security Administrator** enabled can create, edit, or delete BPA Platform user accounts.

About the General Tab

Use the **General** tab to enter the credentials for this user account:

The screenshot shows the 'New User Properties' dialog box with the 'General' tab selected. The dialog has a dark blue header with a user icon, a gear icon, the title 'New User Properties', and a red close button. Below the header is a tab bar with 'General', 'Server Roles', 'Tool Access', 'Memory Access', and 'Script Objects'. The 'General' tab contains a toolbar with icons for OK, Cancel, Disable Account, and Enable Account. The 'New User' section has input fields for 'User Name' (with a 'Browse' button) and 'Email Address'. The 'Authentication' section has two options: 'Windows Authentication' (selected) and 'BPA Platform Authentication'. Under 'Windows Authentication' is a 'Domain' input field. Under 'BPA Platform Authentication' are 'Password' and 'Confirm Password' input fields.

BPA Platform supports two types of user authentication:

- ▶ **Internal** — Internal accounts are created in and for BPA Platform only.
- ▶ **Windows** — Windows accounts are initially created in your Microsoft[®] Active Directory[®] database. To allow your users to use their Windows credentials to access BPA Platform, you must add those credentials to BPA Platform as well.

If you need to disable an existing user account or create an inactive one, for pending users for example, use the **Disable Account** / **Enable Account** slider to switch between the two.

Creating a Local BPA Platform Account

To create a local BPA Platform account, configure the following:

- ▶ **User name** — Provide a unique username. All alphanumeric characters are supported.
- ▶ **Email address** — Optional. An email address is only required if this user is to receive server notifications and alerts (see [About the Notifications Tab](#)).
- ▶ **Authentication** — Enable **BPA Platform Authentication**.
- ▶ **Password** — Enter a password that adheres to your organisation's security policies. **Confirm** the password.

Creating a Windows BPA Platform Account

- ▶ **User name** — Click **Browse** to select the Windows account.
- ▶ **Email address** — Optional. An email address is only required if this user is to receive server notifications and alerts (see [About the Notifications Tab](#)).
- ▶ **Authentication** — Enable **Windows Authentication**.
- ▶ **Domain** — If the Windows user account is in a different domain to where the BPA Platform server is located, enter the domain here.

About the Server Roles Tab

Server roles determine which features of BPA Platform a user has access to. There are nine server roles you can assign to a user:

New User Properties

General

Server Roles

Tool Access

Memory Access

Script Objects

OK

Cancel

Disable Account

Enable Account

Server Role

Clear

Select All

☐ System Administrator

☐ Security Administrator

☐ Server Administrator

☐ Tool Administrator

☐ Repository Administrator

☐ Variable Administrator

☐ Formula Administrator

☐ Function Administrator

☐ Task Administrator

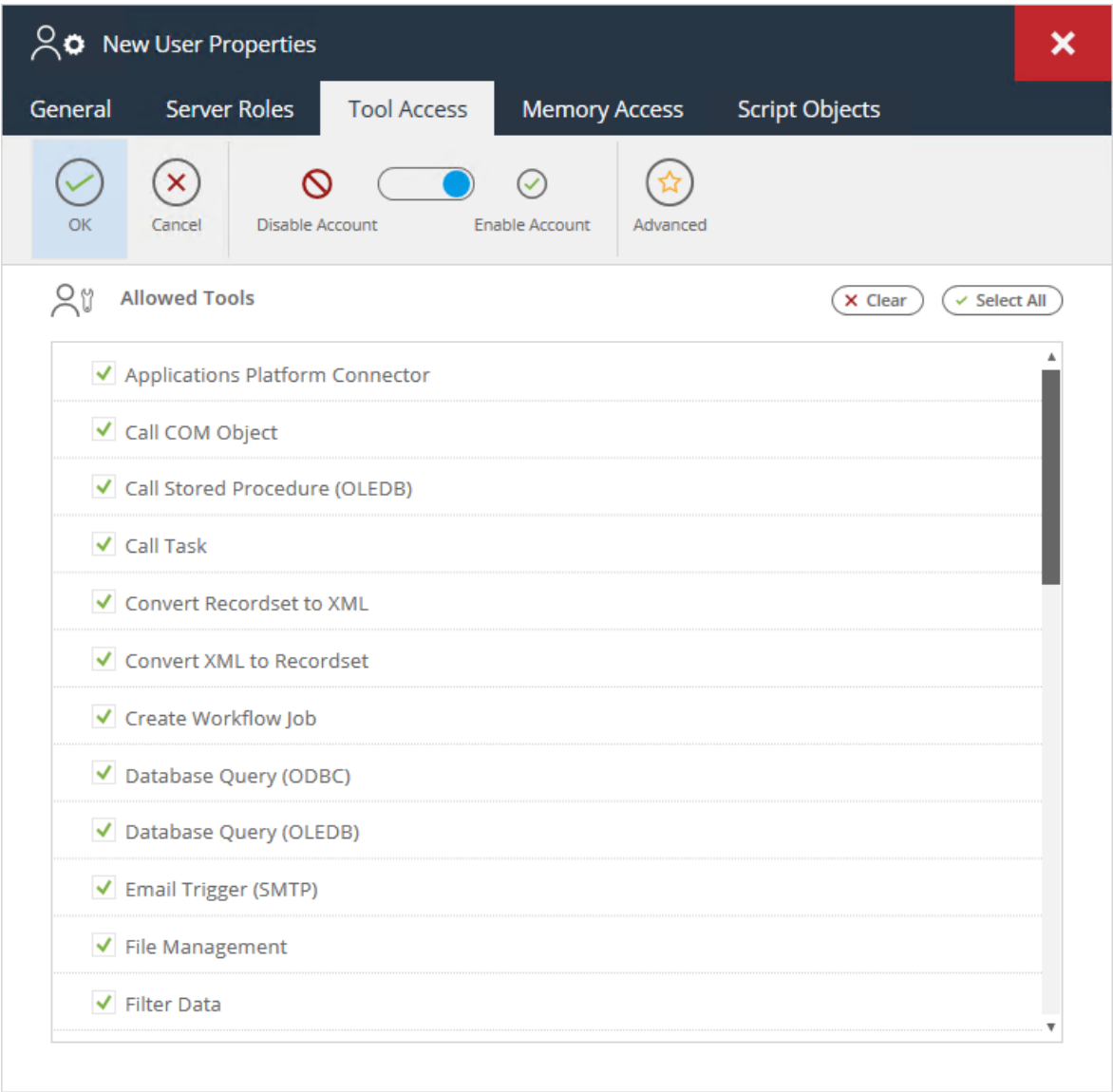
Note that selecting **System Administrator** selects all other roles.

NOTE: All user roles can access the Event Log.

Server Role	Feature Access
System Administrator	This is the highest level of server role. System administrators have access to all features listed below.
Security Administrator	Security administrators create BPA Platform users. Note that only System administrator-level users can maintain existing user accounts.
Server Administrator	Server administrators maintain BPA Platform, including: <ul style="list-style-type: none"> ▶ Managing licences ▶ Managing server global options ▶ Running maintenance
Tool Administrator	Create and maintain global configuration for allowed tools (Tool Access tab), memory providers (Memory Access tab), and agents (Tool Access tab).
Repository Administrators	Create and maintain repositories.
Variable Administrator	Variable Administrators create and maintain global variables. Task-level variables are only available if users are Task Administrators as well.
Formula Administrator	Formula Administrators create and maintain global formulas. Task-level formulas are only available if users are Task Administrators as well.
Function Administrator	Function Administrators create and maintain global functions. Task-level functions are only available if users are Task Administrators as well.
Task Administrator	When logged in, Task Administrators only have access to the top-level Tasks folder. From here, they can: <ul style="list-style-type: none"> ▶ Create and maintain tasks containing allowed tools ▶ Open tasks created by other users — note that if access to a tool has not been granted to the logged in Task Administrator, steps using those tools cannot be opened ▶ Run tasks created by themselves and other users ▶ Enable / disable tasks owned by themselves and other users ▶ Create and maintain task folders ▶ Maintain folders created by other users that they have been granted permission to view ▶ Create and maintain task-level variables, functions, and formulas


About the Tool Access Tab


Use the **Tool Access** tab to specify which BPA Platform tool's global configuration this Task or Tool Administrator can access.

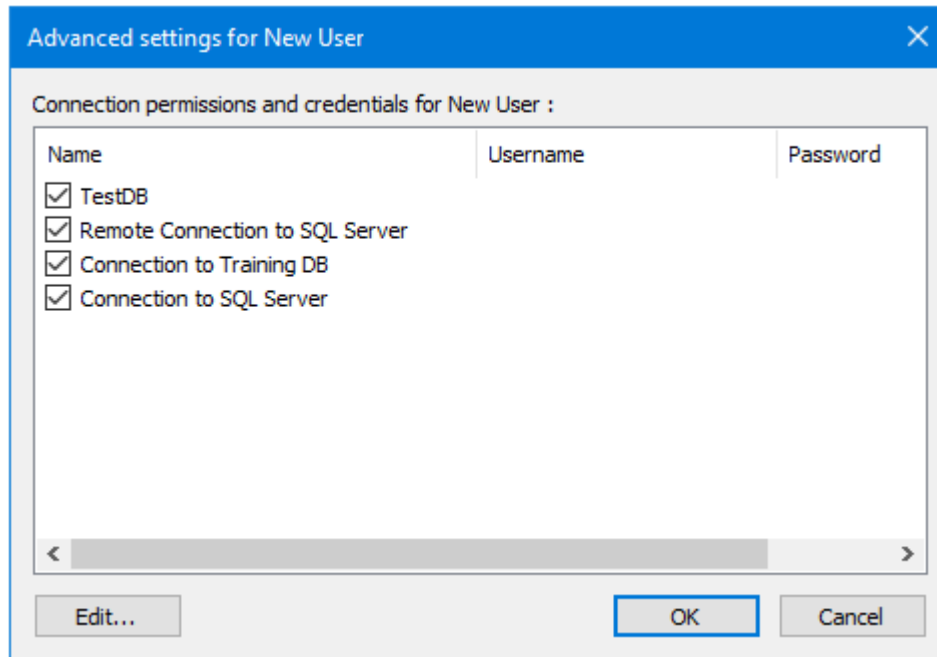


By default, all installed tools are available to all Task and Tool Administrators — clear the selection for those tools you don't want the user to access.

Advanced Database Tool Settings

For those tools that provide connections to external databases (Database Query (ODBC), Database Query (OLEDB), and Call Stored Procedure (OLEDB)), you can further customise user access. You do this by only allowing access to specific global connections created for that tool. If the tool has multiple connections created,  (**Advanced**) is active.

Click  — all global connections created for that tool are displayed.

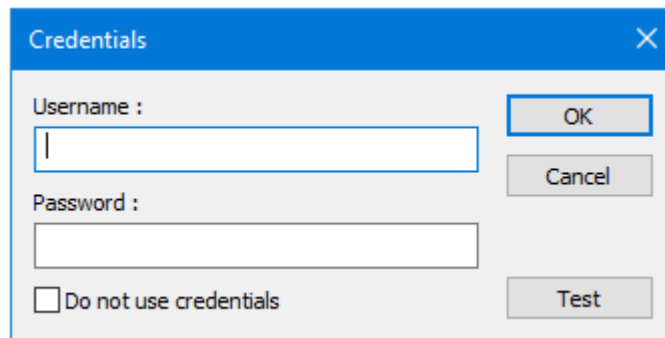


The dialog box titled "Advanced settings for New User" has a close button (X) in the top right corner. Below the title bar, the text "Connection permissions and credentials for New User :" is displayed. The main area contains a table with three columns: "Name", "Username", and "Password". The "Name" column lists four items, each with a checked checkbox: "TestDB", "Remote Connection to SQL Server", "Connection to Training DB", and "Connection to SQL Server". The "Username" and "Password" columns are empty. At the bottom of the dialog, there are three buttons: "Edit...", "OK", and "Cancel".

Name	Username	Password
<input checked="" type="checkbox"/> TestDB		
<input checked="" type="checkbox"/> Remote Connection to SQL Server		
<input checked="" type="checkbox"/> Connection to Training DB		
<input checked="" type="checkbox"/> Connection to SQL Server		

Clear the selection for those connections the user cannot access.

If your security policies dictate that this user must use different credentials to access the database, click **Edit**.



The dialog box titled "Credentials" has a close button (X) in the top right corner. It contains two text input fields: "Username :" and "Password :". Below the "Password :" field is a checkbox labeled "Do not use credentials". To the right of the input fields are three buttons: "OK", "Cancel", and "Test".

Provide the new credentials. Use **Test** to ensure the database can be reached.

About the Memory Access Tab

Use the **Memory Access** tab to dictate which memory provider's global configuration this user can access.

New User Properties

General

Server Roles

Tool Access

Memory Access

Script Objects

OK

Cancel

Disable Account

Enable Account

Advanced

Memory Access

Clear

Select All

☒ Call Stored Procedure Memory Provider

☒ Internal Memory

☒ ODBC Memory

☒ OLEDB Memory Provider

Only users who are **Tool Administrators** can access memory definitions.

For more information about using the memory feature, refer to the product help.

About the Script Objects Tab

The underlying language used to build the tasks is VBScript — go to the **Script** tab of an open task to view this. This script can be edited to tailor the task to further meet your organisational needs.

Use the **Script** tab to allow or prevent users from editing the VBScript.

New User Properties

General | Server Roles | Tool Access | Memory Access | **Script Objects**

OK | Cancel | Disable Account | Enable Account

Script Objects

Select which objects this user can create via CreateObjects in VBScript

- ☒ Any Object
- ☐ Objects Marked as Safe for Scripting
- ☐ Allow this User the use of System.GetObject() in Script
- ☐ Selected Objects

Remove Add

Using the Event Log

The Event Log provides complete accountability for all activity in BPA Platform, such as:

- ▶ BPA Platform server events
- ▶ Enabling / disabling of tasks
- ▶ Task creation
- ▶ Task errors
- ▶ Task run-time events
- ▶ User activity



Click  to open the Event Log.

Event Log

Actions

Export

Show all

Refresh


File

Filters

Source	Task ID	Task Instance	Category	Type	Description	Time	Event ID
Email Customer List [ID:...	2	56	Task	Information	Task run finished	29/01/2020 09:23:03	63
Email Customer List [ID:...	2	56	Task	Error	Error running script at line...	29/01/2020 09:23:03	62
Training DB	2	56	Task Step	Information	Driver reports 36 row(s) re...	29/01/2020 09:23:03	61
Training DB	2	56	Task Step	Information	Query executed OK	29/01/2020 09:23:03	60
Training DB	2	56	Task Step	Information	Connected successfully to...	29/01/2020 09:23:03	59
Training DB	2	56	Task Step	Information	Step Started.	29/01/2020 09:23:03	58
Email Customer List [ID:...	2	56	Task	Information	Task run started	29/01/2020 09:23:03	57
Task Runner	2	56	Task	Information	Task 'Email Customer List'...	29/01/2020 09:23:01	56
Email Customer List	2		Audit	Information	Task 'Email Customer List'...	29/01/2020 09:22:37	55
Email Customer List	2		Audit	Information	Task 'Email Customer List'...	29/01/2020 09:18:59	54
Security layer			Security	Information	Logon success for user 'ad...	29/01/2020 09:15:46	53
Security layer			Security	Information	Logon success for user 'ad...	29/01/2020 09:15:46	52
Database Integrity Chec...			System	Information	Note - Database Integrity...	28/01/2020 23:30:00	51

Double-click an entry to view the full details.

Filtering and Sorting the Event Log


You can also filter and sort the Event Log view as required — click  for the required column, for example, the **Type** column filter displays as

A↓
Z↓

Sort A to Z


Z↓
A↓

Sort Z to A

 Clear Filter

Text Filters

Search



☒ (Select All)

☒ Error

☒ Information

☒ Warning

OK

Cancel

If available, use the checkboxes to filter the event view or click **Number Filters** or **Text Filters** to add filter expressions:

A

Z

↓

Sort A to Z

Z

A

↓

Sort Z to A

⌵

⊕

Clear Filter

Text Filters

▼

Show rows where:

Equals

▼

▼

aA

☒ And

☐ Or

Equals

▼

▼

aA

OK

Cancel

Exporting the Event Log

If required, you can export the Event Log to a CSV file — click  .

NOTE: Even if a filter has been applied to your Event Log view, all available records since the last Event Log purge (see [About the Run Times and Maintenance Tab](#)) are exported.

About myBPAPatform

myBPAPatform is an ASP.NET web application which can be optionally installed onto any available Web Server.

When Workflow Jobs are created, each one is assigned to a specific User, Users or User Groups for completion and stored on a Web Server. There are then two methods by which they can be made available to the specific user(s) for actioning.

The first method is through the delivery to the user(s) of a hyperlink to the Workflow Job web form URL and this is nominally contained within an email message. When the user clicks on the link the Workflow Job web form will open in a web browser. The only drawback of this method is that users cannot see all of the Workflow Jobs that have been assigned to them.

The second method is to utilise myBPAPatform. This is a fully featured web application that provides users with a secure login method and through a comprehensive user interface allows users to manage all WorkFlow Jobs assigned to them.

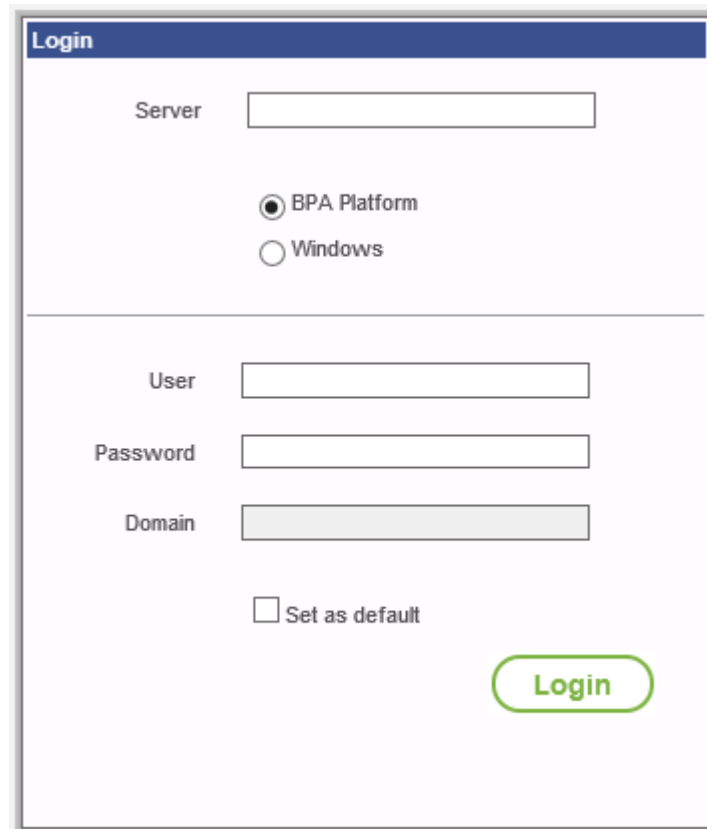
NOTE:

- ▶ myBPAPatform requires IIS to have permission to use .NET service extensions. On IIS6, this can be set by running **IIS Manager > Web Service Extensions** and setting the **ASP.NET v4** extension to **Allow**.
- ▶ On IIS7 and later, if the .NET v4 framework was already installed when the ASP.NET role service was added to the Web Service Role (using **Server Manager > Roles > Add Role Services**), then the .NET service extensions should already be enabled. If not, then the .NET service extensions can be enabled by running `%WINDIR%\Microsoft.NET\Framework\(.net framework version)\aspnet_regiis.exe -i`.
- ▶ After logging into myBPAPatform the date / time settings displayed in the language bar will depend on the language selected in the internet browser options.

Logging Into myBPAPatform

In order to use the myBPAPatform web application you must first log in through the Login page. Specific account information is set by the Administrator when your account is created.

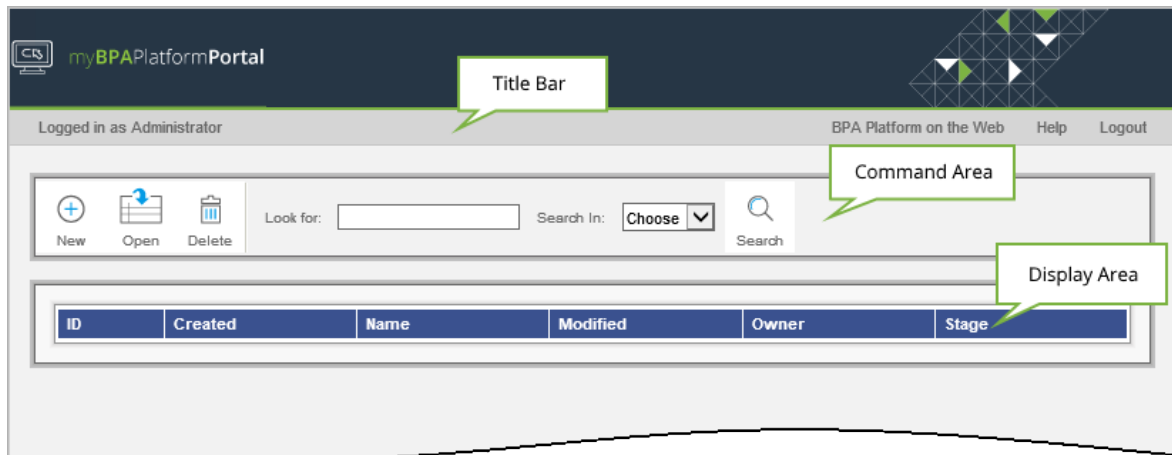
NOTE: The encryption option is very basic and is intended to be a simple password rather than proper encryption. If this is required then SSL should be used.



The screenshot shows a web application login interface. At the top is a dark blue header bar with the word "Login" in white. Below the header, the form is divided into two main sections by a horizontal line. The top section contains a "Server" label followed by a text input field. Below this are two radio button options: "BPA Platform" (which is selected) and "Windows". The bottom section contains three labels with corresponding input fields: "User", "Password", and "Domain". Below these fields is a checkbox labeled "Set as default". In the bottom right corner of the form area is a green rounded rectangle button with the word "Login" in white text.

About the Main Interface

The main application interface is split into three basic areas:



- ▶ **Title Bar** — The Title Bar is located underneath the myBPAPlatform banner. It displays the name of the currently logged in user, and provides links to the Codeless Platforms website, the help for the current page, and log out button.
- ▶ **Command Area** — The Command Area provides access to various functions and features:
 - ☐ **New** — Add a new workflow job
 - ☐ **Open** — Opens the highlighted workflow job for editing
 - ☐ **Delete** — Deletes the highlighted workflow job
 - ☐ **Look for** — Enter search criteria when searching for workflow jobs
 - ☐ **Search In** — Choose the type of search criteria: **Created**, **Name**, **Modified**, **Owner**, **Stage**
- ▶ **Display Area** — The Display Area displays all workflow jobs assigned to the logged in user:
 - ☐ **ID** — The unique ID number for the workflow job
 - ☐ **Created** — The date and time the job was created
 - ☐ **Name** — The name of the job
 - ☐ **Modified** — The date and time the job was modified
 - ☐ **Owner** — The name of the user who is assigned ownership of the job at its current Stage
 - ☐ **Stage** — The current stage for the job

Adding New Workflow Jobs

Clicking on the **Add** button in the Command Bar displays the **Add New Job** page:

The screenshot shows the 'myBPAPlatformPortal' interface. At the top, it says 'Logged in as Administrator' and 'BPA Platform on the Web'. Below this is a 'Home' button. The main content area is titled 'Select Job to create' and contains a dropdown menu with 'On Hold Override' selected. Below the dropdown is a text field for 'Job Name' with 'On Hold Override' entered. At the bottom of the form is an orange 'Create Job' button.

► **Display Area** - When the Add New Job page is being displayed, the following are provided in the Display Area:

- ❑ **Select Job to Create** — Provides a list of the Workflow Job Step types available to the user.
- ❑ **Job Name** — A name for the new Job may be manually entered.
- ❑ **Add Job** — Creates a single Workflow Job for the type selected with default values. The page will be closed and the new Workflow Job added to the list in the Overview page.

Editing Workflow Jobs

Selecting a Workflow Job in the Overview page and then clicking on the **Open** button in the Command Bar displays the **Edit Job** page:

- ▶ **Display Area** — When the Edit Job page is being displayed, the Workflow Job page is displayed and may be edited as required. Once editing is complete the changes may be saved by clicking on the **Save** button in the Command Bar. In addition the following buttons are provided by default in all Workflow Job forms:
 - **Save** — Saves the Workflow Job in its current state and closes the page. the Overview page will be displayed.
 - **Submit** — Publishes the Workflow Job form to the BPA Platform server. The Workflow Job form field values are then compared against filters created for Workflow Job Submission Steps and where they match the applicable Task will be run. The page closes and the Overview page will be displayed.

About BPA Platform Developer Modules

The following modules allow you to develop custom applications that expand your organisation's installation of BPA Platform.

About the BPA Platform Task API

The BPA Platform API offers a structured, powerful and easy-to-use interface to access the BPA Platform Software Suite's server. It provides the ability to import tasks, enumerate tasks in folders, access basic task information, enable / disable a task, set / read task variables, set / read task categories, set / read task run parameters, and to run a task.

The API itself is COM-based and can therefore be used by any development environment supporting COM, such as, Microsoft Visual Basic, Microsoft Visual C++, ASP, or VBScript and so on.

About the BPA Platform Tool SDK

What is the Tool SDK?

BPA Platform is designed to model business processes by passing information between a number of different steps each performing a specific task. The task carried out by each step is performed by a tool. BPA Platform comes with a wide range of tools built in which can be dragged onto the task design surface and connected in an almost infinite number of ways. However, it may be necessary to perform a function which BPA Platform does not include in the standard package. To easily facilitate this, Codeless Platforms have developed the Tool SDK.

The Tool SDK is a bolt-in pack for Microsoft Visual Studio, allowing custom tools to be developed in C# or VB. This is done by way of step-by-step wizards to simplify the process. The tools that are built can be distributed and used with installations of BPA Platform.

Who Should Use it?

The Tool SDK is intended for use by anyone with a basic understanding of BPA Platform and programming in either Microsoft Visual Basic or Microsoft Visual C#.

What do I Need to Use it?

To use tools generated with the Tool SDK, each copy of BPA Platform must have the Tool Interface API installed and licensed to use the required number of plug-in tools. Codeless Platforms Sales will be able to supply the keys required to activate your software for this feature.

To create tools for use with BPA Platform, you need a supported copy of Microsoft Visual Studio, a copy of Codeless Platforms BPA Platform, and a copy of the BPA Platform Tool SDK.

What are the Different Types of Tool I can Create with it?

- ▶ **Input** — Input tools extract information from a source, such as a database, internet web service, or barcode reader, and make it available to other tools in BPA Platform
- ▶ **Output** — Output tools accept information in the form of documents or recordsets and perform a task on this data. This may be distributing it by a transport such as SMS or email, or storing it to a database or file for later use
- ▶ **Format** — Format tools accept information usually in the form of a recordset, perform some processing on it (for example conversion to HTML or PDF) and make the outputted document or recordset available to other tools to use
- ▶ **General** — General tools either accept or generate information in the form of recordsets or documents. An example might be a word counter where the configuration allows dynamic text to be entered with a list of words to check for. This would then be published as a step parameter.
- ▶ **Integration** — "Templated" integration tools can be generated that call onto specific third-party APIs. These tools consume XML containing the details of the data that you want to change in the third-party application and output XML for consumption in other BPA Platform tools.

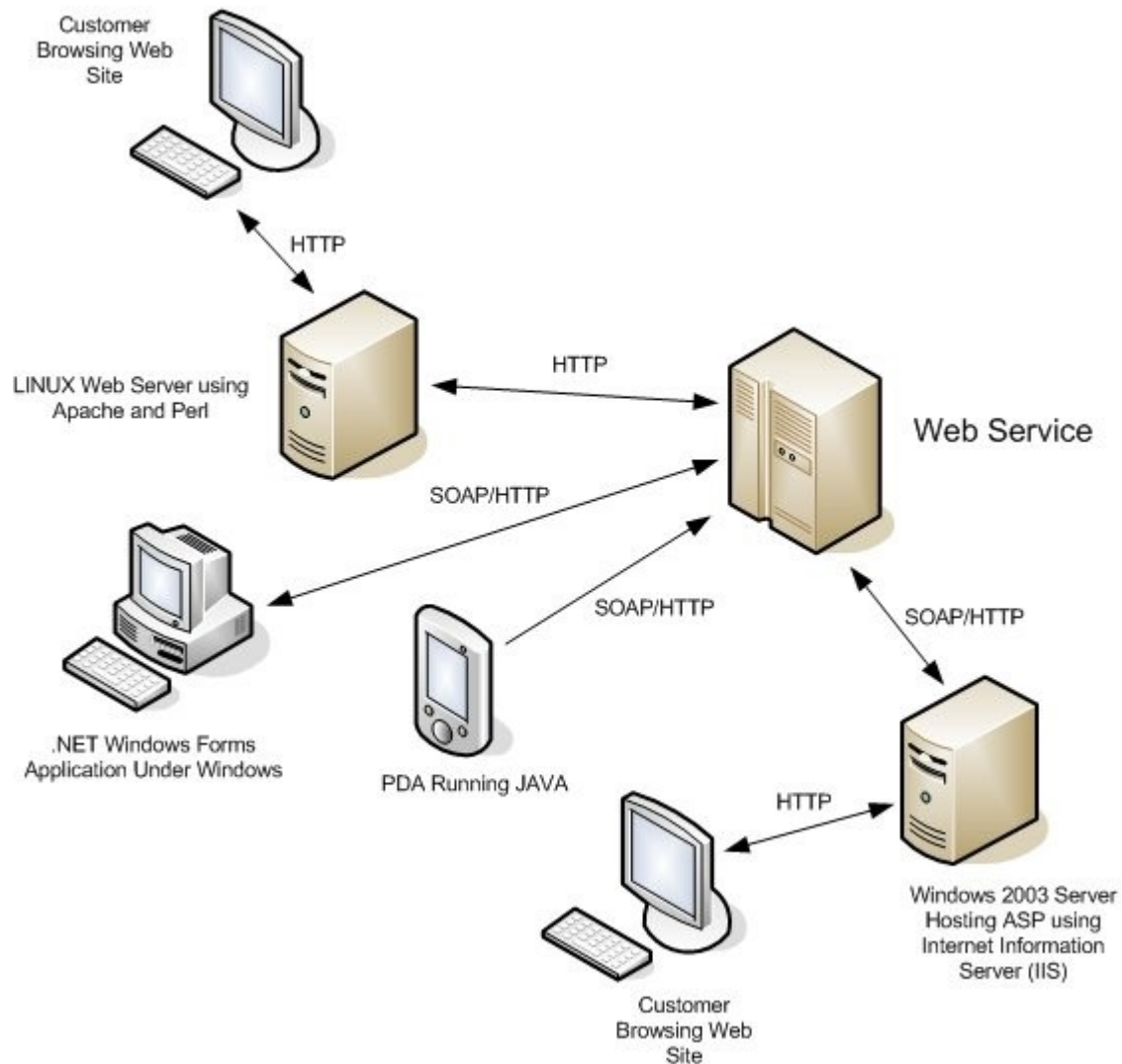
How do I Distribute my Tools?

The Tool SDK Wizard automatically creates a setup project. You add the new tool to this and build it. This then generates a `setup.exe` installer file which can be distributed as required.

About the Workflow Web Service

The Workflow Web Service is a .NET-enabled software application that enables developers to integrate functionality for users to add, edit, submit, re-assign, and delete Workflow Jobs into their own web sites, applications, or web services.

As the product is .NET enabled and access to the web service uses standard internet protocols, it is vendor, platform and language independent enabling multiple methods of connection. The web service also supports WSDL and DISCO.



For details of the functions, objects, and so on included in the web service, request our *Workflow Web Service — Programming Specifics* document from your account manager or business partner.

Want to learn more?

Discover how Codeless Platforms can help your business by improving performance, boosting efficiency and cutting costs.



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