# BPA
## Platform

Technical Overview

# Run External Program Tool

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# Trademarks

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# Introduction

The **Run External Program** tool runs self-terminating shell executable programs including `.exe` or `.bat` for example, or any file type that is associated with such a shell executable program. Programs can either be existing programs that exhibit the right attributes or programs specially created to provide integration with proprietary protocols, systems or applications.

> **NOTE:** Executables that launch a graphical user interface cannot be used by the **Run External Program** tool. This is due to a Windows Server restriction.

As well as the flexibility to create a program that performs virtually any operation, the behaviour of the program can also be controlled dynamically at run-time. To enable this, the step can pass static or dynamic command-line parameters to the program when run. The program can be run once or multiple times, depending on configuration.

Recordsets from an Input step, such as **Database Query (ODBC)**, or document source recordsets from a Format step, such as an **Format as HTML** or **Format as Text** can be used to provide the values of dynamic data.

# Features

▶ Run any self-terminating shell executable ( `.exe`, `.bat`, `.com`, and so on)

▶ Run files associated with self-terminating shell executables

▶ Pass static or dynamic command-line parameters

▶ Use source data from other actions

▶ Execution failure options

▶ Memory features to memorise task data created at run-time

# Working with other Tools

The **Run External Program** tool can directly interact with the following tools:

## Consuming from Other Tools

The **Run External Program** can consume the output from the following tools:

| Icon | Tool Name | Tool Category |
|------|-----------|---------------|
|  | **Database Query (ODBC)** | Input and Data Connectors |
|  | **Database Query (OLEDB)** | Input and Data Connectors |
|  | **Import Flat File** | Input |
|  | **Convert XML to Recordset** | Format |
|  | **Create Workflow Job** | Format |
|  | **Format as Flat File** | Format |
|  | **Format as HTML** | Format |
|  | **Format as HTML Pro** | Format |
|  | **Format as Text** | Format |
|  | **Run Crystal Report** | Format |
|  | **Run Microsoft Reporting Services** | Format |

| Icon | Tool Name | Tool Category |
|---|---|---|
| | **Run Microsoft Word (Merge)** | Format |
| | **Filter Data** | General |

## Objects Consumed

The following objects are exposed by the above tools and can be consumed by the **Run External Program** tool:

- **Recordset** — Tabular data outputted by Input steps

- **Documents (Text)** — Documents outputted by Format steps

# Exposing to Other Tools

As an Output category tool, **Run External Program** does not expose any objects that can be directly consumed by another tool. However, it does expose the following objects which can be used in a task step sequence:

- **RecordSource** — If an **Input Recordset** has been selected (see General tab), this contains the columns included in the recordset

- **DocumentSource** — If a **Document Source** has been selected (see General tab), this contains the data in the document as recordset columns

- **Memory Definitions** — If configured, this is a list of **Memory Definitions** created for the step and the recordset columns to be memorised for each one

- **Step Properties** — Standard step properties are available allowing you to use statistical data of the tool
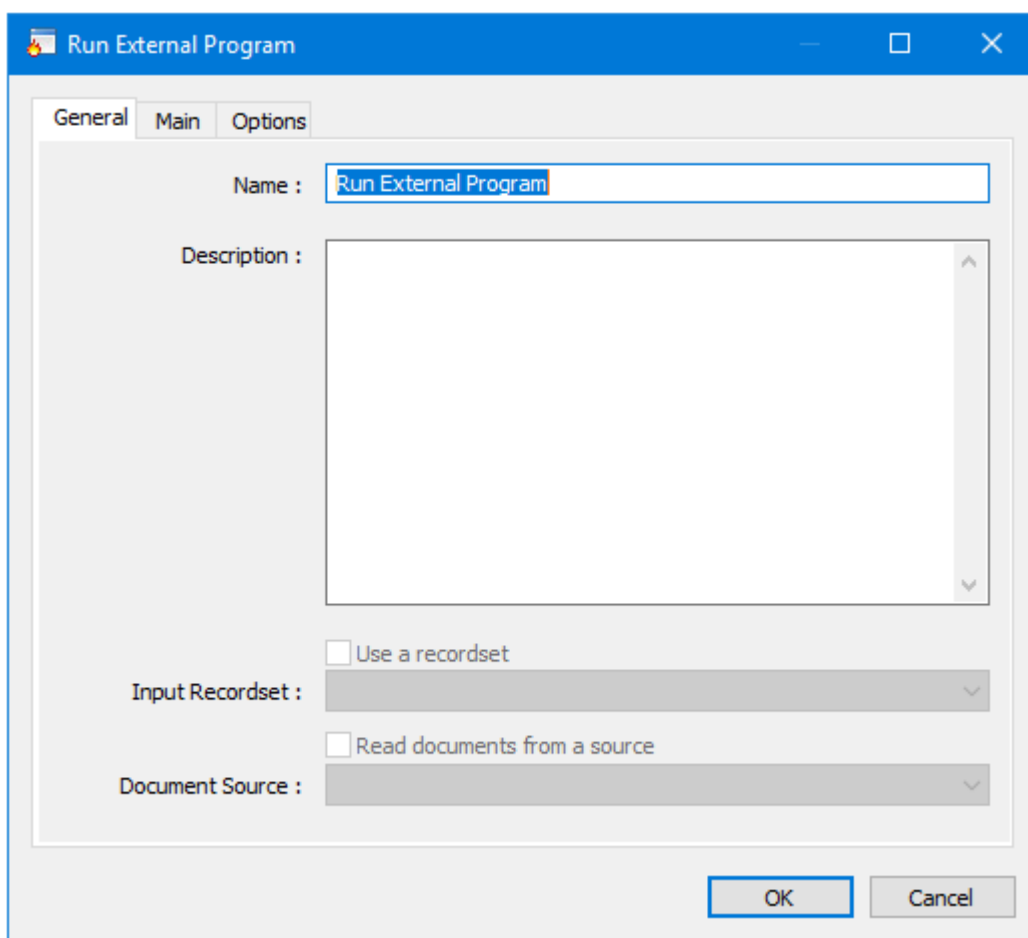
# Step Configuration

To add a new **Run External Program** step to an existing task, you either:

▶ Click and drag the **Run External Program** icon from the **Task Browser** to the task **Design** area.

▶ From the task's **Design** tab, right-click on empty space and select *Add > Execute > Run External Program.*

For a detailed description of how to create new tasks, refer to the product help.

## About the General Tab



The **General** tab is used to enter the following details for the step:

▶ **Name** — Enter a meaningful name for the step

> **TIP:** If this task instance makes use of two or more **Run External Program** steps, ensure the **Name** used is unique for each individual step.

▶ **Description** — If required, enter a description of this step

▶ **Use a Recordset** — Enable this parameter if recordset data from a previous task step is required when running the external program

   ☐ **Input Recordset** — Contains all available recordsets from steps previously created in the task

▶ **Read documents from a source** — Enable this parameter if document data from a Format task step is required when running the external program

   ☐ **Document Source** — Contains all available documents from Format steps previously created in the task; note that the document format is displayed after the step name

## About the Main Tab

Use the **Main** tab to define the program and any running parameters for this step.

The tab contains the items listed below.

▶ **Select program to run** — Provide the full path and filename of the program. At the time of writing, using remote programs is not supported.

> **NOTE:** When defining pathnames to executables or files, ensure that the string is enclosed within double quotes, for example, `"C:\Windows\System32\WindowsPowerShell\v1.0\powershell.exe"`. This also applies to any strings used for parameter information.

▶ **Parameters** — These are the parameters used by the program defined previously:

  ☐ **Name** — The parameter name in human-readable form (read-only).

  ☐ **Type** — The data type of the parameter. At the time of writing, only `BSTR` (basic string) is supported.

  ☐ **Value** — The parameter value. You can either manually enter a value or drag-and-drop fields and properties from the Task Browser.

▶ **Add** — Use to add a new parameter **Name**.

▶ **Remove** — Removes the highlighted parameter.

▶ **Up and Down Arrows** — Re-orders the parameters as required. Each parameters is "called" in the order specified.

▶ **Memory** — Use **Memory** to memorise some or all of the step output for use in other task steps. This is particularly useful when the **Run External Program** step is called multiple times — use **Memory** to compare the record previously processed to the new record currently being processed to avoid duplicates.

# About the Options Tab

The **Options** tab allows you to define how errors in this step are handled at task runtime.
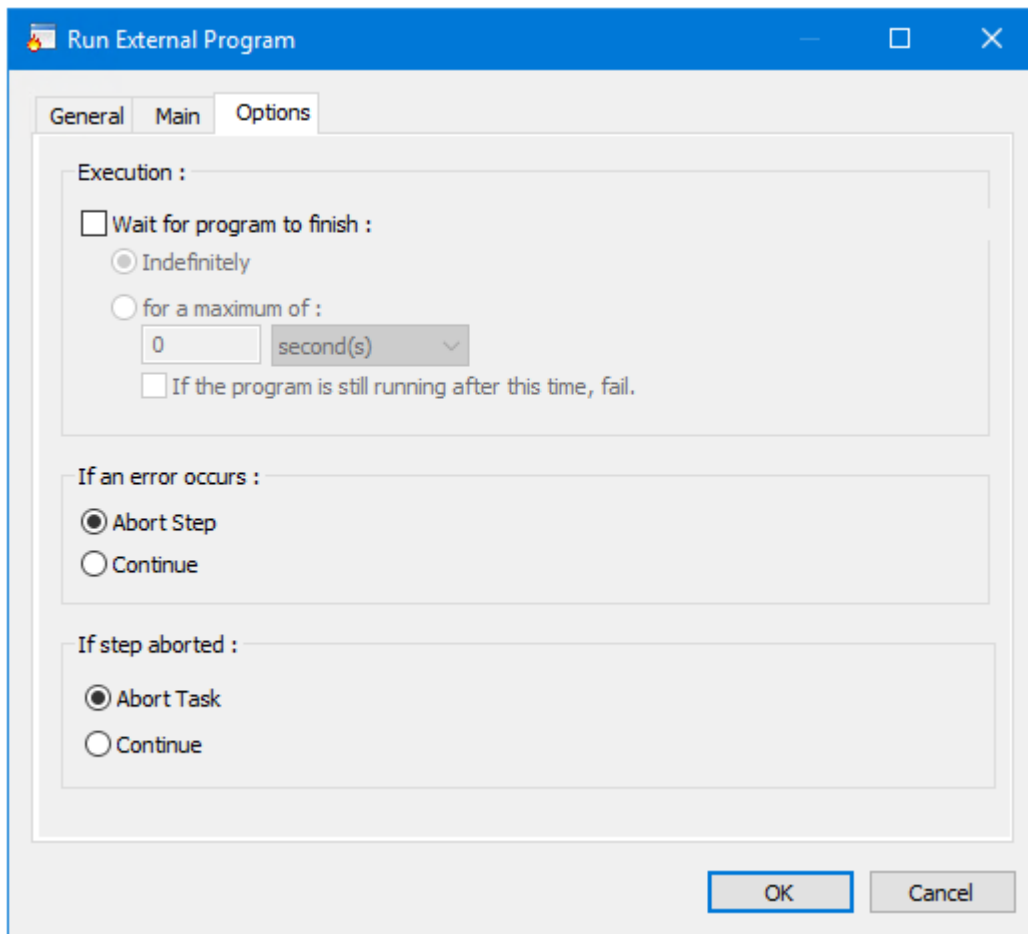


Enabling **Wait for program to finish** forces the step to not complete until one of the following conditions have been met:

- **Indefinitely** — The step waits until notified by the program that is has finished before continuing itself

- **for a maximum of:** — Select this option to enter a maximum time period to wait

  - **If the program is still running after this time, fail** — If required, select this option to fail the execution after the above time period has expired

**If an error occurs**, you can decide whether the step should **Continue** processing, or terminate the step immediately (**Abort Step**).

**If the step is aborted**, you can choose to **Continue** processing onto the next step in the task, or terminate the whole task immediately (**Abort Task**).

# Want to learn more?

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