

Oracle® Cloud

Managing Data Using the Oracle Visual Builder Add-in for Excel



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Contents

	Preface	
	Audience	v
	Documentation Accessibility	v
	Related Resources	v
	Conventions	vi
1	Get Started with the Oracle Visual Builder Add-in for Excel	
	Key Concepts and Terms	1-1
	How to Begin with the Oracle Visual Builder Add-in for Excel	1-1
2	Install the Oracle Visual Builder Add-in for Excel	
	Check for Updates	2-3
	Best Practices for an Upgrade	2-4
3	Manage Data in Table Layouts	
	Download Data to the Workbook	3-2
	Edit Downloaded Data in the Workbook	3-3
	Understanding Data Validation	3-4
	Understanding Read-Only Behavior	3-5
	Create New Rows to Upload to the Web Application	3-5
	Delete Data from the Web Application	3-6
	Upload Changes to the Web Application	3-7
	Clear Cache for a List of Values	3-8
	Data Consistency	3-8
4	Manage Data in Form-over-Table Layouts	
	View and Edit Data in a Form-over-Table Layout	4-1
	Create a Parent Row in a Form-over-Table Layout	4-1

5	Perform Actions in a Table or Form-over-Table Layout	
6	Manage Data for Layouts in a Dependent Hierarchy	
7	Troubleshoot Excel Workbooks	
	Check your Environment for Issues	7-1
	Logging	7-1
8	Internationalization	
	Change the Add-in's Language	8-1
	Refresh All Field Titles	8-2

Preface

Managing Data Using the Oracle Visual Builder Add-in for Excel describes how to work with Excel workbooks to retrieve and modify a web application's business data and send modified data back to the application.

Topics:

- [Audience](#)
- [Documentation Accessibility](#)
- [Related Resources](#)
- [Conventions](#)

Audience

This document is intended for business users who work with data in Excel workbooks that integrate with enterprise applications using the Oracle Visual Builder Add-in for Excel.

Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc>.

Access to Oracle Support

Oracle customers that have purchased support have access to electronic support through My Oracle Support. For information, visit <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info> or visit <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs> if you are hearing impaired.

Related Resources

For more information, see these Oracle resources:

- Oracle Public Cloud
<http://cloud.oracle.com>
- About Oracle Visual Builder in *Developing Applications with Oracle Visual Builder*
- Create Layouts in an Excel Workbook in *Developing Integrated Spreadsheets Using Oracle Visual Builder Add-in for Excel* (for workbook developers)

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
<i>italic</i>	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
monospace	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

1

Get Started with the Oracle Visual Builder Add-in for Excel

The Oracle Visual Builder Add-in for Excel is an add-in for Microsoft Excel that lets you interact with data from your web application. It integrates Excel spreadsheets with a web application to retrieve, analyze, and edit business data from the application. You download your data to an Excel spreadsheet, work with it, and upload your changes back to the service.

Key Concepts and Terms

Before you use this Excel add-in, it helps to become familiar with these key concepts, components, and terms.

Term	Description
Integrated workbook	An Excel workbook configured to work with one or more business objects.
Business object	A resource - like a purchase order or invoice - that has fields to hold your application's data. A business object includes a collection path, an item path, a set of fields, and other properties.
REST service	A REST-based web service that is associated with an Excel workbook.
Layout	A way to display a business object in an Excel worksheet. Each worksheet supports one of two layouts: Table or Form-over-Table. Layouts are created by workbook developers and are visible to data entry users in their workbooks.

How to Begin with the Oracle Visual Builder Add-in for Excel

After you install the Excel add-in, a new **Oracle Visual Builder** ribbon tab appears in Microsoft Excel. As a business user who performs data entry, you use the options in this ribbon tab to download and work with a web application's data exposed in a workbook. You can review, modify, and create data in the workbook, then upload your changes to the web application.

The following image shows a worksheet that manages employees:

	A	B	C	D	E	F	G	H	I
1	Change	Status	First Name	Last Name*	Email*	Hire Date	Job Title	Salary	Manager Id
2		Update Succeeded	Sophia	Ren	sphren@example.com	2012-02-09	Member Technical Staff	65,435.00	101
3		Create Succeeded	Lisa	Roe	lroe@example.com	2006-04-23	Member Technical Staff	6,700.00	120
4	Update		Dave	Brown	davbro@example.com	2017-07-04	Member Technical Staff	28,000.00	102
5			John	Sieve	jsieve@example.com	2012-05-11	Vice President	76,543.00	102
6			Julia	Nayer	jnayer@example.com	2005-07-16	Member Technical Staff	3,200.00	120

The user has updated one row and created a new row with employee data. These changes have been successfully uploaded to the web application, as indicated by messages in the Status column. The user has also updated data in another row that has yet to be uploaded, as indicated by the Update message in the Change column.

The image also features the Table layout, which is one of the two types of layouts supported in an Excel worksheet. The second type is the Form-over-Table layout, which can be used when a parent-child relationship exists between a parent business object and child business objects in the web application. Each worksheet in the Excel workbook can include one layout.

2

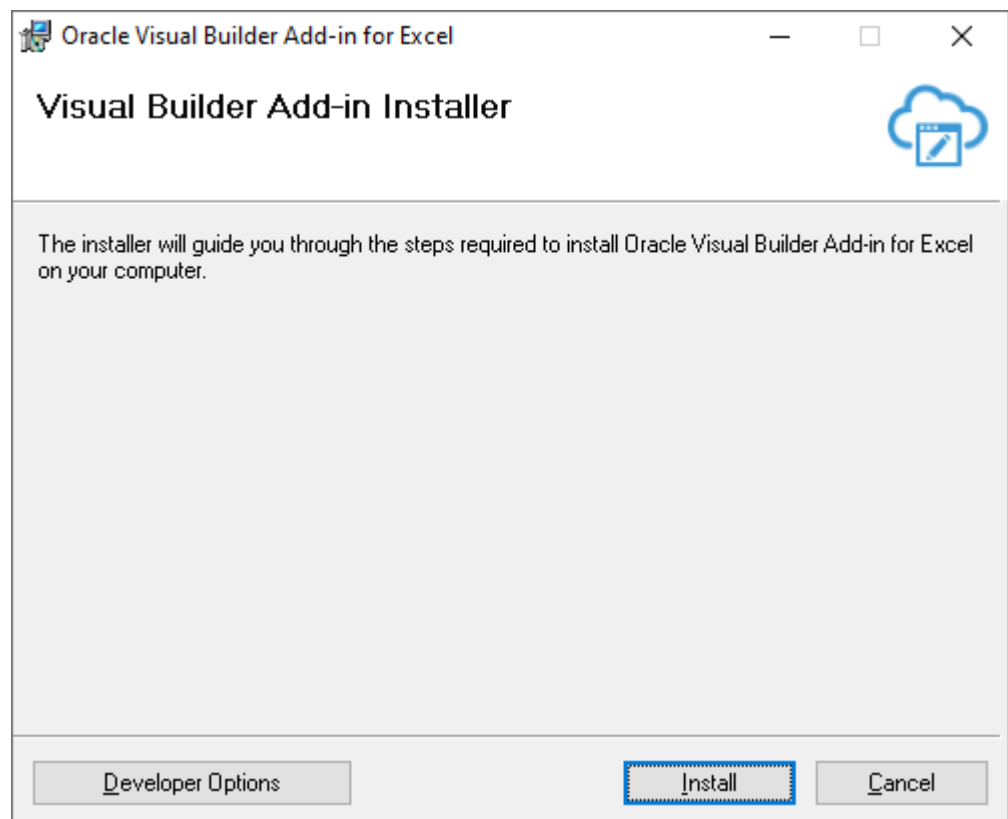
Install the Oracle Visual Builder Add-in for Excel

Install the Oracle Visual Builder Add-in for Excel by downloading the installer from the [Downloads page](#).

The add-in is supported on Windows 10 operating systems that run the 32-bit version of Microsoft Excel 2016 or 365 (see [Supported Platforms for the Visual Builder Add-in for Excel \(Doc ID 2474783.1\)](#)).

Follow these steps to install the add-in afresh or upgrade an existing installation. If you're upgrading, make sure you follow the recommended practices (see [Best Practices for an Upgrade](#)).

1. Quit Excel before you begin installation.
2. Double-click the `vbafe-installer.exe` file that you downloaded previously to launch the installation wizard.
3. As a business user responsible for data entry, click **Developer Options** and select **Disabled** to exclude the designer tools and install only the tools that help manage data.
4. Click **Install**.

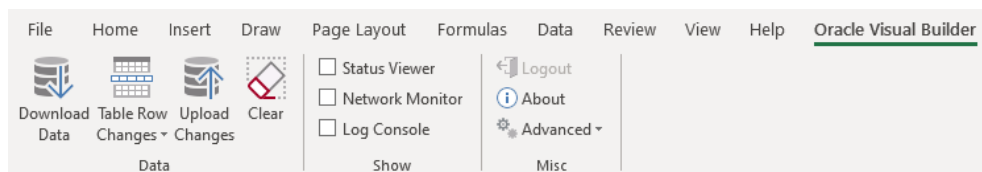


The add-in requires the Microsoft .NET Framework and Visual Studio Tools for Office Runtime to be installed on your computer. If this software is not present, both are installed.

 **Note:**

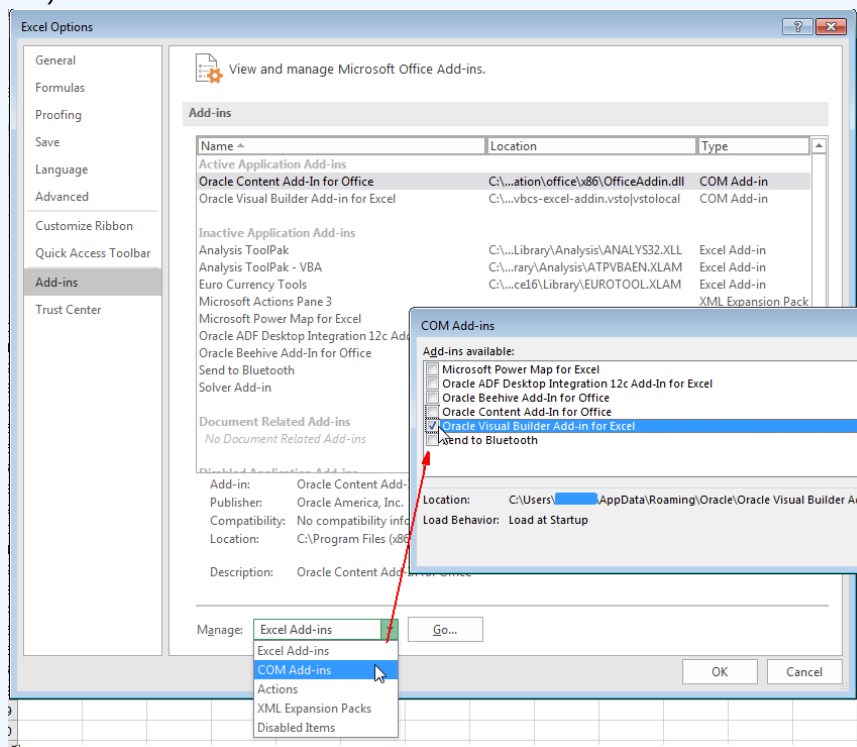
While Administrator privileges are not required to install the add-in, you must have Administrator privileges to successfully install Microsoft .NET Framework and Visual Studio Tools for Office Runtime. The add-in is installed for the current Windows user only.

5. Once installation is complete, click **Close**.
If you run into issues, check the %TEMP%\vbafe\vbafe-installer-log.txt installation log.
6. Start Excel and open a new or existing workbook.
A new **Oracle Visual Builder** ribbon tab appears, with commands that help you download and manage data from a web application.



Note:

The add-in is enabled by default after installation. You can disable and re-enable it using the **Oracle Visual Builder Add-in for Excel** check box in the COM Add-ins window (click Excel's **File > Options > Add-Ins**).

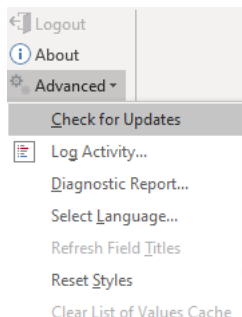


- To verify your installation, you can download and run the Visual Builder Add-in for Excel - Client Health Check Tool (see [How to use Visual Builder Add-in for Excel - Client Health Check Tool \(Doc ID 2477792.1\)](#)).

Check for Updates

After you install the Oracle Visual Builder Add-in for Excel, it's a good idea to check whether a newer version of the add-in is available for you to install. You'll need an Oracle.com account to sign in and download a new version.

- From the Advanced drop-down in your existing installation, select **Check for Updates**.



2. If a newer version is available, when prompted to open the downloads page in your browser, click **Yes**.
3. Download the installer for the latest version, then install the update. Before you update, be sure to review best practices as described in the next section.

Best Practices for an Upgrade

When you want to upgrade your existing installation of Oracle Visual Builder Add-in for Excel, follow these recommendations for a clean upgrade.

1. Before you upgrade the add-in:
 - a. Upload any pending changes using the current add-in version.
 - b. Save changes in open workbooks, then close Excel.
2. Run the `vbafe-installer.exe` installer file for the new version. The installer will automatically replace the previous version with the new version.
3. After you upgrade:
 - a. Launch Excel to complete any final installation steps.
 - b. Open your integrated workbook.
 - c. Clear any layouts of old data and download data again as required.

3

Manage Data in Table Layouts

In Microsoft Excel, select the **Oracle Visual Builder** tab to perform operations and work with data in a workbook.

	A	B	C	D	E	F	G	H	I	J	K
1	Change	Status	Email*	First Name	Last Name*	Hire Date	Job Title	Salary	Manager Id	Department*	K
2			sphren@example.com	Sophia	Ren	2012-02-09	Manager	65,435.00	101	Research	...
3			davbro@example.com	Dave	Brown	2017-07-04	Member Technical Staff	28,000.00	102	Accounting	...
4			jsieve@example.com	John	Sieve	2012-05-11	Member Technical Staff	76,543.00	102	Accounting	...
5			jnayer@example.com	Julia	Nayer	2005-07-16	Member Technical Staff	3,200.00	120	Accounting	...
6			sking@example.com	Steven	King	2003-06-17	Member Technical Staff	24,000.00	100	Accounting	...

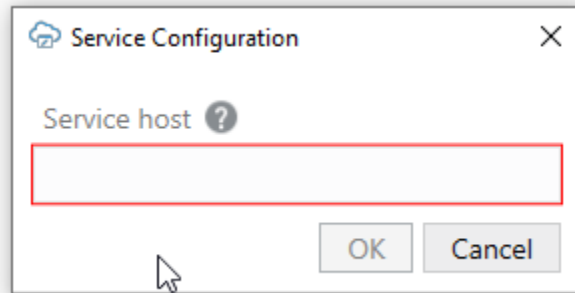
For any given layout, you can:

- View existing rows
- Edit existing rows
- Create new rows
- Delete existing rows
- Perform actions on existing rows, for example, an "Approve" or "Reject" action for an Invoice business object. These kind of special actions can be performed on certain business objects depending on the context. For more information, see [Perform Actions in a Table or Form-over-Table Layout](#).

Note:

Capabilities described in this guide may not be available for all integrated workbooks. A workbook's functionality depends on how it was configured and the capabilities that the web application provides.

If your action requires access to the web application, a Service Configuration window prompts you to enter the service host value. Ask your IT administrator for the correct value to provide here. Actions that require access to the web application include the Download Data and Upload Changes commands.



When working with data in the Excel workbook, remember the following guidelines:

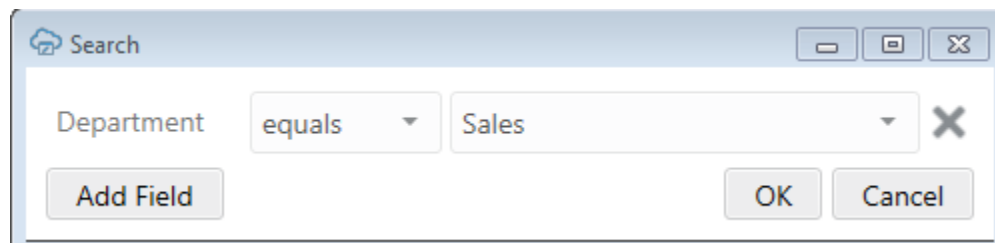
- Never edit the Key column, the last column in the table.
- Avoid using the following Excel features with the add-in. The following is a sample list of Excel features that do not work well with the add-in. Other Excel features not listed may also not work well with the add-in.
 - Do not use the Protect Sheet or Workbook features of Excel.
 - Do not attempt to re-arrange the layout of the integrated worksheet.
 - Do not use the Mark as Final command to make the Excel workbook read-only.
 - Do not delete anything from the integrated worksheet using Excel's delete features, including the Delete key.

You can remove all data from the workbook, including any pending changes that have not yet been uploaded to the REST service by clicking the **Clear** button.

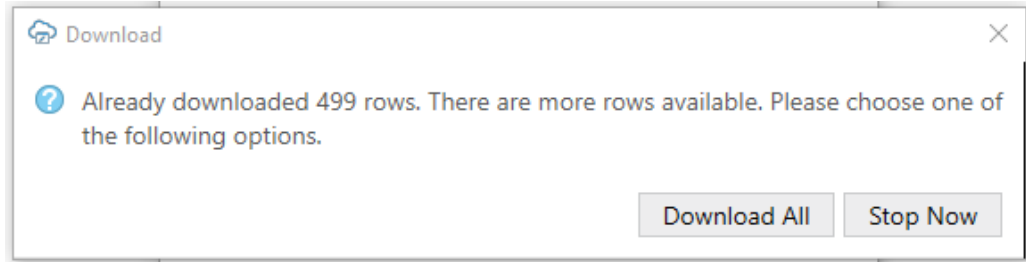
Download Data to the Workbook

Download data to the workbook using the **Download Data** button in the Oracle Visual Builder tab. The workbook prompts you for a user name and password the first time you connect to the web application.

If search options were configured for download, specify the value(s) to search on, as shown in the following example where data for the Sales department will be downloaded:



If the search returns lots of rows, confirm if you want to continue downloading more rows:



When download is complete, the add-in updates the table in the worksheet with data retrieved from the web application.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	
1	Change	Status	Id*	First Name	Last Name*	Email*	Phone #	Hire Date*	Job Title*	Salary	Commission %	Manager Id	Department	Key		Status
2			145	John	Russell	JRUSSEL	011.44.1344.429268	10/1/2004 12:00 AM	Sales Manager	14,000.00	0.40	100	Sales	-----		▼ Notifications
3			146	Karen	Partners	KPARTNER	011.44.1344.467268	1/5/2005 12:00 AM	Sales Manager	13,500.00	0.30	100	Sales	-----		Download completed successfully.
4			147	Alberto	Errazuriz	AERRAZUR	011.44.1344.429278	3/10/2005 12:00 AM	Sales Manager	12,000.00	0.30	100	Sales	-----		Downloaded 34 rows.
5			148	Gerald	Cambrault	GCAMBRAU	011.44.1344.619268	10/15/2007 12:00 AM	Sales Manager	11,000.00	0.30	100	Sales	-----		Elapsed time: 00:00:01
6			149	Eleni	Zlotkey	EZLOTKEY	011.44.1344.429018	1/29/2008 12:00 AM	Sales Manager	10,500.00	0.20	100	Sales	-----		▼ Selected row status
7			150	Peter	Tucker	PTUCKER	011.44.1344.129268	1/30/2005 12:00 AM	Sales Representative	10,000.00	0.30	145	Sales	-----		No changes pending.

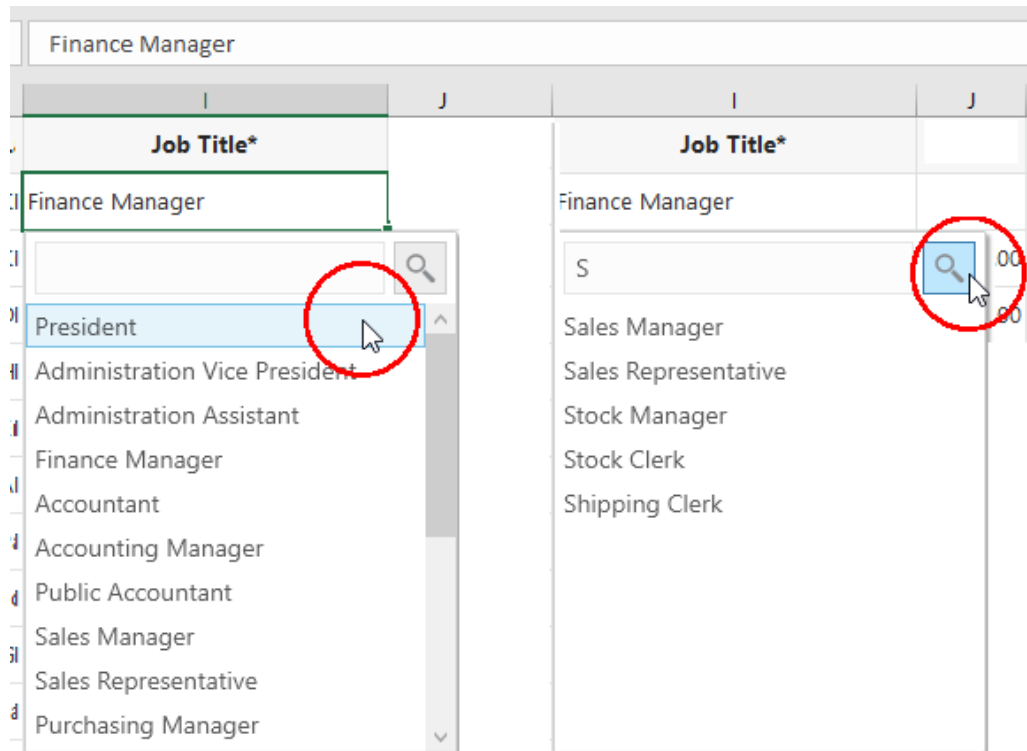
Edit Downloaded Data in the Workbook

Update data downloaded to a workbook by editing editable cells that contain the downloaded data.

The following image shows three examples where a user has edited data in the table. The Change column for the first row displays an `Update` message that indicates the user has updated this row with required and valid values. The Change column for the second row also displays an `Update` message, but its Status column displays an `Invalid` message and a red border appears around the Hire Date* column's cell to indicate that a value is required in that cell's field. Finally, in the third row, the user attempted to input `Software` in the field for Department. As `Software` is not a valid choice for this cell's list of values, a red border appears around this cell.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	Change	Status	Id*	First Name	Last Name*	Email*	Phone #	Hire Date*	Job Title*	Salary	Commission %	Manager Id	Department	Key	
2	Update		100	John	King	SKING	515.123.4567	6/17/2003 12:00 AM	Finance Manager	24,000.00			Executive	-----	
3	Update	Invalid	101	Neena	Kochhar	NKOCHHAR	515.123.4568		Administration Vice President	17,000.00			100 Human Resources	-----	
4	Update	Invalid	102	Lex	De Haan	LDEHAAN	515.123.4569	1/13/2001 12:00 AM	Finance Manager	17,000.00			100 Software	-----	

When columns have an associated list of values, you can select a value in a search-and-select window. In this case, the Change column displays `Update`. Alternatively, enter one or more of the starting characters for other values, then click the Search icon to filter the values based on your input. The following composite image illustrates both these scenarios. For the latter scenario, the user entered `s` in the search box next to the Search icon to find all display values that start with `s` (Sales Manager, Sales Representative, and so on).



Understanding Data Validation

As you enter values in cells associated with layouts, the add-in validates the cell's content based on the business object field definition.

	A	B	C	D	E	F	G	H	I
	Change	Status	Email*	First Name	Last Name*	Hire Date	Job Title	Salary	Proposed Salary (Adjust Salary)
1	Adjust Salary		sphren@example.com	Sophia	Ren	2012-02-09	Manager	65,435.00	65,900
2	Update	Invalid	davbro@example.com	Dave	Brown	2017-07-04	Research	28,000.00	
3	Create	Invalid							
4			Email	hn	Sieve	2012-05-11	Member Technical Staff	76,543.00	
5			✘ A value is required. Enter a value.	lia	Nayer	2005-07-16	Member Technical Staff	3,200.00	
6				even	King	2003-06-17	Member Technical Staff	24,000.00	

Status ✕

▼ Notifications

▼ Selected row status

Pending create.

Data entry errors found.

Validation occurs when you complete data entry in a cell; in other words, as soon as you enter or edit a value in a cell and move on to another cell or area. Validation also occurs at other key points:

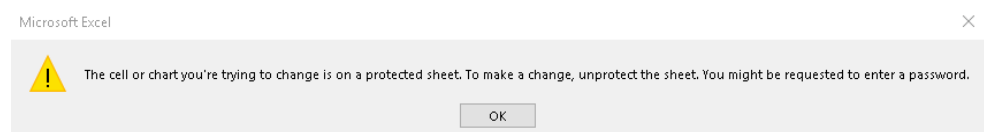
- When a new row is added to the data table
- When a form create starts
- At the beginning of an upload.

Typically, the add-in determines whether a cell's value is consistent with the expected data type. For example, you can't enter a word, say, `book`, in a field that expects a number like `2,000`. It also checks whether a required cell is missing a value and whether the value in a cell associated with a list of values is valid for that list. Required fields are designated by the workbook developer and must include a value for your changes to be uploaded successfully.

Understanding Read-Only Behavior

If a particular field is considered read-only, the add-in behaves as follows:

- It applies a "read-only" style to the corresponding cells to indicate that the value cannot be changed
- The cell's value is excluded from any subsequent upload to the web application
- The data entered by the user is not validated
- If the worksheet is enabled for worksheet protection (as specified by the workbook developer), any attempt to edit the cell results in a warning from Excel:



Create New Rows to Upload to the Web Application

Create new rows in the table using the **Insert Rows** option in the add-in's **Table Row Changes** menu or by using Excel options to insert a full row.

You can create new rows before or after downloading data to your workbook:

- To create new rows in a table with downloaded data, click **Table Row Changes** and select **Insert Rows**, or right-click and choose **Insert** from the Excel context menu (you can choose any Excel option to insert a row). You can create new rows either at the end of the data table or in the middle.



Tip:

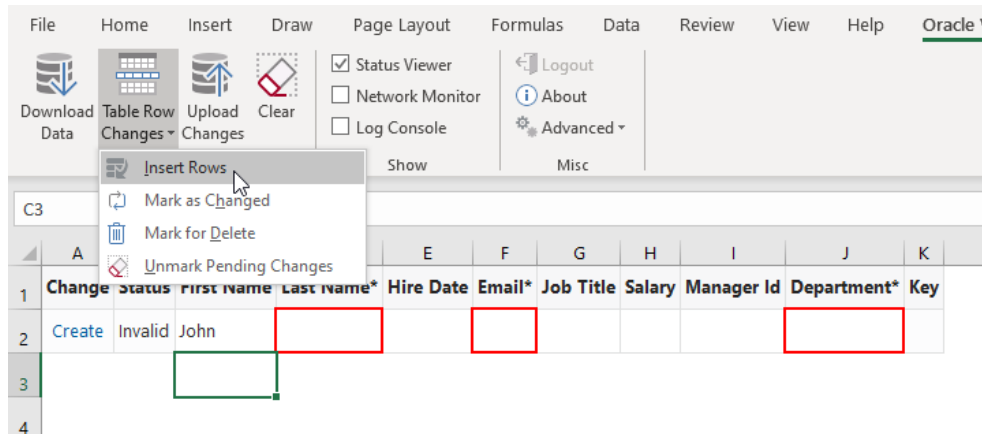
To insert multiple rows, select cells from multiple rows, then select **Table Row Changes > Insert Rows**. The add-in will create multiple pending Create rows for you to fill out as needed, as shown here:

	A	B	C	D	E	F	G	H	I	
1	Change	Status	Id*	First Name	Last Name*	Email*	Phone #	Hire Date*	Job Title*	St
2			100	Steven	King	SKING	515.123.4567	6/17/2003 12:00 AM	President	24,0
3	Create		209	John	Jones	JJONES		6/6/2019 12:00 AM	Accountant	12,0
4	Create	Invalid								
5	Create	Invalid								
6			101	Neena	Kochhar	NKOCHHAR	515.123.4568	9/21/2005 12:00 AM	Job Title*	ent
7			102	Lex	De Haan	LDEHAAN	515.123.4569	1/13/2001 12:00 AM	A value is required.	ent
8			103	Alexander	Hunold	AHUNOLD	590.423.4567	1/3/2006 12:00 AM	Enter a value.	9,0

- To create several new rows without downloading data, if create is enabled for the Table, add values in the empty row that appears below the column headers. This empty row is known as the placeholder row:

	A	B	C	D	E	F	G	H	I	J	K
1	Change	Status	First Name	Last Name*	Hire Date	Email*	Job Title	Salary	Manager Id	Department*	Key
2											
3											
4											

Once you enter data in the placeholder row (for example, in the cell for First Name), the add-in automatically recognizes the row as a pending Create row. To insert more rows, select a cell in the first row after the table and select **Table Row Changes > Insert Rows**.



Any time a new row is created, it is validated for data entry. An *Invalid* message appears in the Status column if the row contains a cell where you are required to enter a value and are yet to do so, or you have entered an incorrect value (such as an unexpected data type). A red border also appears around the cell where a value is required or invalid. See [Understanding Data Validation](#).

Delete Data from the Web Application

Mark rows for deletion from the web application using the **Mark for Delete** option in the **Table Row Changes** menu.

To mark a row for deletion from the service:

1. Select a cell in the table row that you want to delete from the web application. If you want to select a range of table rows to mark for deletion, hold down your keyboard's Shift key and select the first and last row in the range of table rows that you want to delete.
2. Click the **Table Row Changes** menu, then **Mark for Delete**. A *Delete* message appears in the Change column and the add-in changes the style applied to the data in the table rows, as shown in the following image where three rows in the table are marked for deletion:

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Change	Status	Id*	First Name	Last Name*	Email*	Phone #	Hire Date*	Job Title*	Salary	Commission %	Manager Id	Department	Key
107			205	Shelley	Higgins	SHIGGINS	515.123.8080	6/7/2002 12:00 AM	Accounting Manager	12,008.00		101	Accounting
108			206	William	Gietz	WGIEZT	515.123.8181	6/7/2002 12:00 AM	Public Accountant	8,300.00		205	Accounting
109	Delete		209	Bobby	Dooley	BDOOLEY		6/6/2019 12:00 AM	Accountant	12,000.00			
110	Delete		210	James	Jones	JJONES		6/6/2019 12:00 AM	Accounting Manager	14,000.00			
111	Delete		211	John	Evans	JEVANS		6/6/2019 12:00 AM	Public Accountant	12,000.00			

3. Click **Upload Changes**.

4. When prompted to confirm pending deletions, click **Yes**.

The add-in sends delete requests for each row that you marked for deletion. For each successful deletion, the corresponding Excel row is removed. If the deletion fails, the Excel row remains with an error message.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Change	Status	Id*	First Name	Last Name*	Email*	Phone #	Hire Date*	Job Title*	Salary	Commission %	Manager Id	Department	Key
107			205	Shelley	Higgins	SHIGGINS	515.123.8080	6/7/2002 12:00 AM	Accounting Manager	12,008.00		101	Accounting
108			206	William	Gietz	WGIEZT	515.123.8181	6/7/2002 12:00 AM	Public Accountant	8,300.00		205	Accounting
109														
110														
111														



Tip:

If you change your mind about deleting one or more rows that you have marked for deletion, select the rows and select **Unmark Pending Changes** from the **Table Row Changes** menu. Use **Unmark Pending Changes** before you upload changes from the Excel workbook; the option does not work after the changes are uploaded.

Upload Changes to the Web Application

Once you complete the changes that you want to make, click the **Upload Changes** button to upload all the changes to the web application.

The Excel add-in performs all the requested operations, as seen in the Change column. Review the Status column to see which rows succeeded and failed. The Status column displays a **Create Failed** message or an **Update Failed** message in the cell of a row that the add-in failed to upload and the **Table Row Status** appears in Excel's task pane to provide additional information on the failure, as in the following example where a required value for Hire Date was not entered. In the following example, you need to enter a hire date and click **Upload Changes** to try and upload the modified data again. Successfully deleted rows are removed from the Excel worksheet while failed attempts to delete a row result in the row remaining in the Excel worksheet. You can inspect the reason for the failure to delete in the status in Excel's task pane.

	A	B	C	D	E	F	G	H	I
1	Change	Status	Id*	First Name	Last Name*	Email*	Phone #	Hire Date*	Job
104			202	Pat	Fay	PFAY	603.123.6666	8/17/2005 12:00 AM	Marketing Repri
105			203	Susan	Mavris	SMAVRIS	515.123.7777	6/7/2002 12:00 AM	Human Resourc
106			204	Hermann	Baer	HBAER	515.123.8888	6/7/2002 12:00 AM	Public Relations
107			205	Shelley	Higgins	SHIGGINS	515.123.8080	6/7/2002 12:00 AM	Accounting Man
108		Create Succeeded	207	John	Jones	JJONES		6/6/2019 12:00 AM	Administration v
109	Create	Create Failed	208	Jenny	Jones	JEJONES			Sales Manager
110			206	William	Gietz	WGIEZT	515.123.8181	6/7/2002 12:00 AM	Public Accountar

Status

▼ Notifications
Upload completed.
Create rows: 1 succeeded, 1 failed, 2 total.
Elapsed time: less than one second

▼ Selected row status
Create Failed
✖ A value is required for column: Hire Date*



Tip:

If you change your mind about uploading changes for a particular row, select the row, then from the **Table Row Changes** menu, select **Unmark Pending Changes**. The add-in won't include the row when it sends other rows back to the web application for update, creation, or deletion.

Clear Cache for a List of Values

Some fields may have associated choice lists, called **lists of values**. The choices for each list of values are fetched from the web application and stored locally (cached) in the workbook.

In some cases, the cached choices for a list of values may become stale or out of date. To start fresh with the latest values from the web application, select **Clear List of Values Cache** from the **Advanced** menu.

Data Consistency

The add-in helps prevent multiple users from overwriting each other's changes.

Consider this scenario:

1. User A downloads information from a business object into a table in their integrated workbook.
2. User B downloads the same information into a table in their integrated workbook, edits it, and uploads changes.
3. User A then edits the same information (downloaded in Step 1) and uploads the changes.
4. The add-in provides the service with the necessary information to prevent User A's changes from overwriting those changes made by User B. Instead, when the server detects such a change, its response allows the add-in to display an error message similar to the following for any such rows in the table:

`This row has been modified by another user. Please download before editing.`

If you see this message, you'll have to discard your changes by downloading the latest data and then redoing your changes as needed.

4

Manage Data in Form-over-Table Layouts

In addition to Table layouts, an Excel workbook can use a Form-over-Table layout, when a parent-child relationship exists in the business objects used by your web application. In this case, you can manage the parent object's data as part of a form and the child object's data in a table, both of which are available in a single worksheet.

View and Edit Data in a Form-over-Table Layout

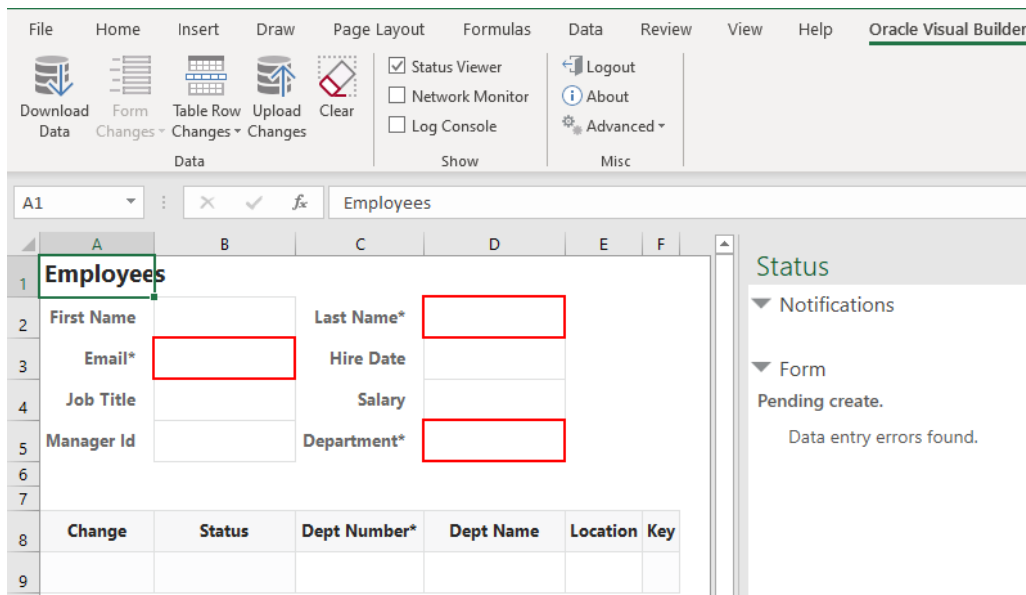
Viewing and editing data in a Form-over-Table layout is similar in many ways to viewing and editing data in a Table layout.

For example, you use the **Download Data** button to download data from the Form-over-Table layout's business objects. Much like table layouts, you may be prompted to do a search at the beginning of a download. Unlike a table layout, the Form-over-Table displays the first row found from the search, plus all the children of that first parent row.

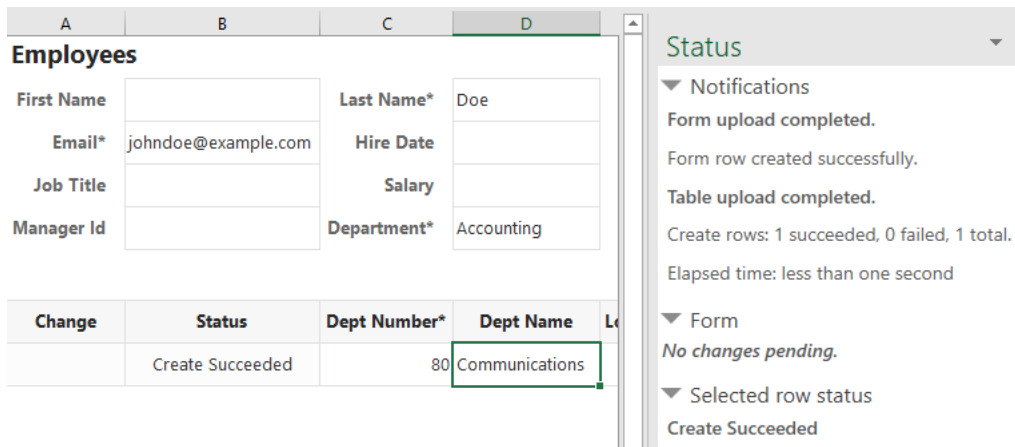
In some cases, you may be able to update the form fields in in a Form-over-Table. The add-in performs data entry validation before it attempts to upload your updates. Ensure that you fix any data entry failures before the add-in uploads changes. For a form field configured to use a list of values, the behavior is the same as described for the Table layout. That is, a search-and-select window appears when you select the form field. Read-only form fields cannot be edited (see [Understanding Read-Only Behavior](#)).

Create a Parent Row in a Form-over-Table Layout

If create is enabled for the form, you can select **Create Form Row** in the **Form Changes** menu to place the layout in create mode. When you first click **Create Form Row**, all the form fields are blank and the child table has no rows, as shown in the following image:



You can then enter form field values, even create new child table rows. All changes are marked as a pending create, until you click **Upload Changes**. The add-in validates the data before it attempts to upload updates, and any data entry failures need to be addressed before the changes can be uploaded.



5

Perform Actions in a Table or Form-over-Table Layout

In addition to data entry operations such as edit, create, and delete described previously, some web applications define special operations, "custom actions", on particular business objects. For example, an Invoice might define actions called "Approve" or "Reject" that can be performed on each invoice.

As a business user, you don't need to do anything special to use these actions in a data table. Click **Download Data** to download data to your table, then update an action's cell values much as you would any other field's cell value. In the following Table layout, rows marked as `Close` are those where the user has updated cell values corresponding to the `Close Action (Close)` and `Close Reason (Close)` action columns.

	A	B	C	D	E	F
1	Change	Status	PO Header Id	Close Action (Close)	Close Reason (Close)	Order Number
2	Close		265,134	Rejected	Over budget	PSR-265134
3	Close		265,135	Approved		PSR-265135
4	Close		265,136	Rejected	Over budget	PSR-265136
5			265,137			PSR-265137
6			265,222			PSR-265222

When you add or update a value in an action cell first, the row is marked for that action in the `Change` column. Other cells in that row that don't involve actions are grayed out and cannot be edited. But if you add or update a value first in a cell that doesn't involve an action, the row is marked as an `Update` in the `Change` column and the action cells in that row are grayed out (as shown in the following image). In other words, the first action you perform on a row determines that row's pending action.

	A	B	C	D	E	F
1	Change	Status	PO Header Id	Close Action (Close)	Close Reason (Close)	Order Number
2	Close		265,134	Rejected	Over budget	PSR-265134
3	Close		265,135	Approved		PSR-265135
4	Close		265,136	Rejected	Over budget	PSR-265136
5	Update		265,139			PSR-265137
6			265,222			PSR-265222

You can also mark rows for an action by selecting **Mark for Action** from the **Table Row Changes** menu. With this option, if only one action is defined, you'll be prompted

to confirm. If more than one is defined, you'll be prompted to select from a list of available actions:

The screenshot shows a software interface with a ribbon menu (File, Home, Insert, Draw, Page Layout, Formulas, Data, Review, View) and a table. The 'Table Row Changes' menu is open, showing options: 'Mark as Changed', 'Mark for Action...' (highlighted with a red box), and 'Unmark Pending Changes'. The table has columns: Change, Status, PO Header Id, Close Action (Close), Close Reason (Close), and Order Number. Row 6 is selected. A dialog box titled 'Choose an action to perform on the selected rows' is open, showing a list of actions:

Title	Description
Communicate	communicate
Submit	submit
Renumber PO	renumberPO
Close	close

The 'Close' action is selected in the dialog box. The dialog also includes a 'Filter' field, 'OK', and 'Cancel' buttons.

When a row is marked for an action, the action's fields also receive the same validation, as described in [Understanding Data Validation](#).

If you're working with a Form-over-Table layout, select **Perform Action** in the Form Changes menu, then follow the prompts to perform actions on a Form row, as shown here where you're prompted to select an action, then provide values for the action's fields:

The screenshot shows the Oracle APEX interface with the 'Perform Action...' button highlighted in the ribbon. The form row for 'ExpenseReports' is visible, showing fields for 'Expense Report Id*', 'Partition Id*', 'Purpose', 'Reporter Id*', 'Final Approval Date', and 'Approver Id'. A dialog box titled 'Choose an action to perform on the form row' is open, showing a list of actions. The 'Close' action is selected, and the dialog prompts the user to provide a value for each action field. The 'Close Action' field is set to 'Rejected' and the 'Close Reason' field is set to 'Over budget'.

An action can be performed only on an existing row (not on a pending `Create` row).

Once you perform an action on the form, it takes effect immediately, unlike an action in a table (where rows are marked for actions and the actions are performed later during an upload).

Also, form row data is not automatically refreshed after an action is performed, even if the action was successful. Click **Download Data** if you want to refresh data in the form row.

6

Manage Data for Layouts in a Dependent Hierarchy

Sometime business objects exist in a multi-level hierarchy. For example, a Purchase Order might contain a header and a set of lines. That's a two-level hierarchy that can be managed with a Form-over-Table layout. But if each Purchase Order Line were to have one or more related Schedules, that's an example of a three-level hierarchy. For such multi-level business object hierarchies, the add-in enables coordinated operations across multiple "dependent" layouts.

When you click **Download Data**, **Upload Changes**, or **Clear** for a layout in a dependent hierarchy, the operation takes effect on all layouts in the hierarchy, starting with the primary layout, progressing to the next layout in the hierarchy, and continuing down until the last level in the hierarchy. When the operation is complete on all layouts in the hierarchy, the worksheet with the primary layout is made active again.

During a download operation, all items for all rows from the parent layout are downloaded at each level. (Any search specifications, if configured, apply only to the primary Form-over-Table layout.) For example, when Sheet 1 in your workbook contains Purchase Orders as the parent and Lines as the child (containing, say, 10 Lines) and Sheet 2 contains Schedules as the grandchild, the Schedules table is populated with all Schedule items for all Lines. If each of the 10 Lines had 2 Schedules, the Schedules table would download 20 Lines. With this download, you can update all Schedules and upload all the changes together.

Following a download, you can edit data much as you would a Table or a Form-over-Table layout. Remember though that when you create rows in the grandchild table, you need to identify the correct child row that it belongs to. Typically, one column in the grandchild table comes from the child table. For example, let's say the Schedules table in Sheet 2 includes a PO Line ID column that comes from the Lines table in Sheet 1. By typing the correct PO Line ID in the Schedules table for new create rows, the schedules will be properly associated with the PO Lines.

When updates are ready to be uploaded, the upload operation submits all pending changes across the hierarchy of layouts.

You can view details of the operation in the primary Form-over-Table layout's Status Viewer, which shows results for the primary layout as well as a summary for each layout in the dependent hierarchy, as shown in this example for a download operation:

Status ▾

▼ Notifications

Form download completed successfully.
Downloaded form row.

Table download completed successfully.
Downloaded 1 table rows.

Elapsed time: less than one second

Dependent layouts' download status

Table (schedules): Downloaded 2 rows.
Table (distributions): Downloaded 2 rows.

▼ Form

No changes pending.

Click each dependent layout to view additional details of the operation.

7

Troubleshoot Excel Workbooks

If you run into issues when working with integrated Excel workbooks, use the information in this section to identify and resolve issues with the Oracle Visual Builder Add-in for Excel.

Before you dig deeper to isolate issues, follow these steps to fix general issues with your installation:

- Make sure you're on a [supported platform](#).
- Upgrade to the [latest version](#) of the add-in.
- Apply available Microsoft updates.
- Close all workbooks, exit Excel, and try again with simple steps.

Check your Environment for Issues

Run the Client Health Check tool to determine if your environment is configured correctly after you install the add-in.

Download the tool from My Oracle Support. For details on how to run the tool, see [How to use Visual Builder Add-in for Excel - Client Health Check Tool \(Doc ID 2477792.1\)](#)

Logging

When reporting an issue about the Excel add-in, generate a detailed log file that captures the steps that lead to the problem you want to report.

1. In Excel, click the **Oracle Visual Builder** tab.
2. Select **Log Activity** from the Advanced drop-down list to specify a directory location and file name for the log file. This starts the logging session.
3. Repeat the steps that lead to the issue.
4. Exit Excel completely to stop the logging session and before you access the log file.



Note:

The next time you run Excel logging will no longer be enabled.

The log file that you generate captures information about steps during an Excel session.

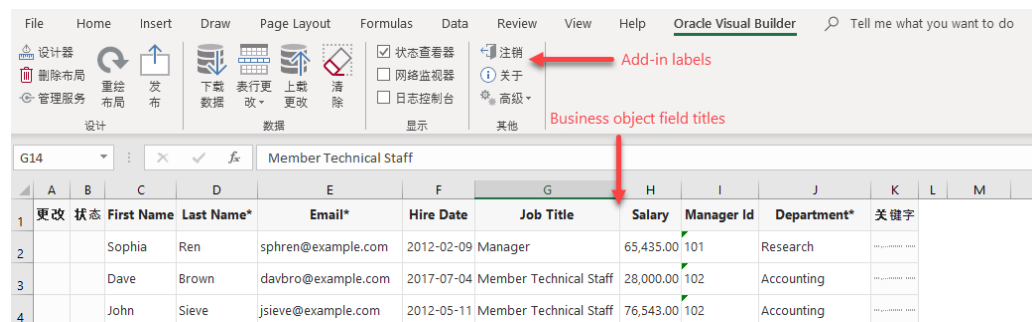
8

Internationalization

The Oracle Visual Builder Add-in for Excel is available in various languages. It automatically detects the user's preferred language from Microsoft Excel and uses that language where possible.

When using the add-in, you work with:

- Labels visible on the Oracle Visual Builder ribbon and in various windows displayed by the add-in. These labels, known as the **add-in labels**, are owned by the add-in and are localized.
- Labels visible as column headers and field labels are known as **business object field titles**.



Note:

Because business object field titles are owned by the service, contact the service owner for any missing translations or languages.

Change the Add-in's Language

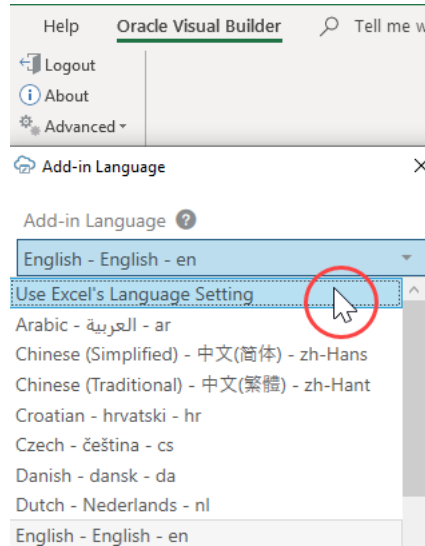
You can change the language that the Excel add-in uses.

1. In Excel, click the **Oracle Visual Builder** tab.
2. Choose **Select Language** from the Advanced drop-down.
3. In the Add-in Language drop-down list that appears, select the language you want to use. The drop-down list displays the languages that the add-in supports.
4. Click **OK**.
5. Restart Excel to make your changes take effect.

The add-in's user interface elements (**Download Data** and so on) now use the language you selected. If the selected language uses a right-to-left writing system, the add-in's user interface elements appear in right-to-left mode. The language that Excel uses remains unchanged, as does the format used for dates, times, and numbers. See

Excel or Windows options to change Excel's language and formats for dates, times, and numbers.

The language that you choose for the add-in language is stored in a local file in the Windows user profile. You can select the Use **Excel's Language Setting** option in the Add-in Language drop-down list to remove this setting for the current user.



Refresh All Field Titles

In some cases, you might be able to refresh all field titles.

Here's an example of when to reset field titles: Imagine you've received an invoices workbook with English as the current language, so all field titles are in English. Now, if you are a data entry user based in France who has Windows and Excel configured for French, you can reset the field titles to see field titles in French as well.

1. In Excel, click the **Oracle Visual Builder** tab.
2. Choose **Refresh Field Titles** from the Advanced drop-down.
3. In the Field Titles window, click **Yes**.

Note:

A given service may or may not have translations for the requested language. For any missing translations, contact the owner of the service.