CTX-Excel
User Guide

Contents

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Versions

Document Revisions

The following revisions have been made to this document

Date	Revision	Notes
12/05/2017	0.1	First Draft
24/09/2018	1.0	Updates to document to include additional functionality

Module Versions

The following revisions have been made to this document

Date	Revision	Notes
12/05/2017	1.0	Creation of “Set Cell Where”, “Set Cell”, “Insert Rows”, “Insert Headers”, “Create Worksheet” and “Create Workbook”
16/11/2018	2.0	Creation of “Create Pivot Tables”
21/11/2018	2.1	Creation of “Create Pivot Charts”
05/01/2018	2.2	Creation of “Add Conditional Formatting”
25/09/2018	2.3	Fixing Bugs with Pivot Table and Charts

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Preface

About this Manual

This document is a user guide for the CTX-Excel module.

Audience

The audience for this document is those wanting to understand how to use CTX-Excel module.

Related Material

Document
CTX-Excel – Deployment Plan
CTX-Excel.studiopkg

Abbreviations used in this Document

OCI Orchestration Communication Interface

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Requirements

The CTX-Excel module requires the following:

- Cortex PowerShell OCI
- PowerShell v5
- PowerShell modules
    - ImportExcel
    - PSExcel

Instructions for how to install these are included in the deployment plan.

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Integration

Integration with Third-Party Systems

We have used a selection of libraries available in PowerShell to perform the functionality in the CTX-Excel module. PowerShell does not interact directly with Microsoft Excel; therefore, an instance of Microsoft Excel is not required on the Cortex system to use this module.

Integrating with Existing Infrastructure

None Required.

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1 ECW-Create-Workbook

1.1 Overview

The ECW-Create-Workbook subtask will create an Excel Workbook of a specified name in the specified location. The user will have the options of supplying headers to prepopulate the first Worksheet of the Workbook as well as renaming the first Worksheet. The user can specify the file type to create, if the file type is not specified then a 'xlsx' Workbook will be created.

Exceptions will be raised if

- The file path cannot be found
- A Workbook of the same name and file type already exists

Requirements

- EIRW-Excel-Insert-Rows-to-Worksheet Subtask (if interesting data to Worksheet)

1.2 Inputs

Input Variables	Type	Description
ECW_i_File-Path	Text	The path where the Workbook will be saved. REQUIRED. Example: C:\Folder\Subfolder
ECW_i_Workbook-Name	Text	The name of the Excel Workbook being created. REQUIRED. Examples: Workbook
ECW_i_Workbook-Extension	Text	The Workbook extension. If no value supplied the default value will be 'xlsx'. Example: xlsx
ECW_i_Worksheet-Name	Text	Option to rename the first Worksheet of the Workbook being created. If left blank the Worksheet will be left as 'Sheet1'. Example: Raw Data
ECW_i_Headers	List of text	The headers being written to the Worksheet. If left blank no headers will be written. Example: "Contact", "Email", "Age"
ECW_i_List-to-Insert	List of structures	The list of structures being added to the Workbook. If ECW_i_Table-to-Insert is also passed through, ECW_i_List-to-Insert will be inserted to the Worksheet first.

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ECW_i_Table-to-Insert	Table	The table of values being added to the Workbook. If ECW_i_List-to-Insert is also passed through ECW_i_List-to-Insert will be inserted to the Worksheet first.

1.3 Outputs

Output Variables	Type	Description
ECW_o_Exception-Message	Text	The Exception message for why the Workbook was not created. If successfully created, this will be a blank string.

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2 EAWW-Excel-Add-Worksheets-to-Workbook

2.1 Overview

The EAWW-Add-Worksheets-to-Workbook subtask adds Worksheets to an existing Workbook. A list must be passed through with the names of the Worksheets to be added.

Exceptions will be raised if:

- The Workbook cannot be found in the file path
- One of the Worksheets being created already exists in the Workbook

2.2 Inputs

Input Variables	Type	Description
EAWW_i_File-Path	Text	The path where the Workbook is saved. REQUIRED. Example: C:\Folder\Subfolder
EAWW_i_Workbook-Name	Text	The name of the Workbook where the Worksheets will be added. REQUIRED. Example: Workbook
EAWW_i_Workbook-Extension	Text	The Workbook extension. If no value supplied the default value will be 'xlsx'. Example: xlsx
EAWW_i_Worksheets-to-Add	List of text	List of Worksheets to be added to the Workbook. REQUIRED. Example: "Sheet2", "Sheet3"

2.3 Outputs

Output Variables	Type	Description
EAWW_o_Exception-Message	Text	The Exception message for why the Workbook was not updated. If successfully updated, this will be a blank string.

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3 EIHW-Excel-Insert-Headers-to-Worksheet

3.1 Overview

The EIHW-Insert-Headers-to-Worksheet subtask will insert headers to the top row of a Worksheet in a Workbook. If the Worksheet contains data, an overwrite boolean will determine whether the headers will be written to the Worksheet.

If the overwrite boolean is set to true the values in the Worksheet will be written, if the overwrite boolean is set to false an exception will be raised informing the user that the headers were not written. If the overwrite boolean is not passed through it will be treated as false.

Exceptions will be raised if:

- The Workbook cannot be found in the file path
- The Worksheet cannot be found in the Workbook
- The Workbook contains data and Force Overwrite is not enabled

3.2 Inputs

Input Variables	Type	Description
EIHW_i_File-Path	Text	The path where the Workbook is saved. REQUIRED. Example: C:\Folder\Subfolder
EIHW_i_Workbook-Name	Text	The name of the Workbook where the Worksheets will be added. REQUIRED. Example: Workbook
EIHW_i_Worksheet-Name	Text	The name of the Worksheet in the Workbook where the headers will be added. REQUIRED. Example: Sheet1
EIHW_i_Workbook-Extension	Text	The Workbook extension. If no value supplied the default value will be 'xlsx'. Example: xlsx
EIHW_i_Headers-to-Add	List of text	List of headers to be added to the Worksheet. REQUIRED. Example: Contact, Age, Email

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EIHW_i_Force-Overwrite	Boolean	If set to 'true' forces the headers to overwrite any values already in the top row of the Worksheet the headers are being written to. The default value is set to 'false' if no input is supplied. Example: true

3.3 Outputs

Output Variables	Type	Description
EIHW_o_Exception-Message	Text	The Exception message for why the Workbook was not updated. If successfully updated, this will be a blank string.

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4 EIRW-Excel-Insert-Rows-to-Worksheet

4.1 Overview

The EIRW-Insert-Rows-to-Worksheet subtask inserts table information into a Worksheet of a Workbook immediately after the last populated row in the Worksheet. If only certain values for certain columns are supplied, then they will be written to the Worksheet leaving the other columns for that row blank. If both a table and a list are supplied to be inserted, the list will be inserted to the Worksheet first, followed by the table.

Columns in the PowerShell table will only be inserted to the Worksheet if they match with a Worksheet column headers. If a column header is present in the Worksheet but there is no matching column in the PowerShell table, the column will be left blank.

Exceptions will be raised if:

- The Workbook cannot be found in the file path
- The Worksheet cannot be found in the Workbook

Requirements

- CTLS-Convert-Table-to-List-of-Structures Subtask
- Cortex v6.3, if not supplying EIRW_i_Headers

4.2 Inputs

Input Variables	Type	Description
EIRW_i_File-Path	Text	The path where the Workbook is saved. REQUIRED. Example: C:\Folder\Subfolder
EIRW_i_Workbook-Name	Text	The name of the Workbook where the Worksheets will be added. REQUIRED. Example: Workbook
EIRW_i_Workbook-Extension	Text	The Workbook extension. If no value supplied the default value will be 'xlsx'. Example: xlsx
EIRW_i_Worksheet-Name	Text	The name of the Worksheet in the Workbook where the table information will be added. REQUIRED. Example: Sheet1

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EIRW_i_List-to-Insert	List of structures	The list of structures being added to the Workbook. If EIRW_i_Table-to-Insert is also passed through EIRW_i_List-to-Insert inserted to the Worksheet first.
EIRW_i_Table-to-Insert	Table	The table of values being added to the Workbook. If EIRW_i_List-to-Insert is also passed through EIRW_i_List-to-Insert will be inserted to the Worksheet first.
EIRW_i_Headers	List	List of headers on the Worksheet. If not supplied, the headers will be extracted from either the list or table to insert.

4.3 Outputs

Output Variables	Type	Description
EIRW_o_Exception-Message	Text	The Exception message for why the Workbook was not updated. If successfully updated, this will be a blank string.

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5 ERRW-Excel-Remove-Rows-from-Worksheet

5.1 Overview

The ERRW-Remove-Rows-from-Worksheet removes rows from a specified Worksheet.

Exceptions will be raised if:

- The Workbook cannot be found in the file path
- The Worksheet cannot be found in the Workbook
- The Start row is greater than the End row or the number or rows in the Worksheet
- The Start row is negative

Requirements

- PowerShell v5

5.2 Inputs

Input Variables	Type	Description
ERRW_i_File-Path	Text	The path where the Workbook is saved. REQUIRED. Example: C:\Folder\Subfolder
ERRW_i_Workbook-Name	Text	The name of the Workbook where the Worksheets will be added. REQUIRED. Example: Workbook
ERRW_i_Workbook-Extension	Text	The Workbook extension. If no value supplied the default value will be 'xlsx'. Example: xlsx
ERRW_i_Worksheet-Name	Text	The name of the Worksheet in the Workbook where the table information will be added. REQUIRED. Example: Sheet1
ERRW_i_Start-Row	Integer	The first row of the Worksheet to delete. REQUIRED. Example: 3

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ERRW_i_End-Row	Integer	The last row of the Worksheet to delete. If not supplied only the first row will be deleted. If 0 supplied then all following rows will be deleted. Must be greater than or equal to ERRW_i_Start-Row (with the exception of 0). Example: 8
ERRW_i_Headers-Present	Boolean	If 'true' the first row of the Worksheet will be considered headers for the columns. If no value set to 'false' by default. Example: true

5.3 Outputs

Output Variables	Type	Description
ERRW_o_Exception-Message	Text	The Exception message for why the cells were not removed from the Workbook. If successfully removed, this will be a blank string.

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6 EUCC-Excel-Update-Cell-in-Column

6.1 Overview

The EUCC-Update-Cell-in-Column subtask updates a column for a range of rows in a Worksheet. The column is selected by name while the range of rows are selected by selecting the first and last row to update, all rows in that range are updated inclusively.

Exceptions will be raised if:

- Workbook cannot be found in the file path
- Worksheet cannot be found in the Workbook
- First row is greater than the Last row
- First row is negative
- First row is greater than the number of rows in the Worksheet
- Column to update now found in the Worksheet

6.2 Inputs

Input Variables	Type	Description
EUCC_i_File-Path	Text	The path where the Workbook is saved. REQUIRED. Example: C:\Folder\Subfolder
EUCC_i_Workbook-Name	Text	The name of the Workbook where the Worksheets will be added. REQUIRED. Example: Workbook
EUCC_i_Workbook-Extension	Text	The Workbook extension. If no value supplied the default value will be 'xlsx'. Example: xlsx
EUCC_i_Worksheet-Name	Text	The name of the Worksheet in the Workbook where the table information will be added. If none supplied, then all Worksheets in the Workbook will be checked. Example: Sheet1
EUCC_i_First-Row-to-Update	Integer	First row to update inclusively. REQUIRED. Example: 3
EUCC_i_Last-Row-to-Update	Integer	Last row to update inclusively. If not supplied, only the first row will be updated.

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		Example: 3
EUCC_i_Update-Column	Text	The column which is to be updated. REQUIRED. Example: Contact, Age
EUCC_i_Update-Value	Text	Updated value. REQUIRED List example: Peter, 54

6.3 Outputs

Output Variables	Type	Description
EUCC_o_Exception-Message	Text	The Exception message for why the Workbook was not updated. If successfully updated, this will be a blank string.

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7 EUCW-Excel-Update-Cells-Where

7.1 Overview

The EUCW-Excel-Update-Cells-Where subtask searches for any rows in the specified Worksheet for a search value in a specified search column. The specified update column will be updated with an update value for these rows.

Exceptions will be raised if:

- Workbook cannot be found in the file path
- Worksheet cannot be found in the Workbook
- Column to search not found in the Worksheet or specified
- Column to update not found in the Worksheet or specified

7.2 Inputs

Input Variables	Type	Description
EUCW_i_File-Path	Text	The path where the Workbook is saved. REQUIRED. Example: C:\Folder\Subfolder
EUCW_i_Workbook-Name	Text	The name of the Workbook where the Worksheets will be added. REQUIRED. Example: Workbook
EUCW_i_Workbook-Extension	Text	The Workbook extension. If no value supplied the default value will be 'xlsx'. Example: xlsx
EUCW_i_Worksheet-Name	Text	The name of the Worksheet in the Workbook where the table information will be added. REQUIRED. Example: Sheet 1
EUCW_i_Search-Column	Text	The column in which the pattern is going to be searched for. REQUIRED. Example: Surname
EUCW_i_Search-Value	Text	The value the column is going to be searched for. REQUIRED. Example: Rodgers

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EUCW_i_Update-Column	Text	The column of the rows to update. REQUIRED. Example: First Name
EUCW_i_Update-Values	Text	List of values to update. REQUIRED Example: Peter

7.3 Outputs

Output Variables	Type	Description
EUCW_o_Exception-Message	Text	The Exception message for why the Workbook was not updated. If successfully updated, this will be a blank string.

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8 ERDW-Excel-Read-Data-from-Worksheet

8.1 Overview

The ERDW-Read-Data-from-Worksheet subtask imports the data from a Worksheet to Cortex as a list of structures. The user has the option to read the entire Worksheet or only a range of the Worksheet by specifying a Start row and an End row inclusively.

If the Start row is not specified, the Worksheet will be read from the start until the End row. If the End row is not specified, the Worksheet will be read from the Start row until the end. If both the Start row and End row are not specified, the entire Worksheet is read.

The user also has the option to treat the first row as Headers, if the Headers are present the structures inside the list will have the attribute names of the first row. By default, the Worksheet will be treated as not having Headers present and therefore the attribute names of the structures will be 'Col-*X*' where *X* denotes the column number on the Worksheet.

There is a possibility that some cells are empty within the document, these will be returned as the text 'null'.

Exceptions will be raised if:

- Workbook cannot be found in the file path
- Worksheet cannot be found in the Workbook
- Start row is greater than the End row
- Start row is negative
- Start row is greater than the number of rows in the Worksheet

8.2 Inputs

Input Variables	Type	Description
ERDW_i_File-Path	Text	The path where the Workbook is saved. REQUIRED. Example: C:\Folder\Subfolder
ERDW_i_Workbook-Name	Text	The name of the Workbook where the Worksheets will be added. REQUIRED. Example: Workbook
ERDW_i_Workbook-Extension	Text	The Workbook extension. If no value supplied the default value will be 'xlsx'. Example: xlsx

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ERDW_i_Worksheet-Name	Text	The name of the Worksheet in the Workbook where the table information will be added. REQUIRED. Example: Sheet 1
ERDW_i_Start-Row	Integer	Row to start reading from Worksheet. If not supplied default value is set to 1. Example: 3
ERDW_i_End-Row	Integer	Row to stop reading from Worksheet. If not supplied default value is set to 0. If 0 supplied, the remainder of the worksheet will be read. Must be greater than or equal to ERDW_i_Row-to-Start (with the exception of 0). Default value is set to 0. Example: 5
ERDW_i_Headers-Present	Boolean	If 'true' the first row of the Worksheet will be considered headers for the columns. If no value set to 'false' by default. Example: true

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EGW_i_PS-Credentials	Structure	A structure containing the elements domain, username and password. If username and password are not required to execute the PS script, this variable does not need to be passed in. By default, all elements have a blank value. Optional.
		Example:
		{
		"username": "userA"
		"password": "userAPassword"
		"domain": "userADomain"
		}

EGW_i_PS-Connection-Parameters	Structure	Connection properties containing the host and port on which the script should be executed. Optional.
		Example:
		{
		"Host":"localhost",
		"Port":"5986"
		}

8.3 Outputs

Output Variables	Type	Description
ERDW_o_Table-from-Excel	List of structures	A list of structures containing information extracted from the Worksheet. Structures are made up of texts, integers and/or floats.
ERDW_o_Exception-Message	Text	The Exception message for why the Workbook could not be read. If successfully read, this will be a blank string.

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9 EACF-Excel-Add-Conditional-Formatting

9.1 Overview

The EACF-Excel-Add-Conditional-Formatting subtask will add conditional formatting to the specified column in the Worksheet of a Workbook. The user will be able to specify the font colour and the background colour of the cells that meet the rules. Several rules can be applied to the column in one process.

> Note: If a cell meets the requirements of several rules that are supplied for EACF_i_Format-Parameters, the first rule in EACF_i_Format-Parameters list will take precedence and that formatting will be applied to the cell.

Exceptions will be raised if

- The file path cannot be found
- The Workbook of the name and file type does not exist
- The Worksheet does not exist
- The column specified to apply conditional formatting for does not exist
- The function specified is not a valid function
- The colours specified are not valid colours

> A list of functions and colours are available in the Appendix.

9.2 Inputs

Input Variables	Type	Description
EACF_i_File-Path	Text	The path where the Workbook will be saved. REQUIRED. Example: C:\Folder\Subfolder
EACF_i_Workbook-Name	Text	The name of the Excel Workbook having the Pivot Table and Chart inserted. REQUIRED. Examples: Workbook
EACF_i_Workbook-Extension	Text	The Workbook extension. If no value supplied the default value will be 'xlsx'. Example: xlsx
EACF_i_Worksheet-Name	Text	Name of the Worksheet containing data to create the Pivot Table and Chart for. REQUIRED. Example: Raw Data

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EACF_i_Column-To-Format	Text	The name of the column that will be formatted. REQUIRED. Example: Percent

EACF_i_Format-Parameters	List of structures	The parameters to apply to the sheet. REQUIRED.
		Example:
		[
		{
		VALUE: 12,
		CONDITIONTYPE: "GreaterThan",
		BACKGROUND: "LightGreen",
		FONT: "Green"
		},
		{
		VALUE: 2,
		CONDITIONTYPE: "GreaterThan",
		BACKGROUND: "LightPink",
		FONT: "Red"
		}
		]

9.3 Outputs

Input Variables	Type	Description
EACF_o_Exception-Message	Text	The Exception message for why the conditional formatting was not applied. If successfully applied, this will be a blank string.

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10 EIPT-Excel-Insert-Pivot-Table

10.1 Overview

The EIPT-Excel-Insert-Pivot-Table subtask will create a worksheet with a Pivot Table in the specified Workbook. The user will be able to specify the row and column which will be displayed in the Pivot Table, as well as the Pivot Data and what function will be applied to the Pivot Data.

Exceptions will be raised if

- The file path cannot be found
- The Workbook of the name and file type does not exist
- The Worksheet containing the data to summarise does not exist
- The row or column specified for the Pivot Table do not exist
- The Pivot Data specified is not a valid column or function

10.2 Inputs

Input Variables	Type	Description
EIPT_i_File-Path	Text	The path where the Workbook will be saved. REQUIRED. Example: C:\Folder\Subfolder
EIPT_i_Workbook-Name	Text	The name of the Excel Workbook having the Pivot Table inserted. REQUIRED. Examples: Workbook
EIPT_i_Workbook-Extension	Text	The Workbook extension. If no value supplied the default value will be 'xlsx'. Example: xlsx
EIPT_i_Worksheet-Name	Text	Name of the Worksheet containing data to create the Pivot Table for. REQUIRED. Example: Raw Data
EIPT_i_Pivot-Rows-Labels	List of text	The name of the column(s) to apply the function to. Example: ["Day"]
EIPT_i_Pivot-Columns-Labels	List of text	The name of the row(s) to apply the function to. Example: ["Metric"]

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EIPT_i_Pivot-Data	List of structures	The columns and the function containing the data to perform Pivot Functions on.
		Example:
		[
		{
		Column: “Available”,
		Function: “Sum”
		},
		{
		Column: “Total”,
		Function: “Count”
		}
		]
		NOTE: Available functions can be found in Appendix 4.1.

10.3 Outputs

Output Variables	Type	Description
EIPT_o_Exception-Message	Text	The exception message for why the Pivot Table were not inserted in the Workbook. If successfully inserted, this will be a blank string.

10.4 Example

Below is an example of how to set up the EIPT subtask.

1. Create a workbook in ‘C:\temp’ called ‘Test Workbook’ with the following data on ‘Sheet1’:

Date	Buyer	Type	Amount
01/01/2018	Alex	Food	8.32
15/01/2018	Alex	Fuel	57.66
17/01/2018	Ben	Shoes	95.00

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21/01/2018	Charlie	Cinema	6.50
02/02/2018	Alex	Cinema	10.50
20/20/2018	Charlie	Food	8.21
25/02/2018	Charlie	Books	9.99

2. Pass in the following information into the subtask:
    a. File path: string, 'C:\Temp'
    b. Workbook name: string, 'Test Workbook'
    c. Workbook extension: string, 'xlsx'
    d. Worksheet name: string, 'Sheet1'
    e. Pivot Column Labels: list, ["Buyer"]
    f. Pivot Row labels: list, ["Type"
    g. Pivot Data: list of structures, [{"Column": "Amount", "Function": "Sum"}]
3. Run the subtask

A new worksheet called 'Sheet1 PivotDataTable' will be created with a pivot table, with rows labels that are the "Type" of expenditure and the column labels of "Buyer" as shown below.

Sum of Amount	Column Labels			
Row Labels	Alex	Ben	Charlie	Grand Total
Books			9.99	9.99
Cinema	10.5		6.50	17.00
Food	8.32		8.21	16.53
Fuel	57.66			57.66
Shoes		95.00		95.00
Grand Total	76.48	95.00	24.7	196.18

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11 EIPC-Excel-Insert-Pivot-Chart

11.1 Overview

The EIPC-Excel-Insert-Pivot-Chart subtask will create a Pivot Chart on the Worksheet containing the Pivot Table in the specified Workbook. The user will be able to specify what type of chart they would like to display.

Exceptions will be raised if

- The file path cannot be found
- The Workbook of the name and file type does not exist
- The Worksheet containing the data to summarise does not exist
- The Pivot Table specified does not exist
- The chart type specified is not a valid chart type

11.2 Inputs

Input Variables	Type	Description
EIPC_i_File-Path	Text	The path where the Workbook will be saved. REQUIRED. Example: C:\Folder\Subfolder
EIPC_i_Workbook-Name	Text	The name of the Excel Workbook having the Pivot Table inserted. REQUIRED. Examples: Workbook
EIPC_i_Workbook-Extension	Text	The Workbook extension. If no value supplied the default value will be 'xlsx'. Example: xlsx
EIPC_i_Pivot-Table-Name	Text	Name of the Pivot Table to create the Pivot Chart for. Generally, it is the worksheet containing the Pivot Table appended with 'Data'. REQUIRED. Example: PivotTableSheetData
EIPC_i_Chart-Type	Text	The type of Pivot Chart to be inserted into the Workbook. NOTE: Available chart types can be found in Appendix 4.2.

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11.3 Outputs

Output Variables	Type	Description
EIPC_o_Exception-Message	Text	The exception message for why the Pivot Chart were not inserted in the Workbook. If successfully inserted, this will be a blank string.

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12 EIPTC-Excel-Insert-Pivot-Table-and-Chart

12.1 Overview

The EIPTC-Excel-Insert-Pivot-Table-and-Chart subtask will create a Worksheet with a Pivot Table and Pivot Chart in the specified Workbook. The user will be able to specify the row and column which will be displayed in the Pivot Table, as well as the Pivot Data and what function will be applied to the Pivot Data. The user will also be able to specify what type of chart they would like to display.

Exceptions will be raised if

- The file path cannot be found
- The Workbook of the name and file type does not exist
- The Worksheet containing the data to summarise does not exist
- The row or column specified for the Pivot Table do not exist
- The Pivot Data specified is not a valid column or function
- The chart type specified is not a valid chart type

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12.2 Inputs

Input Variables	Type	Description
EIPTC_i_File-Path	Text	The path where the Workbook will be saved. REQUIRED. Example: C:\Folder\Subfolder
EIPTC_i_Workbook-Name	Text	The name of the Excel Workbook having the Pivot Table and Chart inserted. REQUIRED. Examples: Workbook
EIPTC_i_Workbook-Extension	Text	The Workbook extension. If no value supplied the default value will be 'xlsx'. Example: xlsx
EIPTC_i_Worksheet-Name	Text	Name of the Worksheet containing data to create the Pivot Table and Chart for. REQUIRED. Example: Raw Data
EIPTC_i_Pivot-Rows-Labels	List of text	The row labels to apply to the Pivot Table and Chart. Allows filtering by row values. REQUIRED. Example: ["Day"]
EIPTC_i_Pivot-Columns-Labels	List of text	The column labels to apply to the Pivot Table. Allows filtering by the column values. REQUIRED. Example: ["Metric"]

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EIPTC_i_Pivot-Data	List of structures	The columns and the function containing the data to perform Pivot Functions on.
		Example:
		[
		{
		Column: “Used”,
		Function: “Sum”
		},
		{
		Column: “Total”,
		Function: “Average”
		}
		]
		NOTE: Available functions can be found in Appendix 4.1.

EIPTC_i_Chart-Type	Text	The type of Pivot Chart to be inserted into the Workbook. NOTE: Available chart types can be found in Appendix 4.2.

12.3 Outputs

Input Variables	Type	Description
EIPTC_o_Exception-Message	Text	The exception message for why the Pivot Table and Chart were not inserted in the Workbook. If successfully inserted, this will be a blank string.

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13 EGW-Excel-Get-Worksheets

13.1 Overview

The EGW-Excel-Get-Worksheets is designed to return a list of the worksheets contained within an excel workbook.

Exceptions will be raised if

- The file path is not passed into the subtask
- The Workbook of the name and file type does not exist

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13.2 Inputs

Input Variables	Type	Description
EGW_i_File-Path	Text	The path where the Workbook is saved. Required. Example: C:\Folder\Subfolder\Workbook.xlsx

EGW_i_PS-Credentials	Structure	A structure containing the elements domain, username and password. If username and password are not required to execute the PS script, this variable does not need to be passed in. By default, all elements have a blank value. Optional.
		Example:
		{
		"username": "userA"
		"password": "userAPassword"
		"domain": "userADomain"
		}

EGW_i_PS-Connection-Parameters	Structure	Connection properties containing the host and port on which the script should be executed. Optional.
		Example:
		{
		"Host":"localhost",
		"Port":"5986"
		}

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13.3 Outputs

Input Variables	Type	Description
EIPTC_o_Exception-Message	Text	Exception message if the worksheet names cannot be retrieved.
EGW_o_Worksheet-Names	List	Names of worksheets in the workbook. Example: ["Sheet1", "Sheet2"]

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Appendix

Pivot Functions

Available Pivot functions are:

- Average
- Count
- CountNums
- Max
- Min
- Product
- None
- StdDev
- StdDevP
- Sum
- Var
- VarP

Pivot Chart Types

Available chart types are:

- Area
- Line
- Pie
- Bubble
- ColumnClustered
- ColumnStacked
- ColumnStacked100
- ColumnClustered3D
- ColumnStacked3D
- ColumnStacked1003D
- BarClustered
- BarStacked
- BarStacked100
- BarClustered3D
- BarStacked3D

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- BarStacked100
- 3DLineStacked
- LineStacked100
- LineMarkers
- LineMarkersStacked
- LineMarkersStacked100
- PieOfPie
- PieExploded
- PieExploded3D
- BarOfPie
- XYScatterSmooth
- XYScatterSmoothNoMarkers
- XYScatterLines
- XYScatterLinesNoMarkers
- AreaStacked
- AreaStacked100
- AreaStacked3D
- AreaStacked1003D
- DoughnutExploded
- RadarMarkers
- RadarFilled
- Surface
- SurfaceWireframe
- SurfaceTopView
- SurfaceTopViewWireframe
- Bubble3DEffect
- StockHLC
- StockOHLC
- StockVHLC
- StockVOHLC
- CylinderColClustered
- CylinderColStacked
- CylinderColStacked100
- CylinderBarClustered

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- CylinderBarStacked
- CylinderBarStacked100
- CylinderCol
- ConeColClustered
- ConeColStacked
- ConeColStacked100
- ConeBarClustered
- ConeBarStacked
- ConeBarStacked100
- ConeCol
- PyramidColClustered
- PyramidColStacked
- PyramidColStacked100
- PyramidBarClustered
- PyramidBarStacked
- PyramidBarStacked100
- PyramidCol
- XYScatter
- Radar
- Doughnut
- Pie3D
- Line3D
- Column3D
- Area3D

Conditional Formatting Functions

Available conditional formatting functions are:

- AboveAverage
- AboverOrEqualAverage
- BeginsWith
- BelowAverage
- ContainsBlanks
- ContainsText
- DuplicateValues

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- EndsWith
- Equal
- GreaterThan
- GreaterThanOrEqual
- Last7Days
- LastMonth
- LastWeek
- LessThan
- LessThanOrEqual
- NextMonth
- NextWeek
- NotContainText
- NotEqual
- ThisMonth
- ThisWeek
- Today
- Tomorrow
- Top
- TopPercent

Conditional Formatting Colours

Available conditional formatting colours are:

- AliceBlue
- AntiqueWhite
- Aqua
- Aquamarine
- Azure
- Beige
- Bisque
- Black
- BlanchedAlmond
- Blue
- BlueViolet
- Brown

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- BurlyWood
- CadetBlue
- Chartreuse
- Chocolate
- Coral
- CornflowerBlue
- Cornsilk
- Crimson
- Cyan
- DarkBlue
- DarkCyan
- DarkGoldenrod
- DarkGray
- DarkGreen
- DarkKhaki
- DarkMagenta
- DarkOliveGreen
- DarkOrange
- DarkOrchid
- DarkRed
- DarkSalmon
- DarkSeaGreen
- DarkSlateBlue
- DarkSlateGray
- DarkTurquoise
- DarkViolet
- DeepPink
- DeepSkyBlue
- DimGray
- DodgerBlue
- Firebrick
- FloralWhite
- ForestGreen
- Fuchsia

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- Gainsboro
- GhostWhite
- Gold
- Goldenrod
- Gray
- Green
- GreenYellow
- Honeydew
- HotPink
- IndianRed
- Indigo
- IsEmpty
- IsKnownColor
- IsNamedColor
- IsSystemColor
- Ivory
- Khaki
- Lavender
- LavenderBlush
- LawnGreen
- LemonChiffon
- LightBlue
- LightCoral
- LightCyan
- LightGoldenrodYellow
- LightGray
- LightGreen
- LightPink
- LightSalmon
- LightSeaGreen
- LightSkyBlue
- LightSlateGray
- LightSteelBlue
- LightYellow

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- Lime
- LimeGreen
- Linen
- Magenta
- Maroon
- MediumAquamarine
- MediumBlue
- MediumOrchid
- MediumPurple
- MediumSeaGreen
- MediumSlateBlue
- MediumSpringGreen
- MediumTurquoise
- MediumVioletRed
- MidnightBlue
- MintCream
- MistyRose
- Moccasin
- Name
- NavajoWhite
- Navy
- OldLace
- Olive
- OliveDrab
- Orange
- OrangeRed
- Orchid
- PaleGoldenrod
- PaleGreen
- PaleTurquoise
- PaleVioletRed
- PapayaWhip
- PeachPuff
- Peru

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- Pink
- Plum
- PowderBlue
- Purple
- Red
- RosyBrown
- RoyalBlue
- SaddleBrown
- Salmon
- SandyBrown
- SeaGreen
- SeaShell
- Sienna
- Silver
- SkyBlue
- SlateBlue
- SlateGray
- Snow
- SpringGreen
- SteelBlue
- Tan
- Teal
- Thistle
- Tomato
- Transparent
- Turquoise
- Violet
- Wheat
- White
- WhiteSmoke
- Yellow
- YellowGreen

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