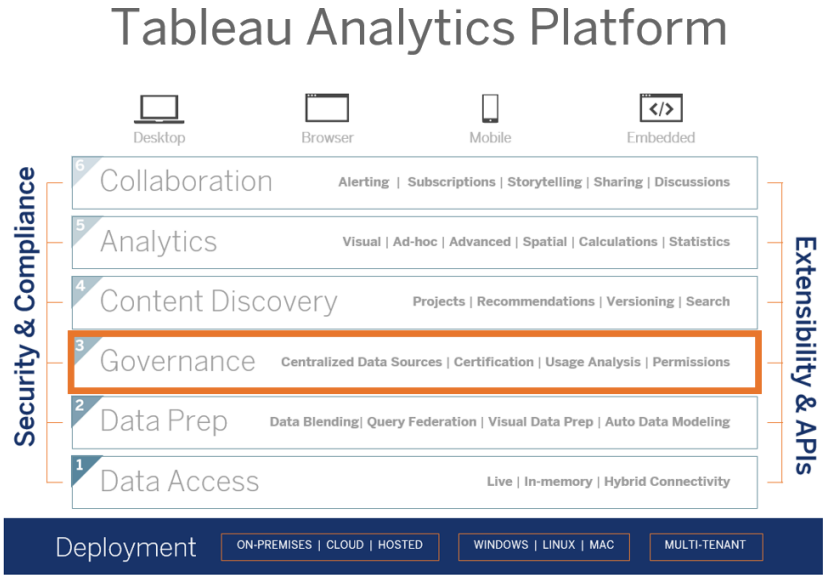


# Introduction to Tableau for Wells Fargo EGS

Dylan Lockman, Tableau, Enterprise Sales Engineer

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Type	Question	Response
Governance	How is data governance managed in Tableau?	<p>Governance is a key component of Tableau’s analytics platform.</p>  <p>The diagram illustrates the Tableau Analytics Platform architecture. It is organized into six horizontal layers, numbered 1 to 6 from bottom to top. Layer 1 is Data Access (Live   In-memory   Hybrid Connectivity). Layer 2 is Data Prep (Data Blending   Query Federation   Visual Data Prep   Auto Data Modeling). Layer 3 is Governance (Centralized Data Sources   Certification   Usage Analysis   Permissions), which is highlighted with an orange border. Layer 4 is Content Discovery (Projects   Recommendations   Versioning   Search). Layer 5 is Analytics (Visual   Ad-hoc   Advanced   Spatial   Calculations   Statistics). Layer 6 is Collaboration (Alerting   Subscriptions   Storytelling   Sharing   Discussions). The platform is accessible via Desktop, Browser, Mobile, and Embedded. Deployment options include ON-PREMISES   CLOUD   HOSTED, WINDOWS   LINUX   MAC, and MULTI-TENANT. Vertical labels on the left and right indicate 'Security &amp; Compliance' and 'Extensibility &amp; APIs' respectively.</p> <p>Tableau Server provides a secured environment to host interactive visualizations that can be accessed via a web browser or mobile device. Within the platform, there is also a shared data layer that can connect to one or more back end sources and master metadata, hierarchies, calculations, etc . Wells Fargo has implemented an enterprise governance strategy on their Tableau Server that currently supports over 2600 analysts, 64000 consumers, and hundreds of business functions and teams.</p>



Governance	Can we export the reports? If yes, can users still interact with them without the need of Tableau Software installed on one's laptop?	Tableau has features that can export the data into CSV, image, and PDF formats. Please note that this goes against a Wells Fargo best practice as it moves information into unsecured formats that cannot be traced or audited. The best practice is to share the link to the visualization on Tableau Server which is secured by network, access and data security.
Governance	Is it possible to export the data to access format?	Yes. While Tableau does have this capability, related to the previous comment around Wells Fargo security best practices, this is not encouraged.
Governance	Can we hide comments and tag from the page?	Yes. This can be suppressed by use of permissions or when embedding the view, a parameter of 'toolbar=no' can be specified.
Governance	How do we see report metadata?	Report metadata is most easily seen when reports are leveraging published Data Sources. This provides a centralized hub for the data contained in the views. To see a summary of what a chart is displaying, the "Caption" can be displayed alongside the view in Tableau Desktop ( <a href="https://onlinehelp.tableau.com/current/pro/desktop/en-us/viewparts_captions.html">https://onlinehelp.tableau.com/current/pro/desktop/en-us/viewparts_captions.html</a> ). Wells Fargo also has additional auditing processes in place that are used to surface this information.
Governance	Where is the data uploaded into Tableau stored? Does it ever leave Wells Fargo network?	The data never leaves the Wells Fargo network as the data will either live directly in the database or locally in cached on the Wells Fargo workstation.
Analysis	How effective is it with expressions (as compared with other advanced analytic tools)?	Tableau has a rich function library which can be used to manipulate, augment, or process the data. In addition to the standard functions that are expected, Tableau contains a few special functions including Table Calculation Functions, and Level of Detail (under Aggregate Functions) that can further support dynamic and sophisticated analyses. The complete list of functions can be found here: <a href="https://onlinehelp.tableau.com/current/pro/desktop/en-us/functions.html">https://onlinehelp.tableau.com/current/pro/desktop/en-us/functions.html</a> .

Data	Are maps available for US or all countries?	Maps support is available for geographies worldwide. You can find more detail on mapping and different map types here: <a href="https://onlinehelp.tableau.com/current/pro/desktop/en-us/maps_build.html">https://onlinehelp.tableau.com/current/pro/desktop/en-us/maps_build.html</a>
Data	Does Tableau support live data connections? Will changes in the DB be reflected in the charts?	Yes. Live connections will query the data source fresh and display the latest result set.
Data	Tableau is read only - how will this work if there is data manipulation operations occurring at time of query?	Tableau will grab whatever data is available at query time. It will cache that data until it expires, a new query (e.g. additional data) is run, or the user explicitly refreshes the data source.
Data	How many data source connections can Tableau handle?	There is no physical limit. As a general guide, most analysts keep the connection count low and rarely exceed 5 connections in a single workbook.
Data	Can you connect to SSAS Cubes as a data source?	Yes, Tableau has a native connector. <a href="https://onlinehelp.tableau.com/current/pro/desktop/en-us/examples_msas.html">https://onlinehelp.tableau.com/current/pro/desktop/en-us/examples_msas.html</a>
Data	Can you connect to Splunk?	Yes, Tableau has a native connector. <a href="https://onlinehelp.tableau.com/current/pro/desktop/en-us/examples_splunk.html">https://onlinehelp.tableau.com/current/pro/desktop/en-us/examples_splunk.html</a>
Data	Can you connect to MapR?	Yes, Tableau has a native connector. <a href="https://onlinehelp.tableau.com/current/pro/desktop/en-us/examples_maprhadoop.html">https://onlinehelp.tableau.com/current/pro/desktop/en-us/examples_maprhadoop.html</a>
Data	Can I use two data sources at the same time? How can I connect or compare them?	Yes. The graphic below describes the numerous ways in which Tableau can integrate and/or compare data from multiple sources.

## Methods of Integrating Data in Tableau

### Database Joins & Views

- Data must be from one database
- Join data & build views in database
- Let the database do the "heavy lifting"
- Need write to database

### Data Connection Join

- At time of building data connection
- Data must be from one data source
- Can be Text File, Excel (File based)
- Can write SQL
- Don't need to write to database

### Cross-Database Join

- Related data that is stored in tables across different databases
- Can be existing views and tables
- Can write SQL
- Need to write to database
- Extracts often accelerate performance

### Blend

- In worksheet
- Display summary and detail
- Can be different data sources
- Left Outer join by default, but can do Right Outer and Inner

### Union

- Data from flat files or all from a single source
- Supported for many data sources
- Use a Wildcard Search to automatically include tables in union

### Dashboard Filter

- Don't need to actually join fields
- Use "Actions" to filter same field from different sources

		<h2>Methods of Integrating Data in Tableau</h2> <div style="display: flex; flex-wrap: wrap; justify-content: space-around;"> <div style="border: 1px solid #0070c0; border-radius: 10px; padding: 10px; width: 30%; background-color: #e6f2ff;"> <h3>Database Joins &amp; Views</h3> <ul style="list-style-type: none"> <li>• Data must be from one database</li> <li>• Join data &amp; build views in database</li> <li>• Let the database do the "heavy lifting"</li> <li>• Need write to database</li> </ul> </div> <div style="border: 1px solid #0070c0; border-radius: 10px; padding: 10px; width: 30%; background-color: #e6f2ff;"> <h3>Data Connection Join</h3> <ul style="list-style-type: none"> <li>• At time of building data connection</li> <li>• Data must be from one data source</li> <li>• Can be Text File, Excel (File based)</li> <li>• Can write SQL</li> <li>• Don't need to write to database</li> </ul> </div> <div style="border: 1px solid #0070c0; border-radius: 10px; padding: 10px; width: 30%; background-color: #e6f2ff;"> <h3>Cross-Database Join</h3> <ul style="list-style-type: none"> <li>• Related data that is stored in tables across different databases</li> <li>• Can be existing views and tables</li> <li>• Can write SQL</li> <li>• Need to write to database</li> <li>• Extracts often accelerate performance</li> </ul> </div> <div style="border: 1px solid #0070c0; border-radius: 10px; padding: 10px; width: 30%; background-color: #e6f2ff;"> <h3>Blend</h3> <ul style="list-style-type: none"> <li>• In worksheet</li> <li>• Display summary and detail</li> <li>• Can be different data sources</li> <li>• Left Outer join by default, but can do Right Outer and Inner</li> </ul> </div> <div style="border: 1px solid #0070c0; border-radius: 10px; padding: 10px; width: 30%; background-color: #e6f2ff;"> <h3>Union</h3> <ul style="list-style-type: none"> <li>• Data from flat files or all from a single source</li> <li>• Supported for many data sources</li> <li>• Use a Wildcard Search to automatically include tables in union</li> </ul> </div> <div style="border: 1px solid #0070c0; border-radius: 10px; padding: 10px; width: 30%; background-color: #e6f2ff;"> <h3>Dashboard Filter</h3> <ul style="list-style-type: none"> <li>• Don't need to actually join fields</li> <li>• Use "Actions" to filter same field from different sources</li> </ul> </div> </div>
Data	Can Tableau deal with huge CSV files (~250 MB)?	Yes. Tableau makes it much easier to work with data in this format at that scale in terms of visualization and performance.
Data	How are dimensions and measures mapped?	Measures are automatically recognized as all numeric fields in the dataset; dimensions are all other fields. If this initial classification was incorrect (e.g. Priority Level with values 1-3 as a Measure), you can move it into the Dimension section.
Data	Can we use multiple data source on a single sheet?	Yes. This most commonly is accomplished through data blending but the methods of integrating data as mentioned above can also accomplish this.

Data	How do I add additional data?	If the data is in the same source, Tableau will read any additional data loaded into the source of record. If the data is from a separate source, one can add in the data into the existing connection (cross database join) or as a separate source.
Data	Are the measures predefined or do we need to customize according to our business requirement?	Measures are automatically recognized as all numeric fields in the dataset; dimensions are all other fields. If this initial classification was incorrect (e.g. Priority Level with values 1-3 as a Measure), you can move it into the Dimension section.
Dashboarding	Can you explain how to organize different worksheets on a dashboard?	This free training video (under the 'Dashboards and Stories' section in the Free Training Videos) does an excellent job explaining and demonstrating this.  <a href="https://www.tableau.com/learn/tutorials/on-demand/building-dashboard?product=tableau_desktop+tableau_prep&amp;version=tableau_desktop_2018_2+tableau_prep_2018_2_1&amp;topic=dashboardsstories">https://www.tableau.com/learn/tutorials/on-demand/building-dashboard?product=tableau_desktop+tableau_prep&amp;version=tableau_desktop_2018_2+tableau_prep_2018_2_1&amp;topic=dashboardsstories</a> .
Dashboarding	What is the maximum amount of sheets that can be used on a dashboard?	There is no physical limit but for the best user experience, the fewest amount of sheets needed is a best practice.
Learning	Can you share the data source used in the demo?	Tableau ships with a copy of the data source used in the demonstration. The file is named "Sample - Superstore.xls"