



ThoughtSpot Release Notes

Release 6.2

August, 2020

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910 Hermosa Court, Sunnyvale, California 94085

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6.2 Release Notes

ThoughtSpot version 6.2 is now available. These release notes include information about new and enhanced features.

For a complete list of issues that we fixed in this release, see [Fixed issues \[See page 9\]](#).

- [6.2 New Features \[See page 2\]](#)
- [Early Access Programs \[See page 0\]](#)
- [Beta Programs \[See page 7\]](#)
- [Supported Upgrade Paths \[See page 8\]](#)

6.2 New Features and Functionality

For a complete list of issues that we fixed in this release, see [6.2 Fixed issues \[See page 0\]](#).

For the Analyst

Geomaps

ThoughtSpot now supports [GeoMap \[See page 0\]](#) visualizations for these new locales:

- **India:** State, District, Postcode
- **Portugal:** District, Municipality, Postcode
- **Italy:** Improved regional name support

Geomaps overview

Table configuration

This release introduces a more intuitive way to configure your tables, including these new features:

- [Drag and drop chips \[See page 0\]](#) allow you to easily rearrange the order of the columns

in your table

- **Clip or wrap text** [See page 0] for the entire table from the **Edit table: Settings** menu, or by column from the column's **more options menu**
- **Number formatting** [See page 0] for any table column based on a measure, allowing you to change the category (number, percentage, or currency), units (auto, none, thousand, million, billion, or trillion), or method of writing negative values (-1234, 1234-, or (1234))
- **Enable or disable the table footer** [See page 0] from the **Edit table: Settings** menu
- **Enable or disable column summaries** [See page 0] from the **Edit table: Settings** menu

For more information, see [Results that are tables](#) [See page 0].

High cardinality

In this release, ThoughtSpot supports charts and tables with a very large number of data values, and shows how much of the data your chart or table displays.

- Your search in table form can now have more than 1000 rows.
- Your charts now come with a horizontal scroll bar, to support up to 35,000 data points.
- You can have up to 250 distinct legend items on a chart.

See [Charts and tables with a very large number of data values](#) [See page 0].

New search keywords

- **The nested 'top' keyword**
The new keyword phrase, [top n measure1 by attribute | measure2](#) [See page 0], enables you to search the top n results by an attribute or a secondary measure.
- **The 'not in' keyword**
Another keyword phrase, [not in](#) [See page 0], enables you to find the relative complement of two sets: results that satisfy the outer query that are not in the inner query. Contrast this with [in](#) [See page 0] that returns results that are an intersection of the outer and inner query, or 'query within a query'.

Monitor Beta

- **Subscribe others:** To drive adoption of Pinboards, analysts can now subscribe business users to receive daily email notification for the relevant metrics. See [Subscribe others](#) [See page 0].
- **UI enhancements:** We made several improvements to the Monitor and Follow features, optimizing the workflow.

Insights

Insights no longer appear on Home page and Pinboard by default, unless that feature is turned on for the cluster. See [Finding your way around, Insights](#) [See page 0].

Scriptability

This release introduces expanded support for [exporting and importing ThoughtSpot objects](#) [See page 0]. You can now export and import the following scriptable objects:

- [Worksheets with filters](#) [See page 0]
- [Answers](#) [See page 0] Beta
- [Pinboards](#) [See page 0] Beta

Aggregate formulas as Worksheet filters

You can now use an aggregate formula as a Worksheet filter. See [Use aggregate formulas as Worksheet filters](#) [See page 0].

Formula Parser Improvements

ThoughtSpot 6.2 includes improvements to the latency of the formula parser. Complex formulas that took over 45 seconds to parse are now parsed in 150 milliseconds — a 300x improvement. Latency no longer increases exponentially with the depth of the formula nesting, no matter how complex the formula is.

For the Business User

Growth: Sharing

Updates to [sharing \[See page 0\]](#) in 6.2 make the feature more intuitive, and remove moments of friction that can occur when sharing, or trying to access objects for which you have limited permissions.

- [Share a specific visualization within a Pinboard \[See page 0\]](#) so that the email link opens up to that visualization in Explore mode
- [Copy a direct link to the Pinboard, Answer, or visualization within a Pinboard \[See page 0\]](#) that you are sharing, so you can separately send that link to users after you share the object with them
- [Request access within a Pinboard or Answer \[See page 0\]](#) if you need edit or underlying data access to the Pinboard or Answer
- [Share underlying data access \[See page 0\]](#) within the sharing modal if the user does not have data access

Answer Explorer v2

Updates to Answer Explorer in 6.2 introduce a cleaner user interface and allow users to add their own filters, comparisons, measures, and attributes to a visualization while in Explore mode. See [Answer Explorer \[See page 0\]](#) for more information.

Answer Explorer overview

Mobile for Android

In time for this release, you can download ThoughtSpot app for Android OS from the PlayStore. See [ThoughtSpot Mobile release notes \[See page 0\]](#) and [ThoughtSpot Mobile overview \[See page 0\]](#).

For the Data Engineer

DataFlow

DataFlow is a new graphical, code-free, analyst-friendly approach for easily loading data into ThoughtSpot's in-memory engine.

In this release, DataFlow supports a large number of databases ([Amazon Aurora \[See page 0\]](#), [Amazon Redshift \[See page 0\]](#), [Azure Synapse \[See page 0\]](#), [Cassandra \[See page 0\]](#), [Google BigQuery \[See page 0\]](#), [Hive \[See page 0\]](#), [IBM Db2 \[See page 0\]](#), [MariaDB \[See page 0\]](#), [MongoDB \[See page 0\]](#), [MySQL \[See page 0\]](#), [Netezza \[See page 0\]](#), [Oracle \[See page 0\]](#), [PostgreSQL \[See page 0\]](#), [Presto \[See page 0\]](#), [SAP Adaptive Server Enterprise \[See page 0\]](#), [SAP HANA \[See page 0\]](#), [SAP SQL Anywhere \[See page 0\]](#), [SQL Server \[See page 0\]](#), [Snowflake \[See page 0\]](#), [Splice Machine \[See page 0\]](#), and [Teradata \[See page 0\]](#)), file systems ([Amazon S3 \[See page 0\]](#), [Azure Blob Storage \[See page 0\]](#), [Flat Files \[See page 0\]](#), [Google Cloud Storage \[See page 0\]](#), [HDFS \[See page 0\]](#)), and one application, [Salesforce \[See page 0\]](#).

DataFlow overview

Embrace

In this release, Embrace supports two new data warehouses and includes new features.

New data warehouses:

- **Teradata**
Teradata Vantage version 16.20 or later is required. For more information, see [Teradata overview \[See page 0\]](#).
- **SAP HANA** Beta
SAP HANA version 2.0 or later is required. For more information, see [SAP HANA overview \[See page 0\]](#).

New features:

- Ability to remove columns from a connection.
- Actual SQL is displayed in the query visualizer. This allows analysts to check the actual external database query so they can easily validate the output.
- A summary of connected tables/columns is displayed in the add/edit connection

- workflow.
- Improved performance when creating or editing a connection.

tsload connector

This release introduces a new option for loading data in bulk, called tsload connector. It is a collection of APIs that allow you to directly, and more quickly load your data into the ThoughtSpot Falcon database. For more information, see [Use the tsload connector to load data \[See page 0\]](#).

For the IT Ops Engineer

Amazon Linux 2 Deployment

This release of ThoughtSpot introduces deployment support for [Amazon Linux 2](https://aws.amazon.com/amazon-linux-2/) (<https://aws.amazon.com/amazon-linux-2/>). This decouples the OS and application files we shipped together in previous releases, and gives you the flexibility to run ThoughtSpot on an Amazon Linux 2 image that your organization manages internally. ThoughtSpot certifies Amazon Linux 2 on the AWS platform. To deploy ThoughtSpot on Amazon Linux 2, you must have the Ansible tarball; you can obtain the tarball through your ThoughtSpot contact. For more information, see the [Amazon Linux 2 Deployment Overview \[See page 0\]](#).

Admin Portal

This release of ThoughtSpot introduces the [Administration Portal \[See page 0\]](#), providing you with an intuitive, user-friendly interface to accomplish most of the necessary tasks for administering ThoughtSpot. You can accomplish the following tasks from the Administration Portal:

- [Manage ThoughtSpot users \[See page 0\]](#)
- [Manage ThoughtSpot groups \[See page 0\]](#)
- [Manage local authentication \[See page 0\]](#)
- [Configure SAML authentication \[See page 0\]](#)
- [Configure LDAP authentication through Active Directory \[See page 0\]](#)
- [Configure SSL \[See page 0\]](#)
- [Configure a reverse SSH tunnel for Support \[See page 0\]](#)
- [Set the relay host for SMTP \(email\) \[See page 0\]](#)
- [Customize ThoughtSpot help \[See page 0\]](#)
- [Customize Answer actions menu \[See page 0\]](#)
- [View System Overview Pinboard \[See page 0\]](#)
- [View System Cluster Pinboard \[See page 0\]](#)
- [View System Alerts Pinboard \[See page 0\]](#)
- [Monitor available cluster updates \[See page 0\]](#)

Admin Portal overview

In-memory data compression

ThoughtSpot release 6.2 includes improvements to in-memory data compression. These improvements lower your RAM requirements and reduce the number of VMs you need for in-memory data, when deploying on a cloud platform. In release 6.2, ThoughtSpot added two new compression algorithms to the Dictionary compression that ThoughtSpot already supports. ThoughtSpot now supports **LZ4**, for `INT`, `BIGINT`, `DOUBLE`, and `FLOAT` data types, and **RLE**, for strings. See [In-memory data compression \[See page 0\]](#) for more information.

Falcon monitoring Pinboards

In ThoughtSpot release 6.2, there are 4 new Pinboards, based on Falcon metrics, that are available to system administrators. Use the Falcon monitoring system Pinboards for an overview of Falcon, ThoughtSpot's in-memory database, and its health, based on query, data load, and varz metrics. You can use these Pinboards for proactive monitoring, or, with help from [ThoughtSpot Support \[See page 0\]](#), for debugging. See [Falcon monitoring Pinboards \[See page 0\]](#) for more information.

Beta Programs

If you are interested in seeing some of our newest features, we want to add you to our testing group. ThoughtSpot is looking for people with all levels of experience: end-users, analysts, administrators, configurators, and so on. We like to have a diversity of experience and perspective, and want to hear from you. Because we strive for excellence, we will partner with you to adjust the final details of our offerings based on your feedback.

Monitor

Please contact us if you are interested in participating in the [Monitor Beta Program \[See page 0\]](#), for monitoring selected metrics over time.

Scriptability

Please contact us if you are interested in participating in the [Scriptability Beta Program \[See page 0\]](#), for migrating and updating Answers and Pinboards in a flat-file format.

Supported Upgrade Paths

If you are running one of the following versions, you can upgrade to the 6.2 release directly:

- 5.3.x to 6.2
- 6.0.x to 6.2

This includes any hotfixes or customer patches on these branches.

If you are running a different version, you must do a multiple pass upgrade. First, upgrade to version 5.3.x, or version 6.0.x, and then to the 6.2 release.

Note: To successfully upgrade your ThoughtSpot cluster, all user profiles must include a valid email address. Without valid email addresses, the upgrade is blocked.

Fixed issues

These are the issues we fixed in recent ThoughtSpot releases.

- [6.2 Fixed issues \[See page 0\]](#)
- 6.1.X Releases
 - [6.1.1 Fixed issues \[See page 0\]](#)
 - [6.1 Fixed issues \[See page 0\]](#)
- 6.0.X Releases
 - [6.0.5 Fixed issues \[See page 0\]](#)
 - [6.0.4 Fixed issues \[See page 0\]](#)
 - [6.0.3 Fixed issue \[See page 0\]](#)
 - [6.0.2 Fixed issues \[See page 0\]](#)
 - [6.0.1 Fixed issues \[See page 0\]](#)
 - [6.0 Fixed issues \[See page 0\]](#)
- 5.3.X Releases
 - [5.3.2 CU3 Fixed issues \[See page 0\]](#)
 - [5.3.2 CU2 Fixed issues \[See page 0\]](#)
 - [5.3.2 CU1 Fixed issues \[See page 0\]](#)
 - [5.3.2 Fixed issues \[See page 0\]](#)
 - [5.3.1 Fixed issues \[See page 0\]](#)
 - [5.3 Fixed issues \[See page 0\]](#)
- 5.2.X Releases
 - [5.2.3 Fixed issues \[See page 0\]](#)
 - [5.2.2 Fixed issues \[See page 0\]](#)
 - [5.2.1 Fixed issues \[See page 0\]](#)
 - [5.2 Fixed issues \[See page 0\]](#)
- 5.1.X Releases
 - [5.1.4 Fixed issues \[See page 0\]](#)
 - [5.1.3 Fixed issues \[See page 0\]](#)
 - [5.1.2 Fixed issues \[See page 0\]](#)
 - [5.1.1 Fixed issues \[See page 0\]](#)

- 5.1 Fixed issue [\[See page 0\]](#)
- 5.0.X Releases
 - 5.0.4 Fixed issue [\[See page 0\]](#)
 - 5.0 Fixed issues [\[See page 0\]](#)
- 4.X Releases
 - 4.5.1 Fixed issues [\[See page 0\]](#)
 - 4.5 Fixed issues [\[See page 0\]](#)
 - 4.4 Fixed issues [\[See page 0\]](#)

6.2 Fixed issues

These are the issues we fixed in ThoughtSpot Release 6.2.

- Row-level security is not reflected with search tokens and Explore suggestions.
- Unauthorized access to service URLs in the ThoughtSpot Web UI.
- Old version of the ThoughtSpot Web UI appears for some users, even though the cluster was upgraded to new version.
- Global filter on Pinboard in the ThoughtSpot Web UI doesn't work.
- Users can still access **Data > Tables** page, even though the Data tab is hidden from ThoughtSpot Web UI.
- The time required to execute the TQL delete command increases exponentially, until it no longer works.
- PDF export from a Pinboard in the ThoughtSpot Web UI doesn't work.
- The sender's email in notifications is using the default `no-reply@customer.thoughtspot.com` instead of the `from-email` configured using `tscli smtp`, or the user's email who shares the Pinboard.
- Regional German names for states in Geo Maps are not allowed.

- CVE-2020-1938 vulnerability affecting Tomcat versions.
- ThoughtSpot Web UI displays the date shifted by one day in version 80 of the Google Chrome browser.
- Version 80 of the Google Chrome browser is not supported by the ThoughtSpot Web app, because cookies for pages in a ThoughtSpot cluster do not have the SameSite attribute, which is required for that browser.
- ThoughtSpot Web App does not work on a version later than 5.3 of the Microsoft Edge browser.
- Pinboards with 25 or more visualizations do not work properly.

6.1.1 Fixed issues

These are the issues we fixed in ThoughtSpot Release 6.1.1.

- Queries time out when loading a fact table with as many as 4 billion rows.
- SpotIQ gets stuck in a loop and is unresponsive.
- When multiple filters are used in a worksheet, the searches fail for only specific columns in a table.
- Microsoft Internet Explorer 11 doesn't work with ThoughtSpot embedded in an iframe, displaying an 'access denied' JavaScript error message.
- The time required to use TQL to delete data from fact tables increases until the delete is not successful.
- After upgrade to 6.1, ad sync scripts fail to run.
- Inconsistent naming of disks causes mounting to fail.
- The admin portal fails to load in a cluster, where it loaded before.

- An older version of the ThoughtSpot user interface appears, even though cluster is running newer version.
- Upgrading a cluster from 5.x release to 6.x release is unsuccessful.
- Sender's email displayed in notifications does not use the from-email configured in `tscli smtp`.
- A large number of scheduled pinboards slows down the Falcon database.
- After upgrade to 5.3.2.CU1, all pinboards using a specific variable (adp) do not work.
- An administrator is unable to save a worksheet on the first try.

6.1 Fixed issues

These are the issues we fixed in ThoughtSpot Release 6.1.


- When using the `tscli fileserver upload` command to upload a file that is larger than the maximum supported file size, an error message with an incorrect maximum file size appears.
- The `tscli` event list displays messages for creation, modification, and deletion that are not user friendly.
- Sorting or filtering a column in a chart does not work.
- The column order in the PDF of a visualization is different than the order in shown in ThoughtSpot.
- Removing a key from a table is not possible because multiple joins for an old column cannot be detected.
- Intermittent slow search response time.
- Entering a search generates results from columns outside the selected data source.

- An incorrect result is displayed when a filter is created on the Group_Max aggregation function.
- Backup policy names are not validated to ensure they won't cause backups to fail.
- The headline table aggregate summary is not available when group aggregate functions are used.
- Removing a column from a search increases the number of rows shown.
- Multiple variables cannot be added to a single map visualization.
- Drilling down on a visualization causes the date format to change.
- Double-clicking on the legend of a stacked column chart does not show hidden values.
- Data load fails due to a primary key having multiple rows.
- Filtering on a pinboard card causes a NullPointerException error.
- A formula with Group_Max function doesn't work with Growth key word.
- The confirmation message for deleting a restored cluster indicates the wrong cluster name.
- Modifying a date filter of a pinboard from a set date range to none, causes the filter to disappear.
- R visualization downloads fail when exporting to PDF.
- A pinboard with filters cannot be saved.
- Using a weekly date aggregation with a custom calendar, causes the days to be split at the end of the month if the month ends in the middle of the week.
- Worksheet filters provide different answers than search filters.
- Drilling down on a date in a custom calendar displays an incorrect epoch.

- Menu items, including Share, Copy a Link, and Send Feedback, cannot be disabled when ThoughtSpot is embedded.
- ThoughtSpot instances hosted in GCP have a 127.0.0.1 address for eth0.
- Keywords do not provide correct results when using a custom calendar.
- A worksheet cannot be saved after changing a join type.
- Top and Bottom keywords do not work on a measure with the `unique_count_if` formula applied.
- Non-admin users are unable to search for a newly added column in the worksheet.
- Colors of slices in pie chart change when you filter on the pie chart.
- Total labels in a Stacked Bar chart do not account for negative amounts.
- When adding a connection in Embrace, not all tables in the external database are displayed.
- ThoughtSpot TQL does not list tables that don't exist in the default Falcon schema.
- The date format in a PDF is not correct for the user's locale.
- Various display issues with Admin Portal.
- Periodic backups fail after upgrade.
- Geo maps allow regional German names for states.
- In ThoughtSpot clusters hosted in Azure, Log rotate does not rotate `large_files`.

6.0.5 Fixed issues

These are the issues we fixed in ThoughtSpot Release 6.0.5.

- When **Copy link** has been disabled, it still appears in the More menu  of pinboards.

- The management console is not accessible.
- A pinboard with an advanced formula can be viewed by an administrator, but not by a regular user they share it with.
- A cluster that is using a customer logo, still shows the ThoughtSpot logo on downloaded PDFs.
- Filter values overlap and are unreadable in the filter picker.
- Attempting to sign in using SSO causes a 500 Internal Server Error.
- Clusters with many scheduled pinboards cause the Falcon database to be slower than normal.
- Dates in PDFs are only displayed in the United States date format.
- The Google Chrome 80 browser is not supported, because cookies for pages in a ThoughtSpot cluster do not have the SameSite attribute, which is required for that browser.
- The **group aggregate** function does not work after upgrade to release 5.3.1.
- A user who edits a worksheet is not able to save their changes.

6.0.4 Fixed issues

These are the issues we fixed in ThoughtSpot Release 6.0.4.

- Under certain conditions, worksheet filters provide different answers than search filters.
- Total amounts in a stacked bar chart do not account for negative amounts.
- Management console displays incorrect information about SSL status.
- Management console displays incorrect information about SMTP status.

- Upgrading from release 5.2.3 to 6.0.3 causes HDFS to go into safe mode and cause missing data volumes.

6.0.3 Fixed issue

This is the issue we fixed in ThoughtSpot Release 6.0.3.

- Dates shown in the ThoughtSpot UI may be offset by one day in version 80 or later of the Google Chrome browser. Actual search results are not affected by this issue.

6.0.2 Fixed issues

These are the issues we fixed in ThoughtSpot Release 6.0.2.

- Updating a formula causes a blank screen and corrupts a worksheet when it is saved.
- Upgrade to release 6.0.1 changes charts with a y-axis at 100% to a regular stacked column chart.
- After upgrade to release 5.3.2, users cannot sign in using SSO.
- Disk alerts occur when drives are functioning normally.

6.0.1 Fixed issues

These are the issues we fixed in ThoughtSpot Release 6.0.1.

- Search autocomplete occasionally displays an error when using a bulk filter.
- In a custom calendar, sales results for individual years are correct, but are not correct when comparing those same years using `versus` (example: `2019 vs 2018 net sales`).
- Upgrades to a ThoughtSpot AWS deployment can cause hosts to lose their configured hostnames.

- A yellow bar sometimes appears during search, causing search not to work.
- Optimization does not occur in pinned measure formulas with complex aggregation, resulting in more queries than necessary.
- After upgrade to release 5.3.x., previously enabled delayed search for a cluster is disabled.
- The dot in a hover tooltip for a chart, indicating which item the tooltip applies to, does not appear.
- Common keywords, like `this year`, `date daily`, `last quarter`, and `week of year` do not reflect the settings of a custom calendar.
- The title page of an exported PDF does not display the full date.
- The `date` filter of an answer does not work properly when pinned to a pinboard, even after applying the pinboard `date` filter.
- Scroll and edit options are missing for charts in presentation mode when using the Microsoft Internet Explorer browser.

6.0 Fixed issues

These are the issues we fixed in ThoughtSpot Release 6.0.

- The `tscli cluster download-release` command sometimes did not work correctly.
- The date dimension attribute was removed from the query for all date aggregations, except for DETAILED.

5.3.2 CU3 Fixed issues

These are the issues we fixed in ThoughtSpot Release 5.3.2 CU3.

- Exported PDF, CSV, and XLSX files display caption tags.

- Administrators are not able to edit a worksheet.
- A legend in a chart is not displayed correctly when the *monthly* attribute is used in a search.
- After upgrade to 5.3.2 CU2, users cannot access a ThoughtSpot instance previously accessed through SSO.
- Users cannot sign in to a ThoughtSpot instance through SSO.
- Changes made to a schema through TQL are not reflected when viewed in the ThoughtSpot UI.

5.3.2 CU2 Fixed issue

This is the issue we fixed in ThoughtSpot Release 5.3.2 CU2.

- Visualizations that worked in the past, display an error message.

5.3.2 CU1 Fixed issue

This is the issue we fixed in ThoughtSpot Release 5.3.2 CU1.

- Rows that don't exist in TQL appear when filtering in the ThoughtSpot UI.

5.3.2 Fixed issues

These are the issues we fixed in ThoughtSpot Release 5.3.2.

- Delayed search enabled in a previous release version does not work after upgrade to 5.3.1.
- Pop-up messages sometimes cover the entire width of the screen.
- *Share*, *Copy a link*, and *Send feedback* cannot be disabled when ThoughtSpot is embedded.
- An error in the date range occurs when drilling down in a custom calendar.

- When the network check fails during a self-service upgrade, it retries indefinitely.
- If formulas have a less-than sign (<) followed by text, the text following the less-than sign does not display in a table.
- Removing a column from a search query increases the number of rows displayed.
- A search that uses the `group_max` function displays an incorrect result when filtering is applied.

5.3.1 Fixed issues

These are the issues we fixed in ThoughtSpot Release 5.3.1.

- Using a custom calendar, and doing a query that filters on a date field causes a database error.
- Signing in to ThoughtSpot multiple times in quick succession causes a 500 error.
- When row-level security is used, a 2-column join in a fan-trap query does not work if the column contains NULL data/values.
- Opening certain pinboards can cause the Google Chrome browser to freeze.
- Columns renamed in a worksheet revert back to their original names later.
- Columns cannot be deleted from a worksheet.
- Using a custom calendar and filtering date values by year, month or quarter does not work.
- Canadian postal codes do not appear on maps.
- The Admin > Style Customization page indicates the wrong pixel dimensions required for a wide application logo.
- Certain HTTP security headers are not implemented.

5.3 Fixed issues

These are the issues we fixed in ThoughtSpot Release 5.3.

Display and Rendering

- A problem where dates do not display properly in the query details pane of an answer is now fixed.
- An issue where the color coding of columns is not displayed in a PDF downloaded from a worksheet is fixed.
- A problem where using **Copy and edit** in a saved answer causes the screen to go blank has been fixed.
- An issue where axis labels are missing from some visualizations is now fixed.
- A problem where URLs that appear within an Answer are red, instead of blue, is now fixed.
- An issue where an answer that has no measures causes it to display blank is now fixed.
- A problem where weekly and monthly charts are not showing weekly and monthly aggregation correctly is now fixed.

Pinboards

- A problem where the column tooltip in a pinboard does not show last updated information has been fixed.
- An issue where the filter dialog box is unresponsive when opened from pinboard is now fixed.
- A problem when pinning an answer to a pinboard where the pinboard list is very slow to display is now fixed.
- An issue where scheduled pinboard emails fail to send to a specific recipient with a valid email address is now fixed.
- A problem where a stacked bar chart does not work in a pinboard is now fixed.
- An issue where an exclude filter does not work properly on a pinboard is now fixed.
- A problem where a user cannot edit a pinboard, even though they have the proper permissions to do so is fixed.
- An issue where emails fail to send from scheduled pinboards that contain Japanese characters in their title is now fixed.

Search

- A problem where nulls are excluded from a query, even when they have not been excluded using a filter is now fixed.
- An issue where searches on a pinboard don't include cached queries has been fixed.

Administration

- An issue where running the `tscli cluster` command causes a failed security check is now fixed.
- A problem where the Informatica ODBC cannot connect to ThoughtSpot is now fixed.

Answers

- A problem where a saved answer cannot be opened when it uses an aggregate function is now fixed.

5.2.3 Fixed issues

These are the issues we fixed in ThoughtSpot Release 5.2.3.

- An issue where LDAP sync does not sync users after upgrade to release 5.2.2 is now fixed.
- A problem where certain types of joins do not work when row-level security is used is now fixed.
- An issue where opening certain pinboards can cause the Google Chrome browser to freeze is now fixed.
- A problem in custom calendar where filtering the date values by year, month or quarter does not work is now fixed.
- An issue where syncing users using the public API does not work is now fixed.
- A problem where Canadian postal codes do not appear on maps is now fixed.

5.2.2 Fixed issues

These are the issues we fixed in ThoughtSpot Release 5.2.2.

- An issue where PDFs downloaded from a Pinboard are poorly formatted is now fixed.
- An occasional problem where the login process is slow has been fixed.
- An issue where the filter dialog box freezes when opened from a Pinboard, or the filter icon in the left panel is now fixed.
- Previously, when the `unique_count_if` aggregate function was used in both the numerator and denominator of a division formula in a search query, it caused only the numerator value to be returned. This problem is now fixed.
- A problem where the `unique_count_if` aggregate function does not parse an expression is now fixed.

5.2.1 Fixed issues

These are the issues we fixed in ThoughtSpot Release 5.2.1.

- An issue where column tooltips do not display last-updated information is now fixed.
- An error that occurs when attempting to save changes to the title of a visualization is now fixed.
- An issue with the user-onboarding walkthrough intermittently failing to load is now fixed.
- Reliability of the filter dialog when opened from a Pinboard or the left panel has been improved.
- An issue with a NAS mount disconnecting during restore of a cluster is now fixed.
- A problem where tables in a Google Chrome tab become misaligned is now fixed.

- Corrupted metadata after an upgrade which made some worksheets uneditable is now fixed.
- An issue where greyed-out search phrases could not be edited while in delayed search mode is now fixed.
- The database manager memory limit has been increased to 16 GB to improve performance.
- An issue where tables created with incorrect DDL syntax could be imported without errors is now fixed.
- A problem with date filters in the Japanese locale is now fixed.
- An issue with refreshing materialization of views is now fixed.
- Occasional slow navigation between the Answer and Pinboard pages has been fixed.
- A problem where scheduled Pinboard emails failed to send to a specific recipient with a valid email address message is now fixed.
- Embedded Pinboards no longer occasionally display a Pin button.

5.2 Fixed issues

These are the issues we fixed in ThoughtSpot Release 5.2.

- Table user experience improvements:
 - The column header is now left-aligned.
 - Column widths can be made very narrow.
- Chart user experience improvements:
 - When sorting by date on the x-axis, the date format no longer changes and the axis no longer disappears.
 - You can now sort using a sort field that is not in your chart.

5.1.4 Fixed issues

These are the issues we fixed in ThoughtSpot Release 5.1.4.

- An error that occurred when saving changes to the title of a visualization is now fixed.
- An issue where some worksheets became uneditable after an upgrade, due to corrupted metadata, is now fixed.
- A problem with date filters in the Japanese locale is now fixed.
- An issue with refreshing materialization of views is now fixed.

5.1.3 Fixed issues

These are the issues we fixed in ThoughtSpot Release 5.1.3.

- Downloading an R visualization no longer causes an empty page to be displayed.
- A problem where tables in a Google Chrome tab become misaligned is now fixed.
- Custom scatter charts no longer disappear from pinboards after an upgrade.
- An issue where the Copy-and-edit button incorrectly appears on embedded visuals is now fixed.
- Occasional slow navigation between the Answer and Pinboard pages has been fixed.
- A normal bar chart in a pinboard which is changed to a stacked bar chart no longer reverts to the normal bar chart after the pinboard is saved, browser is closed, and pinboard is reopened.

vA problem where using the exclude filter on pinboards causes the wrong results to be displayed is now fixed.

- Usage-based indexing of search has been improved.

- A problem where the `tscli ssl rm-cert` command was used to remove a cert, but did not revert it back to the default cert is now fixed.
- When a search that uses no attributes results in fan-trap queries, the measure values shown are no longer incorrect.
- A problem where some users could not log in through SSO after an upgrade has been fixed.
- Fan-trap queries no longer have more grouping columns than necessary.
- An issue with worksheets showing incomplete compound-column joins has been fixed.
- A problem where the user interface becomes slow during a data load has been fixed.
- CSVs downloaded by certain row-level-security users are no longer empty.

5.1.2 Fixed issues

These are the issues we fixed in ThoughtSpot Release 5.1.2.

- Search no longer stops working under certain conditions like fast typing, or copying and pasting of a search query.
- Selecting 'Copy and Edit' in an answer, pinboard visualization, insight, SpotIQ pinboard or view, no longer causes the user to be signed out.
- HDFS images for a cluster are now created prior to pushing the HDFS configuration. This ensures images are fresh during an upgrade.
- When removing a node, the node calling command no longer results in unreachability due to misconfigured firewall settings.
- Permissions issues with `tsload` and `tql` are now fixed, so the **thoughtspot** user can load data.
- Database stability has been improved.

5.1.1 Fixed issues

These are the issues we fixed in ThoughtSpot Release 5.1.1.

- Geo Bubble map labels can now be disabled or enabled through a data labels checkbox.
- Filter panel failure to open during formula creation has been fixed.
- Custom R analysis failure when run from Custom Analyze has been fixed.
- Microsoft Internet Explorer button display problem in Edit Group, Add a New Group, and Custom Analysis has been fixed.
- Tooltips in line, scatter, and radar charts have been improved to avoid tooltip display when far from a data point.
- Microsoft Internet Explorer problem with saving the name of an answer has been fixed.
- Previously, admin style and font customizations for tables and charts were off by default. They are now on by default.
- Search phrase autocomplete has been fixed to prevent unnecessary red highlighting of values.
- Geo Bubble and Geo Heatmap issue where chart displays momentarily and then disappears has been fixed.
- Zoom on Geo maps can now be done using a mouse scroll wheel.

5.1 Fixed issue

We fixed the following issue in ThoughtSpot Release 5.1.

- The X and Y axes were previously flipped on [bar charts and stacked bar charts](#) [See page 0]. This has been fixed.

5.0.4 Fixed issue

We fixed the following issue in ThoughtSpot Release 5.0.4.

- Deprecated SSH cryptographic settings are used.

5.0 Fixed issues

These are the issues we fixed in ThoughtSpot Release 5.0.

- Changes to metadata result in rebuilding the search index, even though the data has not changed.
- A search returns an unexpected answer, because the last aggregation performed during execution was doing a `MIN()` rather than a `SUM()`.
- Timeouts cause a cluster crash in some cases when a right outer join was used.
- The space allocation chart does not update.

4.5.1 Fixed issues

These are the issues we fixed in ThoughtSpot Release 4.5.1.

- Filters now work on formula-derived columns where the formula returns a numeric value of a type other than the integer types. In the past, filtering on a `DOUBLE` type formula-derived column required that the formula convert any `DOUBLE` values to an integer (`INT32` or `INT64`). Now this type conversion is not necessary.
- A problem was resolved where changes to metadata resulted in rebuilding the search index, even though the data had not changed.

- A problem was resolved where a search was returning an unexpected answer, because the last aggregation performed during execution was doing a MIN() rather than a SUM().
- A problem was resolved where timeouts were causing a cluster crash in some cases when a right outer join was used.
- A problem was resolved where user names were accidentally being sent along with cluster metrics.
- A problem was resolved where the space allocation chart was not getting updated.
- A problem was resolved where indexes failed to build for empty tables.
- An issues with upgrade was resolved which caused the appliance to boot from an incorrect partition causing users to be found missing.
- A problem was resolved where you could not add a column to the search in cases where there was a long list of columns on the Search page. Clicking on a column name caused the column names to shift, such that you could no longer double click on the column name to add it to the search.
- A problem was resolved where SpotIQ sometimes did not return a result unless a process was restarted.
- A problem was resolved where where deadlock issues with the Search service caused indexing to fail.
- A problem was resolved where if the word “top” occurred as a data value, you could not use “top” as a keyword.
- A problem was resolved where periodic backups was delayed.
- A problem was resolved where adding columns to a worksheet and saving it resulted in timeouts and an HTTP_UNAUTHORIZED(401) status.
- A problem was resolved where idle sessions were never timing out.

- An underlying system issue was resolved that caused a saved answer to fail with a read bar error if the answer was created on a relationship(s) which was based on a hidden column(s).
- A problem was resolved where sorting on a primary key column produced duplicates for some values, both when viewing results in the ThoughtSpot application and when using TQL.
- A problem was resolved where after upgrading, some pinboards could not be opened and instead returned a red bar error.
- A problem was resolved where the number format wasn't being honored when the column contained a currency. Setting the format for three digits after the decimal resulted in displaying only two.
- An issue was resolved where hidden fields in source data prevented users from creating answers related to other columns in that data.
- A problem was resolved where drill down on multiple buckets did not apply all date filters.
- An issue was resolved that potentially made ThoughtSpot at risk for Jackson JSON Library Vulnerabilities.
- A problem was resolved where a node failed due to a bad DIMM (Dual In-Line Memory Module), but didn't failover successfully.
- A problem was resolved where data loaded very slowly.
- An issue was resolved where the ThoughtSpot application was potentially vulnerable to Cross-Site Request Forgery (CSRF) . The potential was removed from the application interactions. Any ThoughtSpot API customers will have to be updated to be compliant with this new feature. The primary things that could be affected:
 - Sync scripts that manage users and groups creation.
 - Scripts that use the public APIs to fetch data.
- The easiest way to diagnose this would be to check for the inability of the script to log in to the system. Please contact ThoughtSpot Support to get guidance on the steps to resolve the issue.

4.5 Fixed issues

These are the issues we fixed in ThoughtSpot Release 4.5.

- A problem was resolved where insufficient memory caused services on a cluster to crash repeatedly.
- A problem was resolved where idle sessions were never timing out.
- A problem was resolved where indexes failed to build for empty tables.
- A problem was resolved where users were unable to scroll in IE with pivot tables.
- An issues with upgrade was resolved which caused the appliance to boot from an incorrect partition causing users to be found missing.
- A problem was resolved where where deadlock issues with the Search service caused indexing to fail.
- A problem was resolved where periodic backups was delayed.
- Adding columns to a worksheet and saving them resulted in timeouts and an `HTTP_UNAUTHORIZED(401)` status. This problem resulted from an internal `SESSION` handling error. This problem was resolved in this release.
- A problem was resolved where `tsadmin` and `guest` were prevented from uploading a CSV upload and received a red bar error instead.
- A problem with memory links during upgrade was resolved.
- A problem was resolved where Google Chrome version 65 broke the formatting of headlines in pinboards. This issue was reported as a Product Support Advisory for versions 3.x and 4.x releases older than 4.4.1.4.
- An underlying system issue was resolved that caused a saved answer to fail with a red bar error if the answer was created on a relationship(s) which was based on a hidden column(s).

- A pinned answer that relied on an underlying join between two worksheets one of which included a filter failed to display properly. This problem was resolved in this release.
- After upgraded customer appliance from 4.4.0.11 to 4.4.1.2 GA, some pinboards could not be opened and instead returned a red bar error. This issue was resolved.
- Some customers reported that several data buckets were relative to calendar year/quarter/month rather than relative to the financial year.
 - QUARTER_OF_YEAR
 - MONTH_OF_YEAR
 - MONTH_OF_QUARTER
 - WEEK_OF_YEAR_ISO
 - WEEK_OF_QUARTER
 - DAY_OF_YEAR
 - DAY_OF_QUARTER
- An issue was resolved where hidden fields in source data prevented users from creating answers related to other columns in that data.
- Customers were receiving a `RowSecurityManager not implemented for Atlas.` message when scheduling a pinboard. This problem was the result of legacy features in the system. These features no longer are checked.
- A problem was resolved where drill down on multiple buckets did not apply all date filters.
- A problem was resolved that caused segmentation faults which in turn caused crashes in a cluster during an upgrade.
- An issue was resolved that potentially made ThoughtSpot at risk for Jackson JSON Library Vulnerabilities.
- A problem was resolved with the **Show underlying data** function ignoring the “last period” filter. This filter is no longer ignored.
- A problem was resolved where the presence of a date bucket filter after a measure column was ignored in query execution.

- Issues were resolved that potentially exposed ThoughtSpot to two vulnerabilities: “Meltdown” and “Spectre”, along with variants. These vulnerabilities only applied when the ThoughtSpot application was sharing hardware with other applications, such as cloud deployments. When deployed in a virtualized environment, either on prem or in AWS, the virtual environment needed to patch the OS for it. When deployed on its own appliance, these vulnerabilities should not have affected ThoughtSpot.
- An issue was fixed that occurred when plotting a formula that has either NaN or Infinity as some of the values. In this case, the pivot table treated the first instance of NaN/Infinity and every subsequent value as a single value and plots it in one cell. This problem was fixed.
- A problem was resolved where `near` keywords returned a red bar error.
- An issue was resolved where requests to update a formula failed due to the complexity of the nesting.
- Non-admin user could still see hidden fields. In queries, these users were asked to disambiguate these even though they were hidden. This problem was resolved.
- An issue was fixed where the installation path was not properly updated resulting in an environment pointing to old versions of `tsload` and `tql`. Now, the standard path is updated during an upgrade.
- A problem was resolved where a saved answer from version 4.3 failed after upgrade because they referred to old table names.
- When query has keywords that map to date column and Period Ago date buckets then SpotIQ Insight for that query did not work even though the user-created query succeeded. This SpotIQ bug was resolved.
- When a query had keywords that mapped to a date column as well as to date buckets, SpotIQ Analysis failed for that query. For example, in query `revenue in Q1 1992` the last part represents date buckets. If `Q1 1992` maps to a date column then SpotIQ analysis failed. The query itself worked and any answer/pinboard that based on these queries were fine. This problem was resolved.

- A problem was resolved where NPS surveys were appearing when ThoughtSpot was provided through embedded content. This should no longer occur.
- A problem was occurring where upgrade to a new version caused several types of formulas that relied on aggregated data to stop working. Problems were recorded involving:
 - Unique or count not functional when using Aggregated date.
 - Group_count not functional as well.
 - Group_max giving duplicated result.

This problem was resolved and should no longer appear

- A problem was resolved where ThoughtSpot would throw an error if the query involved multiple date filters on the same date column. This has been fixed in this release.
- A problem was resolved where the `tscli ssl set-min-version` failed because the minimum value was incorrect internally. The internal issue was resolved.
- An issue with the callhome metrics feature caused problems during upgrade. This problem was resolved.
- A problem was resolved where deleting a relationship failed if either side of that relationship was a worksheet.
- A problem was resolved where Zookeeper reported reaching a descriptor limit. This report was returned in error. ThoughtSpot no longer reports this.
- A problem was resolved where data loaded very slowly.
- A problem where Strict Transport Security was not enforced was fixed. The product now supports Strict Transport Security.
- An issue was resolved where the ThoughtSpot application was potentially vulnerable to Cross-Site Request Forgery (CSRF) . The potential was removed from the application interactions. Any ThoughtSpot API clients will have to be updated to be compliant with this new feature. The primary clients that would be effected:
 - Sync scripts that manage users and groups creation.

- Scripts that use the public APIs to fetch data.
- The easiest way to diagnose this would be the inability of the script to login to the system. Please contact support to get guidance on the steps to resolve the issue.
- A problem was resolved with the `JSESSIONID` value. Previously, setting the **Remember Me** option on the login page, caused the server to set a new `JSESSIONID` on the client after the user logs out. This new `JSESSIONID` was used for the next authenticated user session, regardless of the user's identity. This no longer happens. Instead, users that re-login after setting **Remember Me** are given a new `JSESSIONID`.
- Dates on the **Data** page was corrected so that dates now sort chronologically.
- Previously, the application allowed cookies to contain information related to session state. An option was added to set more secure cookie handling in the application.
- Previously, the login form on the ThoughtSpot application provided an autocomplete feature. Autocomplete is no longer support. Turning off `autocomplete` prevents intruders from compromising ThoughtSpot from a workstation unattended using a previously stored user ID and/or password.
- Previously, alerts were time stamped with in PDT. This was fixed, now `tscli alert list` shows alerts display in the cluster's local timezone.
- The system now validates both the format and the size of profile pictures, previously these were not checked.

4.4 Fixed issues

These are the issues we fixed in ThoughtSpot Release 4.4.

- Aggregation over `group_max` returned a red bar error. This was resolved, users can now aggregate over a `group_max` function.
- A problem with editing formulas was resolved where users were repeatedly and unnecessarily presented with disambiguation options.

- An issue was resolved where a bar on the chart label did not match the underlying data. The data was correct, the label was not.
- An issue was corrected where, if one snapshot deletion failed in any fashion, any subsequent attempts to delete a snapshot failed.
- Users were unable to edit a KPI formula if the KPI formula was pinned to a pinboard.
- Users were able to **Select All** for 1000+ items in a pinboard filter. This action was available but not supported and caused users to believe pinboard filters were not working. Now, the option to **Select All** no longer functions when there are 1000+ items in a filter.
- Users were unable to restore a database backup without first renaming the backup. Renaming is no longer required.
- Creating a formula on `cumulative_sum` function mistakenly caused an error to appear. This action no longer causes an error.
- Some installations saw worksheet performance degrade for worksheets with a large number of columns. Users can now set a configuration option to avoid these problems.
- Previously setting both the browser and the ThoughtSpot profile value failed to display numbers and date formats in the proper locale. This problem was corrected. Setting the ThoughtSpot profile to the proper locale results in the appropriate display of date and number formats. It also causes translated strings to appear in the interface where they exist.
- Active directory (AD) synchronization was not working. Moreover, if AD security group had no members in it, then the synchronization did not recognize the group at all. These problems were corrected, empty groups are recognized and users moved between groups now are properly synchronized by ThoughtSpot.
- A problem was resolved where the round function returned a negative zero when it should have returned a 0 (zero).
- Visualizations that relied on chasm trap worksheet were not immediately updated when a formula was changed. The workaround was to manually update the visualization. This was corrected. The system now updates the visualization automatically when an underlying formula is changed.

- On a worksheet with a chasm trap, join between a fact and dimension did not work properly when grouping by a measure on the dimension table. This was fixed.
- Using `safe_divide` and `sum` did not work with formula on formula. This problem was fixed.
- Data connected schedules did not adjust for daylight savings time. Now, the schedules adjust as expected.
- The ThoughtSpot tomcat instance went into crash loop when a generic relationship includes `IS NULL` operator. Now, this relationship no longer causes this problem.
- An ODBC connection between Alteryx and ThoughtSpot was failing. This problem was solved by updating the ODBC drivers to the latest versions.
- An issue was fixed where an unnecessary right-outer join was being applied to row-level security RLS-introduced joins. This situation led to impacts on query performance.
- A problem was resolved with multiple sequential joins. Previously, the proper join path was not used when the fields are pulled from tables that were far apart unless fields from the intermediate tables were also used. Now, ThoughtSpot is able to handle multiple sequential joins.
- Resolved an issue with a chasm trap that used `unique count` on shared dimension. The chasm trap was generating an incorrect query. Now, `unique count` is applied correctly in the final query.
- Previously, a user user that created some row-level security (RLS) rules was associated with the rules such that deleting the user also deleted the rules. This is no longer the case. If a user creates a set of RLS rules and that user is subsequently deleted, the rules persist in the system.
- An issue was resolved where filters could only be edited in the search bar.
- Intermittent, ambiguous red bar errors related to chasm trap situations were resolved.
- The help for row-level security rules was complicated and hard to parse. This text was improved and moved into the Query Visualizer.

Downloads for ThoughtSpot

If you are looking for ThoughtSpot clients or API files, you've come to the right place. Click to download the driver you need, or link to the appropriate guide.

JDBC Drivers

ThoughtSpot provides the following JDBC drivers:

- **JDK 1.8**
[thoughtspot_jdbc4.jar](https://thoughtspot.egnyte.com/dl/spCdjCGssK/thoughtspot_jdbc4.jar) (https://thoughtspot.egnyte.com/dl/spCdjCGssK/thoughtspot_jdbc4.jar)
- **JDK 1.7**
[thoughtspot_jdbc41.jar](https://thoughtspot.egnyte.com/dl/HVpvNLw3O8/thoughtspot_jdbc41.jar) (https://thoughtspot.egnyte.com/dl/HVpvNLw3O8/thoughtspot_jdbc41.jar)
- **JDK 1.6**
[thoughtspot_jdbc4.jar](https://thoughtspot.egnyte.com/dl/RvFilefclm/thoughtspot_jdbc4.jar) (https://thoughtspot.egnyte.com/dl/RvFilefclm/thoughtspot_jdbc4.jar)

See [JDBC Driver Overview](#) [See page 0] on instructions for installing and configuring JDBC drivers.

ODBC Drivers

- **Windows:** [ThoughtSpot_windows_odbc_4.2.zip](https://thoughtspot.egnyte.com/dl/xtGeQPL3nD/ThoughtSpot_windows_odbc_4.2.zip) (https://thoughtspot.egnyte.com/dl/xtGeQPL3nD/ThoughtSpot_windows_odbc_4.2.zip)
See [Install the ODBC driver on Windows](#) [See page 0]
- **Linux:** [ThoughtSpot_odbc_linux_3.8.tar.gz](https://thoughtspot.egnyte.com/dl/84csZ4USEX/ThoughtSpot_odbc_linux_3.8.tar.gz) (https://thoughtspot.egnyte.com/dl/84csZ4USEX/ThoughtSpot_odbc_linux_3.8.tar.gz)
See [Install the ODBC driver on Linux](#) [See page 0]

JavaScript API

For the JavaScript API, see the [JavaScript API library](https://thoughtspot.egnyte.com/dl/D8tblCaVbR/) (<https://thoughtspot.egnyte.com/dl/D8tblCaVbR/>).