Coming Soon in Tableau 9.3

Many new features and enhancements are coming your way in Tableau 9.3—from faster ways to prepare data for analysis to better content discovery, more governance features, and easier administration on Tableau Server.

Highlights

- **Unions**: For Excel and text-based data sources, you can now combine tables of data by appending values (rows) from one table to another.
- Updates to forecasting, regular expressions and language percentile aggregations make it easier for you to answer more questions and explore new scenarios.
- New maps data, including postal codes for 42 European countries, helps you conduct your geographical analysis with less effort and the most current information.
- Tableau Desktop stays connected to the last server you were signed into. This feature makes it easier for you to share and collaborate when you're working with Tableau Desktop and Tableau Server or Tableau Online.
- Find the right content more quickly now that content analytics and enhanced search capabilities are available in Tableau Server and Tableau Online.
- Use revision history to restore previous versions of a published workbook.
- Ensure server availability and optimize performance with new server monitoring and configuration features.
- Experience faster view and dashboard load times with Tableau 9.3 performance enhancements.

Multiple beta releases are planned for Tableau 9.3. Features that are not yet available are designated with "Beta 3."

Data Model

In this space, there are changes to help you get your data ready for analysis faster. We've also added new connectors and improved existing ones.
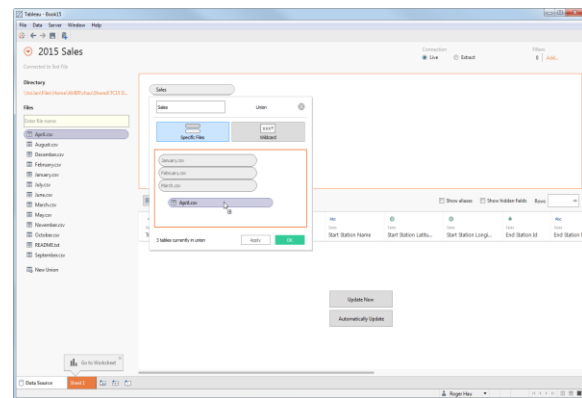
Data preparation

We made it easier for you to get your data ready for analysis in Tableau by adding unions, new ways to manage and prep your data directly in the data grid, and data preview for extracts and web data connectors.

Union files and tables

When data in your Excel or text-based data source is split across multiple files or tables, you can use the new Union feature to combine this data into a single Tableau data source. For example, if you have twelve different files, each with data for one month of the year, you can use union to combine all the files into one data source with a simple drag and drop. New rows are appended to the bottom of the data source and a new column is added providing the name of the originating file/table. If the columns of each table do not match, you can still union the files together but null values are added for unmatched values (this functionality is known as "merge").

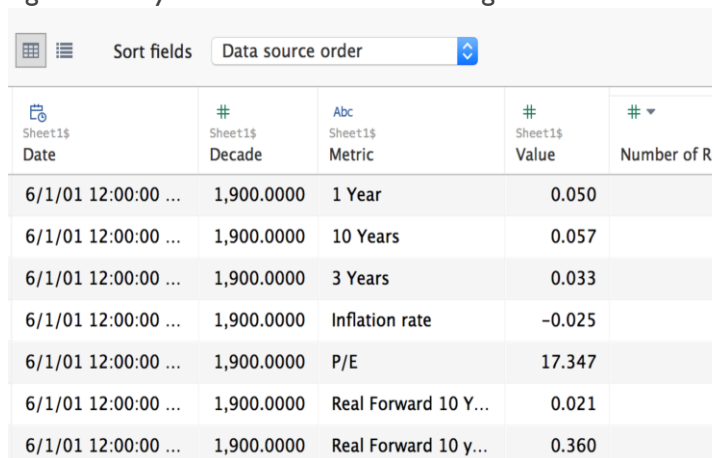## Data grid enhancements for extracts and web data connectors

You can now preview Tableau extract data on the Data Source page and use the grid to interact with and manage your extract data, and to create extracts faster. When you select **Extract** on the Data Source page, the data grid shows:

- Data for extract-only calculations.
- Previews of extract filters and aggregated extracts.
- Row-level data for the web data connector.

Also, when you connect to your data with the web data connector, your workbook now opens to the Data Source page.

Create groups and bins in the data grid

You can create groups and bins, and refine your data right where you can see it—in the data grid.

Date	Decade	Metric	Value	Number of R
6/1/01 12:00:00 ...	1,900.0000	1 Year	0.050	
6/1/01 12:00:00 ...	1,900.0000	10 Years	0.057	
6/1/01 12:00:00 ...	1,900.0000	3 Years	0.033	
6/1/01 12:00:00 ...	1,900.0000	Inflation rate	−0.025	
6/1/01 12:00:00 ...	1,900.0000	P/E	17.347	
6/1/01 12:00:00 ...	1,900.0000	Real Forward 10 Y...	0.021	
6/1/01 12:00:00 ...	1,900.0000	Real Forward 10 y...	0.360	

Join on pivoted columns

Now you can join on columns that you create using the pivot feature and use these fields for further data integration and analysis.

New and Improved Data Connections

Salesforce.com OAuth support

In Tableau 9.3 you can authenticate to Salesforce.com from Tableau Desktop using OAuth. This means you can now use the familiar Salesforce.com sign-in experience instead of using your authorization token to connect to Salesforce data.

Initial SQL support for more data sources

Tableau can now pass initial SQL commands when connecting to Oracle, Pivotal Greenplum, and Microsoft SQL Server, in addition to the data sources that we already support including Amazon EMR, Aster Database, Cloudera Hadoop, Datastax Enterprise, Hortonworks Hadoop Hive, HP Vertica, IBM DB2, MapR Hadoop Hive, SAP Sybase ASE, Spark SQL, and Teradata. When connecting to these databases, you can specify a SQL command that will run once when opening a workbook. Initial SQL commands can be used to set session attributes of the connection through a Stored Procedure or to set an environment variable.

Tableau Parameters in Initial SQL

You can now pass parameters to your data source in an initial SQL statement. This is useful because:

- You can configure impersonation using DelegatedUser or DelegatedUserFull.
- If your data source supports it, you can set up row-level security, (for example, for Oracle VPD or SAP Sybase ASE) to make sure that users see only the data that they are authorized to see.
- You can provide more details in logging, for example, the Tableau version or the workbook name.

Kerberos authentication for Teradata and PostgreSQL

Now you can leverage IT investments in enterprise data security and authentication and create a seamless single sign-on flow from the Tableau Desktop client all the way to your database. Tableau 9.3 supports this delightful experience for Kerberos-enabled Teradata and PostgreSQL databases, in addition to those previously supported (Microsoft SQL Server, Microsoft Analysis Services, Cloudera Impala).

Snowflake connector (Beta 3)

You can now connect directly to Snowflake Elastic Data Warehouse and even use a specific virtual warehouse.
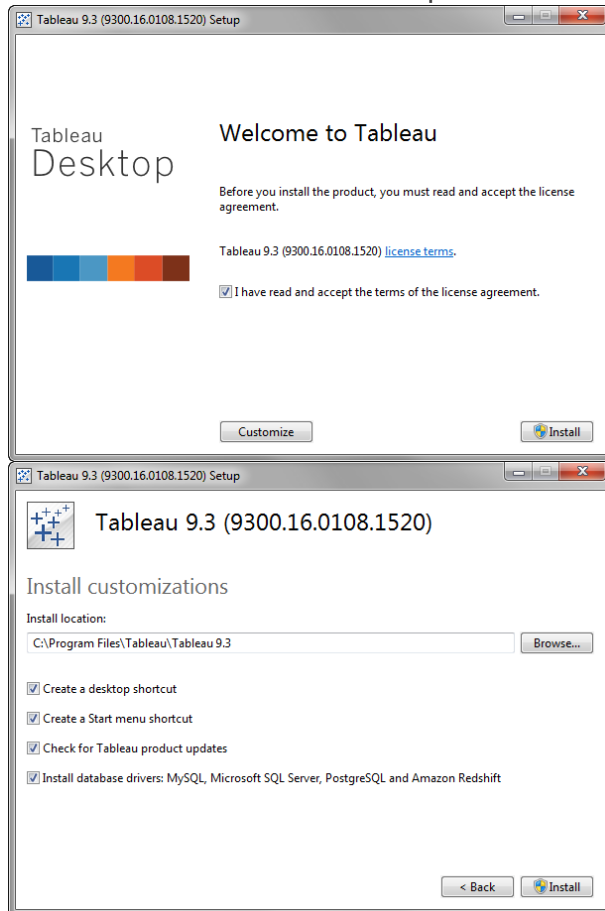
Tableau Desktop

Tableau Desktop 9.3 comes with an enhanced user experience, complex calculations made simple, and streamlined analytics.

User experience enhancements

To make your experience with Tableau more beautiful and smooth, we preinstall common drivers, give you an option to add color to sheet tabs, and add tooltips for the color palette.

Desktop installer improvements

To simplify connecting to the most popular databases on Windows, Tableau Desktop now automatically installs the most commonly used database drivers: MySQL, Microsoft SQL Server, PostgreSQL, and Amazon Redshift as part of the setup process. You can clear the option to install the drivers in either the user interface or the command-line setup.

Add color to sheets in filmstrip and sorter views

Make your worksheets easier to identify and group by adding color to the sheet tabs in the sheet sorter.

Tooltips for color swatches

You can now be sure you're selecting the right color from the color palette because we've added tooltips. When you hover over color squares, color descriptions like "Green" or "Light Blue" will guide your selection.

Story Improvements

The story feedback animated icon has been improved by blending it with the background color so that it looks better on brighter backgrounds.

Improvements for high resolution displays

In Tableau 9.3, you will begin to see results of a multi-phase project to improve the way Tableau runs on Windows computers equipped with high-resolution displays.

Calculations and Analytics

In calculations and analytics, there are improvements to forecasting. Also, regular expressions and language percentile aggregations are supported by more databases.

Forecasting improvements

In Tableau 9.3 you can forecast values ordered by an integer dimension, where formerly it was only possible to forecast measures ordered by time. You can also forecast odd seasonal patterns and irregular time series by letting Tableau automatically select the best season length for a forecast.

Tableau forecasting now skips null or missing values when estimating model parameters. However, the nulls remain in the series so the indexes of the values remain the same. Due to this change, forecasting now supports irregular time series without zero fill, so no error results if you do not select **Fill in missing values with zeros** in the Forecast Options dialog box.

More control over color for Totals

You can now exclude Totals, including Subtotals and Grand Totals, from color coding. This lets you better visualize the variance of your data while displaying Totals.

Regular expressions for more databases

Regular expressions are now supported in HP Vertica, Greenplum, Teradata, and Cloudera Impala.

Language percentile aggregation for Hive

Language percentile and median functions are now available for Cloudera Hadoop.

Maps

In maps, zooming is now simple and you can set a default tool to interact with your map. Also, more map data means better map detail.

Zoom improvements

Zooming in map views just got easier. You can now scroll to zoom in and out of a point on a map. No need to hold the modifier key anymore.

You can also hone in on the area you want to investigate more easily by zooming to the cursor, instead of the map's center point.

Sticky map tools

You now have a new way to interact with your maps. When you click and drag in a map view, you can now choose to pan or to select marks with the Rectangular, Radial, or Lasso tools. The tool you select will remain active until you choose another tool. The last active tool will be remembered when you save the workbook.

Additional map data

A significant amount of new data is being added to Tableau 9.3 Geocoding Database and Tableau Map Service. This data is not available in the beta version of Tableau 9.3, but will be included in the final version of the product.

New data includes:
- India districts.
- USA demographic data layers for 2016.
- USA ZIP Code updates for 2016.
- Postal code updates to UK, France and Germany.
- Postal code additions for 39 European countries, Belgium, Italy, Netherlands, Spain, Sweden, Switzerland and more.
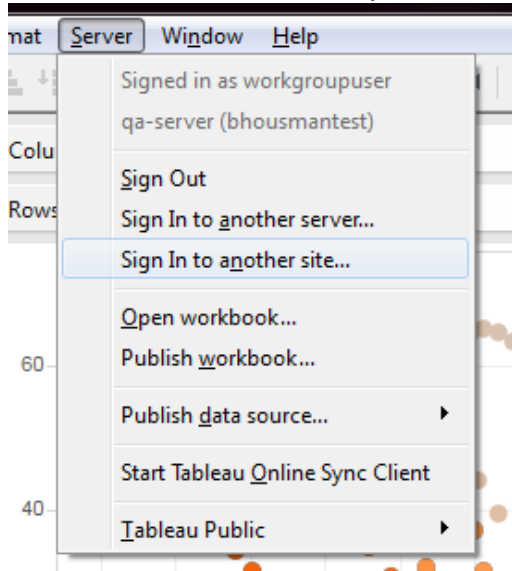
Tableau Desktop, Server and Online Workflows

We make it easier for you to share your data and collaborate with others by making sure you stay connected to your server, connecting the workbooks to published versions of the data sources, and enabling you to publish data sources straight from Tableau Desktop.

Stay connected to your server

Tableau 9.3 makes it easier to stay connected to your Tableau Server and Tableau Online servers. Tableau Desktop automatically remembers your connection and signs you in to the last server you were signed into when Tableau Desktop starts up.

Also, in Beta 2 you will be able to easily sign in to another Tableau Server and quickly switch between sites from the Tableau Desktop **Server** menu.
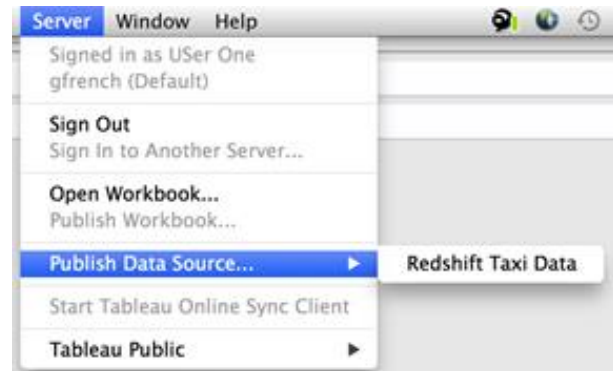

Replace data source on publish

When you publish a data source to Tableau Server or Tableau Online, the current workbook in Tableau Desktop automatically replaces the current data source with the new published data source.

Improved data source publishing experience

Tableau Desktop now has a more streamlined data source publishing process that saves time and helps ensure that your workbook is using the right data source.

You can publish a data source to Tableau Server or Tableau Online directly from the Tableau Desktop **Server** menu.

The new Publish Data Source dialog box makes it easier to set permissions, authentication, add tags, and schedule a Tableau Server extract refresh.
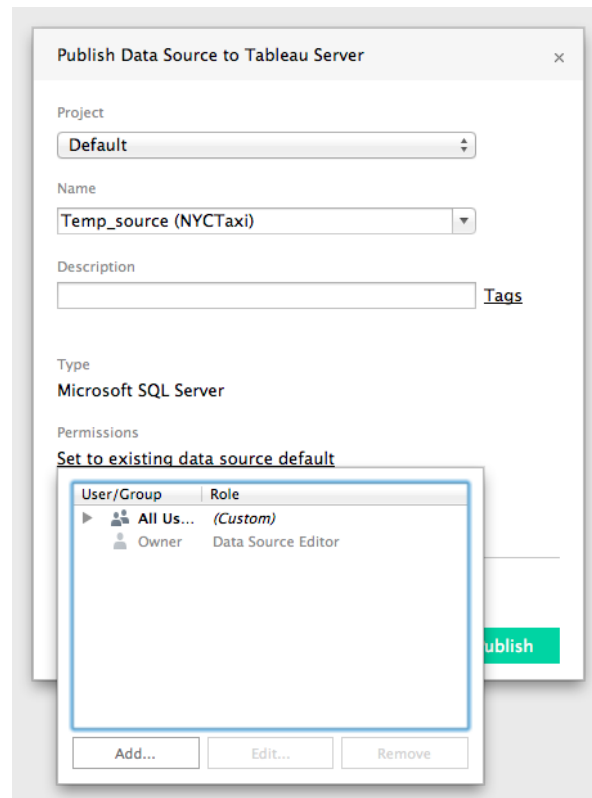
Tableau Server

Tableau Server has many improvements that help you monitor the health of the server and find server content more easily.

Monitoring and Maintenance

Low disk space monitoring

Tableau Server now provides the ability to specify disk space thresholds that trigger alerts when space falls below one of the thresholds. Alerts continue until disk space rises above the warning threshold.

Extract recreation

If an extract file is missing, possibly due to a bug or migration issue, Tableau Server automatically re-creates the extract when data source is refreshed with a full refresh, and the administrator is notified via an alert. Additionally, it is now possible to download data sources and workbooks that reference missing extracts so the extracts can be rebuilt in Tableau Desktop and re-published. These features run in the background to ensure your data is safe on Tableau Online and Tableau Server.

PostgreSQL connectivity and health improvements

- **Fast failover**: Failover from one repository to another no longer requires a restart of the Server. As a result, failover of the repository is quicker.
- **Manual or automatic failover:** Tableau Server now supports disabling automatic failover of the active PostgreSQL repository. You can disable automatic repository failover so that you control failover manually using the **failoverrepository** command.

- **PostgreSQL health check and improved monitoring:** Tableau Server can now check the PostgreSQL database for corruption through a new tabadmin command. This tabadmin command can be run manually, as well as run automatically when backup is run.
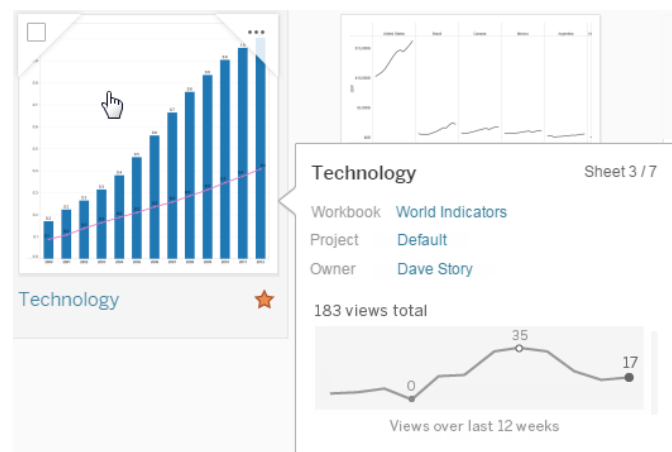
Content Management and Discovery

Workbook revision history

Now every time you publish a workbook, Tableau saves a version to that workbooks' Revision History. You can restore previous versions of a published workbook at any time. It's easy to undo a mistake or revert to a previous version by navigating to the workbook on the web, downloading the copy you need, and then republishing.

Content discovery and exploration

You can now explore and find the right content easier on Tableau Server and Tableau Online because search results for workbooks and views have been enhanced using metrics to increase relevancy; you'll see more popular workbooks and views as top results. You can also sort workbooks and views by the number of views, using all-time views or views in the last 1 month, 3 months or 12 months. And now you can see historical data in the form of a sparkline that shows the number of views for an item when you hover on a workbook or view icon, making it easy to identify popular resources,

Project Leader content management

Project Leader has been enhanced with additional capabilities so that administrators can delegate more responsibility. Project Leaders can now Change Owner, run refresh schedules, and move content.

Hardware-based defaults for single-server instances (Beta 3)

When installing Tableau Server for the first time, or upgrading a pre-existing instance, Tableau recommends process configuration based on the hardware of the server machine. This helps ensure that your server configuration is optimally tailored to your deployment size and available resources.

REST API

The REST API has been updated to version 2.2 and ported to a completely new platform that will have significant performance and usability improvements. This means that the API Server is disabled by default and is no longer needed to enable the REST API.

The following new calls have been added to the REST API:

- **Query Views for Site**: Get a list of views for a specified site, optionally with usage statistics.
- **Query Schedules**: Get a list of extract refresh and subscription schedules, including the name, frequency and priority.
- **Query Extract Refresh Tasks**: Get a list of extract refresh tasks for a particular schedule on a specified site.

Performance Enhancements

Performance and user experience enhancements in Tableau 9.3 build on existing optimizations to give you faster data connections and a better user experience.

User experience enhancements

- Single-pane optimization: Improvements have been made to the rendering of most visualizations in Tableau. We also reduced the number of panes required, which results in faster loading dashboards.

- Progressive dashboard load: Dashboards now load progressively so that you can view and interact with your data faster. As a result, you can start analyzing you data sooner without waiting for the entire dashboard to load.
- Smooth Tooltips: Smooth Tooltips can now displayed in all Tableau Server visualizations, regardless of complexity.
- Duplicate field in web authoring: You can now easily duplicate a field when in web authoring mode. Just click to open a field's context-menu and choose the new **Duplicate** option.

Data connection enhancements

- Data Engine Extract Query Performance: Tableau 9.3 significantly improves memory management performance in data engine. Specifically, in Tableau Desktop you can work with large extracts and queries with large intermediate results much quicker than before.
- On-demand connections: When you load a workbook published to Tableau Server, Tableau connects only to the data sources that are required to display your data. This means that if there are multiple tabs in a workbook, Tableau only connects to the data sources for the current tab so that you can view your data as soon as possible. What's more, for data sources that require authentication, you only have to enter your credentials for the current tab or worksheet. As a result, when you view a shared workbook, you can view the workbook tabs for which you have data credentials. Previously, you needed to have credentials to all the data sources in the workbook before you could view any of the workbook tabs.
- Faster queries with data server: When using data server, the external query cache and in memory query cache synchronization has been further optimized. This means that the second time you open your workbook, the loading time and interaction with your visualization should be faster because they are being cached.

Tableau Mobile

Now when you open a visualization that has been published to Tableau Server or Tableau Online in a Mobile Safari browser on iOS, a new iTunes banner appears linking you to the Tableau Mobile App. The Tableau Mobile App offers the best user experience for accessing and interacting with your data on your tablet or phone.

Additional new features in the Tableau Mobile App include:

Background snapshot refresh (Released in 9.2.1)

On Tableau Online and Tableau Server, when you add a workbook or view to Favorites, Tableau creates a snapshot. Snapshots are high-resolution images saved on your mobile device, so you can browse them even when you're not connected to the server. With Background Refresh, snapshots are automatically refreshed in the background while other apps are being used.

Stay signed in with Tableau Mobile and OAuth

The Tableau Mobile app makes it convenient and easy to stay connected to your favorite Tableau Online sites. With the "Remember Me" feature, users no longer need to sign in again when their session expires.

Shake to send logs to Tableau Support

Troubleshooting mobile apps can be difficult for both users and support. In Tableau 9.3, we are introducing a new feature that will enable special logging for issue investigation. With Shake to Send Support Logs enabled, you can easily email logs and issue information to Tableau Support.

Tableau Online (Not in Beta)

Tableau Online reflects the new publishing workflows and content discovery and exploration features highlighted above.

Tableau Online Sync Client enhancements

- In Tableau 9.3, when you publish a data source to Tableau Online, you are guided through the setup for the Tableau Online sync client. It's easier than ever to schedule your extract refresh right from a web browser.

- The Tableau Online sync client will also notify you if a data source needs additional information such as user credentials or an updated file path. Now you can be assured that the sync client has what it needs to successfully refresh your extract.

- Tableau 9.3 ensures that your data refreshes even when you're signed out of the sync computer. Once the sync client is launched, it can be configured to be "always on" and run continuously so that your data will always be fresh.