



Microsoft Project Online – Manipulating OData using \$select and \$filter

By Darin Brazile

Microsoft's cloud based Project and Portfolio Management offering, Project Online, has brought a traditionally enterprise level tool to the masses. Small to medium size companies can now afford to move their portfolio management from excel to a bona fide system. The previous barrier to entry, purchasing hardware, has been removed by Microsoft hosting the data. Since the data is no longer onsite, the Open Data Protocol (OData) was chosen as the method for exposing the data for consumption.

Before continuing with this post, please read how to create an OData connection to your Project Online instance: [Create OData Connection](#)

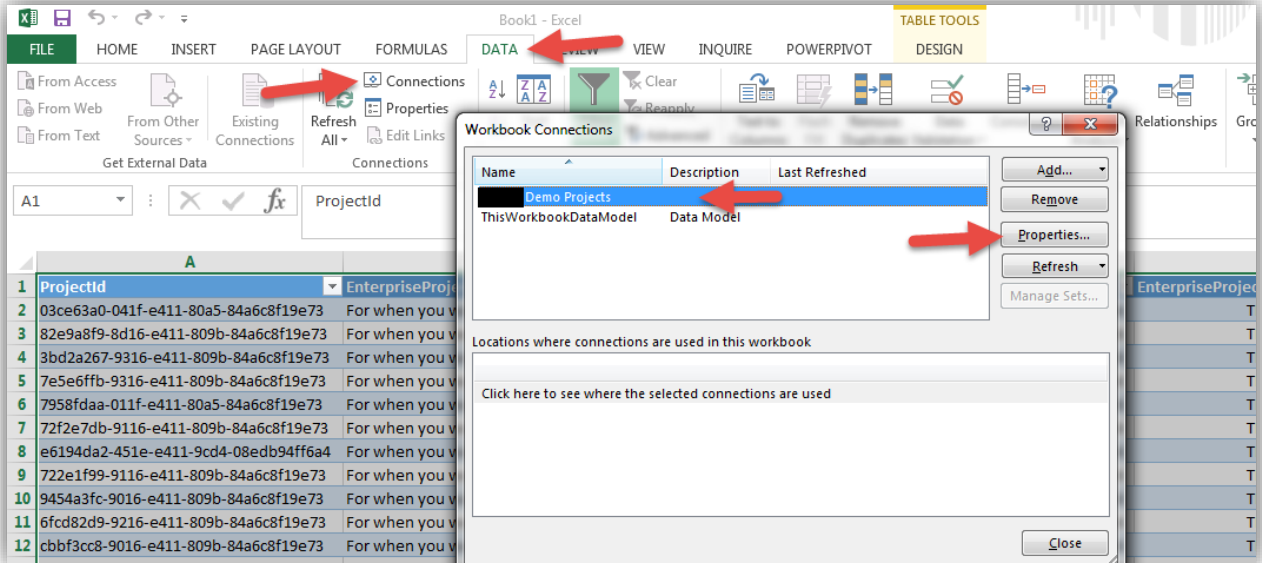
Today we will focus on editing the data string. I will use two simple methods that are easy to replicate. I have chosen the projects table and created a sample report that displays a project list with durations. Think of this as one pane of a dashboard report. To speed data transfer, I will limit the data pull to only the data displayed. I will then clean up my data, by filtering out unwanted projects.

| | A | B | C | D | E |
|----|--------------------|--------------------|-----------------|-----------------------|--------------------------|
| 1 | ProjectName | ProjectStatus | ProjectDuration | ProjectActualDuration | ProjectRemainingDuration |
| 2 | Consulting Three | Active | 1504 | 453 | 1051 |
| 3 | Customer Service | Active | 548 | 24 | 524 |
| 4 | AAA Dog House | Active | 315 | 58 | 257 |
| 5 | Report Preparation | Active | 340 | 27 | 313 |
| 6 | New Product Launch | Active | 159 | 149 | 10 |
| 7 | A Dog House | Active | 140 | 69 | 71 |
| 8 | Market Research | Active | 640 | 0 | 640 |
| 9 | AA Dog House | Completed | 143 | 23 | 120 |
| 10 | Consulting One | Initial Acceptance | 1248 | 0 | 1248 |
| 11 | Consulting Two | On Hold | 1816 | 824 | 992 |
| 12 | Customs Work | Proposed | 628 | 17 | 611 |

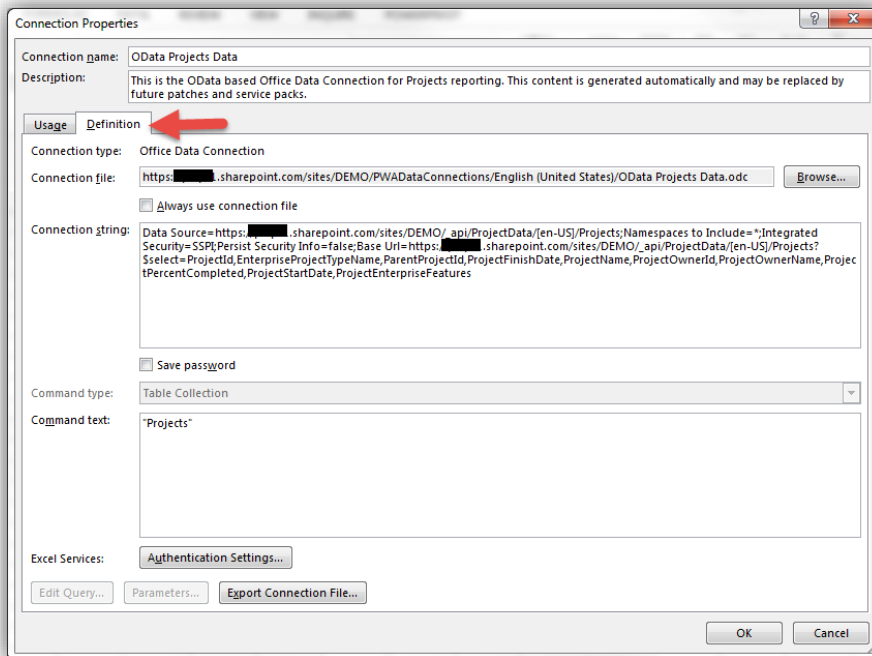
Connection String

1. Open the report or Excel file to modify.
2. Click on the **Data** tab.
3. Select **Connections**.

4. In pop-up window, select desired connection (in the example, I only have one to select from).
5. Click **Properties**.



6. Click on the **Definitions** tab.



Edit Odata String - \$select

I want to target only the data that I intend to display. I will use the \$select query option to do so.

- ★ Experience tip: Copy the connection string into OneNote, Word or Excel to make the modifications as a means of saving the original and safe keeping of the one that works.

The syntax of my \$select statement looks like this:

```
Connection string: Data Source=https://[redacted].sharepoint.com/sites/DEMO/_api/projectdata/[en-us]/Projects;Namespaces to Include=*;Integrated Security=SSPI;Persist Security Info=false;Base Url=https://[redacted].sharepoint.com/sites/DEMO/_api/projectdata/[en-us]/Projects?$select=ProjectName,ProjectStatus,ProjectDuration,ProjectActualDuration,ProjectRemainingDuration
```

The resulting data set:

| | A | B | C | D | E |
|----|-----------------------|-----------------|-------------------------------------|--------------------------|--------------------|
| 1 | ProjectActualDuration | ProjectDuration | ProjectName | ProjectRemainingDuration | ProjectStatus |
| 2 | 148.68 | 158.85 | New Product Launch | 10.17 | Active |
| 3 | 0 | 24 | ZZ Test Delete Site | 24 | Test |
| 4 | 68.8 | 140 | A Dog House | 71.2 | Active |
| 5 | 0 | 640 | Market Research | 640 | Active |
| 6 | 452.823333 | 1504 | Consulting Three | 1051.176667 | Active |
| 7 | 16.613333 | 628 | Customs Work | 611.386667 | Proposed |
| 8 | 0 | 0 | Timesheet Administrative Work Items | 0 | |
| 9 | 0 | 1248 | Consulting One | 1248 | Initial Acceptance |
| 10 | 23.995 | 548 | Customer Service | 524.005 | Active |
| 11 | 823.948333 | 1816 | Consulting Two | 992.051667 | On Hold |
| 12 | 23.068333 | 142.981667 | AA Dog House | 119.913334 | Completed |
| 13 | 58.21 | 315.246667 | AAA Dog House | 257.036667 | Active |
| 14 | 27.2 | 340 | Report Preparation | 312.8 | Active |

Edit Odata String - \$filter

Two things stand out to me, the order and formatting of the data and the data included. We will deal with the data that is included first. I do not want any test projects nor any



administrative projects. I add a \$filter statement to my query:

```

Connection string: Data Source=https://[redacted].sharepoint.com/sites/DEMO/_api/projectdata/[en-us]/Projects;Namespaces to Include=*;Integrated Security=SSPI;Persist Security Info=false;Base Url=https://[redacted].sharepoint.com/sites/DEMO/_api/projectdata/[en-us]/Projects? $filter=ProjectStatus ne 'Test' and ProjectStatus ne null& Sselect=ProjectName,ProjectStatus,ProjectDuration,ProjectActualDuration,ProjectRemainingDuration
  
```

The resulting data set:

| | A | B | C | D | E |
|----|-----------------------|-----------------|--------------------|--------------------------|--------------------|
| 1 | ProjectActualDuration | ProjectDuration | ProjectName | ProjectRemainingDuration | ProjectStatus |
| 2 | 452.823333 | 1504 | Consulting Three | 1051.176667 | Active |
| 3 | 16.613333 | 628 | Customs Work | 611.386667 | Proposed |
| 4 | 0 | 1248 | Consulting One | 1248 | Initial Acceptance |
| 5 | 23.995 | 548 | Customer Service | 524.005 | Active |
| 6 | 823.948333 | 1816 | Consulting Two | 992.051667 | On Hold |
| 7 | 23.068333 | 142.981667 | AA Dog House | 119.913334 | Completed |
| 8 | 58.21 | 315.246667 | AAA Dog House | 257.036667 | Active |
| 9 | 27.2 | 340 | Report Preparation | 312.8 | Active |
| 10 | 148.68 | 158.85 | New Product Launch | 10.17 | Active |
| 11 | 68.8 | 140 | A Dog House | 71.2 | Active |
| 12 | 0 | 640 | Market Research | 640 | Active |

Notice that two projects were removed, ZZ Test Delete Site and Timesheet Administrative Work Items.



Report Finalization

I want to make my mini-report or dashboard tile more readable so I perform some formatting work. My resulting report:

| | A | B | C | D | E |
|----|--------------------|--------------------|-----------------|-----------------------|--------------------------|
| 1 | ProjectName | ProjectStatus | ProjectDuration | ProjectActualDuration | ProjectRemainingDuration |
| 2 | Consulting Three | Active | 1504 | 453 | 1051 |
| 3 | Customer Service | Active | 548 | 24 | 524 |
| 4 | AAA Dog House | Active | 315 | 58 | 257 |
| 5 | Report Preparation | Active | 340 | 27 | 313 |
| 6 | New Product Launch | Active | 159 | 149 | 10 |
| 7 | A Dog House | Active | 140 | 69 | 71 |
| 8 | Market Research | Active | 640 | 0 | 640 |
| 9 | AA Dog House | Completed | 143 | 23 | 120 |
| 10 | Consulting One | Initial Acceptance | 1248 | 0 | 1248 |
| 11 | Consulting Two | On Hold | 1816 | 824 | 992 |
| 12 | Customs Work | Proposed | 628 | 17 | 611 |

For more information about Odata, visit the following links:

<http://www.odata.org/documentation/odata-version-3-0/url-conventions/>
<http://www.odata.org/documentation/odata-version-3-0/odata-version-3-0-core-protocol/>