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To report software issues, contact NetSuite Customer Support.
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SuiteAnalytics Workbook Overview

SuiteAnalytics Workbook is a new analytical tool available in NetSuite. To watch a high-level overview of the newest features available in SuiteAnalytics Workbook, click here.

With SuiteAnalytics Workbook, you can create highly customizable workbooks that combine datasets, pivot tables, and charts using a single tool that leverages the new Analytics Data Source. The Analytics Data Source is designed to ensure that fields are consistently exposed in SuiteAnalytics Workbook, with consistent results across all components of the workbook. Additionally, support for multilevel joins has been added to SuiteAnalytics Workbook, enabling you to author workbooks and datasets using field data from multiple record types, including custom records. Custom formula fields are also supported in SuiteAnalytics Workbook, so you can create and add fields with dynamically calculated values to your workbooks. Finally, SuiteAnalytics Workbook also offers multiple display options for hierarchical fields, so you can easily view data for fields with parent-child relationships.

The SuiteAnalytics Workbook user interface has been designed so that even users with limited knowledge of record schemas and query language can still create complex workbooks and datasets through actions such as drag and drop editing. For example, when you define a dataset you can scroll through all the available record types and fields that you have access to in the Records and Fields lists. To save time during the authoring process, you can also create a workbook based on any of the existing datasets that you have access to in your account. Additionally, the interface makes SuiteAnalytics Workbook ideal for ad-hoc diagnostic analysis, with options for instant formula validation, data refresh, and drilling down through query results. A range of customization options have also been added to the interface to enable rich formatting, filtering, and visualizations of your data.

The latest iteration of SuiteAnalytics Workbook enables you to create workbooks and datasets for a variety of record types. You can also use analytical record types created specifically for SuiteAnalytics Workbook, such as the Sales (Invoiced) record.

To help familiarize yourself with SuiteAnalytics Workbook, see the following topics:

- **Important:** SuiteAnalytics Workbook is currently not supported by SuiteBundler. To avoid installation errors with your bundles, do not include SuiteAnalytics Workbook objects. For more information about SuiteBundler, see the help topic SuiteBundler Overview.

- SuiteAnalytics Workbook uses the new Analytics Data Source which might require different fields, record types, joins, or formulas to replicate your existing saved searches. Review the Analytics Data Source Overview for more information, including a downloadable list of available record types, guidelines for joining record types, and steps for authoring sample workbooks.

- To learn how to create your own custom workbooks or datasets, see Custom Workbooks and Datasets. This section includes steps for defining, filtering, and pivoting your workbook source data, as well procedures for how to create custom formula fields and charts.

- SuiteAnalytics Workbook supports multiple predefined workbook and dataset templates, some of which are in a beta state. For more information, see Workbook and Dataset Templates.

- For information about how to add workbook-based portlets to your NetSuite dashboards, see Workbook-based Portlets.

- Complete the SuiteAnalytics Workbook Tutorial to walkthrough the creation of a sample Transaction workbook.

- For information about the elements of the SuiteAnalytics Workbook user interface, see Navigating SuiteAnalytics Workbook.

- There are some known limitations with the current iteration of SuiteAnalytics Workbook. For more information, see Known Limitations in SuiteAnalytics Workbook.
Enabling SuiteAnalytics Workbook in Your NetSuite Account

By default, the SuiteAnalytics Workbook feature is enabled in all NetSuite accounts. If you do not see the Analytics tab in the NetSuite navigation menu, complete the following steps to verify that the feature has been enabled in your account.

To verify that SuiteAnalytics Workbook is enabled in your account:

1. Log in to your NetSuite account as an administrator.
2. Go to Setup > Company > Enable Features, and click the Analytics subtab.
3. Ensure that the SuiteAnalytics Workbook box is checked.
4. Click Save.

With the feature enabled, all standard roles have access to SuiteAnalytics Workbook except for the following roles:

- Customer Center
- Employee Center
- Vendor Center
- Partner Center
- Advanced Partner Center
- NetSuite Support Center
- NetSuite Support Center (Basic)
- Publisher Center

To provide SuiteAnalytics Workbook access to users assigned to a custom role, add the SuiteAnalytics Workbook permission to the role and set the access level to Edit on the Reports subtab of the Permissions tab.

To enable users to edit and monitor workbooks created by other users in your account, add the Analytics Administrator permission to the user's role on the Setup subtab of the Permissions tab. Alternatively, to enable the Analytics Administrator permission for individual users, add the Analytics Administrator global permission to the employee record.

For more information about customizing roles, see the help topic Customizing or Creating NetSuite Roles.
For more information about the Analytics Administrator permission, see The Analytics Administrator Permission.

The Analytics Administrator Permission

The Analytics Administrator permission enables users to delete, share, and edit the workbooks and datasets created in your account. Users with this permission can also track changes to workbooks and datasets using the Audit Trail and Execution Log record types. Additionally, the Analytics Administrator permission enables users to define the audience for workbook and dataset templates.

The minimum access level for the permission is Full, and by default it is enabled for account administrators. The permission can be assigned to a role on the Setup subtab of the Permissions tab, or as a global permission on an employee record. Deleted workbooks and datasets are irretrievable however, so the permission should only be enabled for a small number of users in your account. Additionally, while users with the Analytics Administrator permission can delete workbooks and datasets created by other users, they can still only view the fields and records that they have access to based on their NetSuite permissions. Users with the Analytics Administrator permission are also not automatically given access to SuiteAnalytics Workbook and must be assigned to a role with the SuiteAnalytics Workbook permission to access the tool.

Editing Employee Workbooks and Datasets

Users with the Analytics Administrator permission have access to every workbook and dataset in your account through the Analytics Home page.

- To view workbooks and datasets created by other users, select Employee Workbooks or Employee Datasets in the drop down list of the respective subtab.
- To change the properties of a workbook or dataset without opening it, click the Edit icon next to Name, Description, or Owner fields. You can also share or delete workbooks and datasets using the icons in the Actions column. Currently, notifications are not sent when workbooks are deleted, shared, or assigned to new owners.

Auditing Workbooks and Datasets

To monitor the use of SuiteAnalytics Workbook, users with Analytics Administrator permission have access to the Audit Trail and Execution Log record types. There is a version of each record type for workbooks and datasets, which you can differentiate using the Record ID. The dataset Audit Trail and Execution Log record types both contain ‘Ds’ in the Record ID. You can use these record types to create datasets that show you the data being accessed through SuiteAnalytics Workbook and to track changes to the saved workbooks and datasets in your account.

<table>
<thead>
<tr>
<th>Record Type</th>
<th>Description</th>
<th>Fields</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audit Trail</td>
<td>Displays changes made to each saved workbook or dataset in your account,</td>
<td>Date/Time, ID, User, Saved Workbooks</td>
</tr>
<tr>
<td></td>
<td>including the date the change was saved and the user who saved it. Records</td>
<td></td>
</tr>
<tr>
<td></td>
<td>for each saved workbook and dataset are stored indefinitely, or until the</td>
<td></td>
</tr>
<tr>
<td></td>
<td>workbook or dataset is deleted.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>To view the most recent saved changes, join fields from the Change Audit</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Change record type to the Audit Trail dataset.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>To view the details of each saved change in a workbook or dataset,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>including the fields that were changed and the new and original values,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>join the New Value and Old Value fields from the Detail Audit Detail record</td>
<td></td>
</tr>
<tr>
<td></td>
<td>type to the Audit Trail dataset.</td>
<td></td>
</tr>
</tbody>
</table>
Defining the Audience for Workbook and Dataset Templates

SuiteAnalytics Workbook offers many predefined workbook and dataset templates. For a detailed list including summaries of the content within each workbook or dataset, see Workbook and Dataset Templates.

Some of these templates are in a beta or demo state and should be used for test purposes only.

To provide access to these templates, users with the Analytics Administrator permission can share most templates with specific users or roles directly from the Analytics Home page. If the Share icon is unavailable for a workbook or dataset, users with the Analytics Administrator permission must open the workbook or dataset and save and share a copy of it. For more information about sharing workbooks and datasets, see Sharing Workbooks and Datasets.

Accessing and Sharing Workbooks and Datasets

**Important:** Workbooks created prior to 20.1 now exist as two separate workbook and dataset objects. Consequently, any users that you shared a workbook with prior to this release now have access to both the workbook and the associated dataset. However, because changes to a dataset are automatically propagated to any associated workbooks, recipients cannot edit a shared dataset unless they save their own versions. For more information, see Custom Workbooks and Datasets.

When you first click the Analytics tab from the NetSuite navigation menu, you are presented with all the workbooks and datasets that you have access to on the Analytics Home page. This includes any workbooks or datasets that you own and any that have been shared with you. If you have the Analytics Administrator permission, you can also open workbooks and datasets created by other users and access or share the predefined workbook and dataset templates in your account. For more information about the Analytics Administrator permission, see The Analytics Administrator Permission.

The record types and fields displayed in each workbook or dataset are based on the features enabled in your account and the permissions assigned to the role you use to login to NetSuite. For example, to view fields and data from the Invoice record type or to create a dataset based on the Invoice record type, you must have the Invoice permission assigned to your role. Additionally, certain actions in SuiteAnalytics Workbook are controlled by your NetSuite permissions. For example, to export a dataset to a CSV file, you must have the Exports Lists permission at the Create level or higher.

For more information about specific record type and field access in SuiteAnalytics Workbook, download the following worksheet: NetSuitePermissionsUsage.xls. If you do not see a specific record type or field
that you need to access, contact your system administrator. Also, keep in mind that you can only access certain workbooks and datasets such as the **Sales (Invoiced) Workbook**, if they are shared with you by other users in your account. For more information, see Sharing Workbooks and Datasets.

**Sharing Workbooks and Datasets**

You can share workbooks and datasets with individual users or groups of users on a role by role basis. To prevent data discrepancies in workbooks that use the same dataset, recipients of a shared workbook cannot edit the associated dataset. For example, if you share a workbook with users assigned to the Accountant role, all users assigned to that role can access and save their own versions of the workbook or dataset, but they cannot edit the original dataset.

Any user with access to SuiteAnalytics Workbook can share a workbook or dataset, however users can only view the record types and fields they have permissions for in shared content. Record types and fields that a user does not have access to are simply not displayed in the shared workbook or dataset.

Shared workbooks include all components of the workbook, including any selections made on the Table View, Pivot, or Charts tabs. Shared datasets contain all the join record types, fields, and criteria filters used to define the dataset. If you have the export lists permission and you only want to share your workbook source data, click the Export icon in the dataset to download a CSV file of the Data Grid which you can distribute to other users.

**To share a workbook:**

1. Click Share from anywhere within the workbook or dataset.
   The Share Workbook window appears.
2. Select the roles or users you want to share the workbook with, then click the right arrow to add them to the distribution list.
3. Click Share.

The object is shared and will appear on the Analytics Home page for the selected recipients. Currently, notifications are not sent when a workbook is shared with a user.

**Important:** You cannot save or share datasets that contain fields that are in a beta state. These fields are for test purposes only and are subject to change. If your dataset contains fields that are in a beta state or your workbook is based on a dataset that contains beta fields, remove the fields before you attempt to save.

**Data Refresh in SuiteAnalytics Workbook**

In SuiteAnalytics Workbook, by default the data presented in pivot tables and charts tab is cached every 60 minutes. This caching process provides better performance by returning results faster. However, these results might not display the most current data.

To find out when the data was last refreshed in your workbook, verify the time displayed in the Last updated field, in the upper-right corner of the Viewer. To better understand the default caching process and how to clear the cache manually, see the following topics:

- Understanding Data Caching in Charts and Pivot Tables
- Clearing the Cache for Pivot Tables and Charts

**Understanding Data Caching in Charts and Pivot Tables**

The data that is displayed in each tab of a workbook varies depending on the following scenarios:

- Creating and modifying pivot tables and charts in an existing workbook
- Saving and re-opening a workbook before 60 minutes have elapsed
- Saving and re-opening a workbook after 60 minutes have elapsed
- Working with the Analytics Portlet

**Creating and modifying pivot tables and charts in an existing workbook**

After you set the layout of a new pivot table or chart, click the Refresh icon to apply the changes and update the results. If you make changes to a pivot table directly from the Pivot Table Viewer, the results are automatically displayed.

When you create or modify your pivot tables and charts, SuiteAnalytics Workbook creates a backend query. This backend query definition retrieves the results for the defined pivot tables and charts, and enables you to see the results in the Viewer. If there are pivot tables and charts that share the same backend query definition, the data used for the refresh can vary:

- If the backend query was refreshed less than 60 minutes ago from either the pivot or chart tab, the data from the cache is used for the refresh.
- If the backend query was refreshed more than 60 minutes ago from either the pivot or chart tab, the most current data is used for the refresh.

You can verify the time of the last refresh in the upper-right corner of the pivot table or chart viewer.
Saving and re-opening a workbook before 60 minutes have elapsed

When you re-open a saved workbook before 60 minutes have elapsed and open a pivot table or chart, by default the Viewer displays cached data. The time of the last refresh appears in the upper-right corner of the Viewer. To retrieve the most current data, click the Refresh icon.

Saving and re-opening a workbook after 60 minutes have elapsed

When you re-open a saved workbook after 60 minutes have elapsed, the cached data has expired. Consequently, when you open a pivot table or chart, the Viewer automatically displays the most current results.

Working with the Analytics Portlet

The pivot tables and charts in the Analytics portlet display the same data as their corresponding workbooks. However, you can retrieve the most current results by clicking the Refresh icon.

For more information about how to clear the cache manually, see Clearing the Cache for Pivot Tables and Charts.

Clearing the Cache for Pivot Tables and Charts

The Clear cache option clears cached data from workbook pivot tables and charts so that you can retrieve the most current results. You can verify when the data was last updated by checking the date and time displayed in the upper-right corner of the pivot table or chart Viewer. The following steps describe how you can clear the cache for your open pivot tables and charts.

To clear the cache for pivot tables and charts:

1. On the Pivot or Chart tab, click the menu icon in the upper right corner of the Viewer. A popup message appears asking if you want to clear the cache.
2. Choose how you want to proceed:
   - **Clear cache** - Clears the cache for the entire workbook. The time and date in the upper-right corner of the Viewer is updated to reflect when the data was updated.
   - **Cancel** - The cache is not cleared. Data is updated following the default caching process.
3. If you clear the cache, a popup message appears asking you to refresh all pivot tables and charts and an icon is displayed next to each pivot table and chart in the workbook. There are three available icons:
   - **Warning icon** - The displayed results are not up to date according to the date and time shown in the Last updated field. To retrieve the most current results, click the Refresh icon.
   - **Loading icon** - The data is currently being updated according to the date and time shown in the Last updated field. After the refresh is completed, the icon changes to either the pivot or chart icon.
   - **Pivot and Chart icons** - The data displayed is up to date according to the date and time shown in the Last updated field.
4. To retrieve the most current results in each open pivot table and chart, click the Refresh icon in each tab.

For more information about the Pivot table and Chart tabs, see Pivot Tab and Chart Tab.

To better understand the caching process of SuiteAnalytics Workbook, see Understanding Data Caching in Charts and Pivot Tables.

**Known Limitations in SuiteAnalytics Workbook**

The following features and interactions in SuiteAnalytics Workbook have known limitations that are currently being addressed by our development teams:

- On the Pivot tab, you cannot apply measure-based filters to fields that contain date or text values when the aggregation types for those fields are set to Min or Max.
  
  For more information about measure-based filters, see Workbook Component Filters.

- Some ad blocker plug-ins can prevent you from creating pivot tables or charts. To avoid errors with the Pivot or Chart tabs, deactivate these plug-ins and mark NetSuite as an exception. For more information about NetSuite browser support, see the help topic Supported Browsers for NetSuite.

- If you define a criteria filter that is invalidated based on changes to the field used in the filter condition, you are currently unable to edit the filter.

- Users assigned to the Employee Center or Partner Center roles who have permission to access SuiteAnalytics Workbook might not see the Analytics option in the NetSuite navigation menu.

- Filters that you create on the Dataset tab based on custom duration values currently do not work as expected.

- When you query the Analytics Data Source using SuiteScript, you currently cannot filter data using recordTypes such as Invoice.

- If you add multiple pivot tables or charts in a workbook, the user interface does not always display arrows so that you can switch between each table and chart.

- Certain ad blocking software can prevent data from loading in your workbook pivot tables.

- The search field on the Dataset tab searches across record types that are one join away from the root record type. To find record types that are more than one join away, click Show more results.
Analytics Data Source Overview

For every NetSuite account, all data is stored using a single database. The data sources used to expose this data through Saved Searches and Reports however, are slightly unique. For some record types, these unique data sources have resulted in inconsistent field naming and data exposure between the two tools.

In SuiteAnalytics Workbook, fields and record types are exposed using a new Analytics Data Source that is designed to display consistent data across the workbook application. Fields created in support of new NetSuite features are exposed to SuiteAnalytics Workbook using the Analytics Data Source, as of 2019.1.

The location, names, and IDs of some fields and record types might be different in the Analytics Data Source. Additionally, some record types and fields have not been ported to the Analytics Data Source. This includes fields that contain calculated values for certain record types. Consequently, you might need to use different record types and fields, or create new joins and custom formula fields to recreate your existing saved searches using SuiteAnalytics Workbook.

To help you navigate the Analytics Data Source, see the following topics:

- The Analytics Data Source supports hundreds of record types and fields. For more information, including a complete list of all currently supported record types and fields, see Available Record Types.
- The location and names of some fields in the Analytics Data Source might be different from their Search and Report counterparts. Additionally, some fields such as fields with calculated values have not yet been ported to the Analytics Data Source. For more information about differences in the new data source, see Analytics Data Source Changes.
- After you select a root record type for a custom dataset or open a saved or shared dataset, all related record types that you have access to are displayed in the Records list. For more information about using the Dataset tab to select and join related record types, see Defining a Dataset.
- You can use SuiteQL to run queries against the Analytics Data Source through SuiteAnalytics Connect. For more information, see SuiteQL.
- SuiteAnalytics Workbook supports multilevel joins, however there are certain functions and interactions that you should be cautious of when adding specific record types or fields to a dataset. For more information, see Guidelines for Joining Record Types in SuiteAnalytics Workbook.

SuiteQL

SuiteQL is a query language based on the SQL-92 revision of the SQL database query language. It provides advanced query capabilities you can use to access your NetSuite records and data.

SuiteQL is currently available for querying the new data source through SuiteAnalytics Connect only.

Some benefits of using SuiteQL include the following:

- **Support for the new data source**: SuiteQL lets you query the new data source. The new data source enhances the capabilities of querying your NetSuite data. The exposed data is consistent with SuiteAnalytics Workbook, which resolves previous data exposure inconsistencies in saved searches and reports. For more information, see Analytics Data Source Overview.
- **Improved security**: SuiteQL enforces the same role-based access restrictions used in SuiteAnalytics Workbook. This means that SuiteQL lets you query the same data you can access in the SuiteAnalytics Workbook user interface, which helps to increase security. SuiteQL also includes a list of supported SQL functions and does not allow you to use unsupported SQL functions in your query, which prevents SQL injection.

SuiteQL supports the syntax for both SQL-92 and Oracle SQL. However, you cannot use both syntaxes in the same query.

To help you understand how to use SuiteQL, see the following help topics:
SuiteQL Syntax and Examples

SuiteQL supports the syntax for both SQL-92 and Oracle SQL, but you cannot use both syntaxes in the same query. To learn about these syntaxes, see the following help topics:

- SQL-92 Language Reference
- Oracle Database SQL Language Reference

The following sections show you how to create queries using SuiteQL and the new data source.

Simple Queries

This section demonstrates how to perform simple queries using SuiteQL.

Field Values from Records

This string queries for `entityid`, `firstname`, and `lastname` field values in all employee records. By default, field values use the RAW field context. For more information, see the help topic `query.FieldContext`.

```
SELECT employee.entityid AS entityidRAW, employee.firstname AS firstnameRAW, employee.lastname AS lastnameRAW
FROM employee
```

Field Values with Conditions

This string queries for `entityid` field values in employee records where the `expenselimit` of the employee is greater than or equal to 5000.

```
SELECT employee.entityid AS entityidRAW FROM employee WHERE employee.expenselimit >= 5000
```

This string queries for entityid field values in employee records where the expenselimit of the employee is greater than or equal to 5000 or the employee is a sales representative.

```
SELECT employee.entityid AS entityidRAW FROM employee WHERE employee.expenselimit >= 5000 OR employee.issalesrep = 'T'
```

Joined Records

This string queries for `paytype` and `payrate` field values in employee records joined to employee earning records where the employee is the same on both records:

```
SELECT paytype, payrate FROM employeeEarning earning, employee WHERE earning.employee = employee.id
```

Advanced Queries

The following strings demonstrate advanced queries using SuiteQL.

```
/* set operations */
SELECT * FROM transactions UNION SELECT * FROM transactions /* ODBC 2.0 Extended */;
```
SuiteQL Limitations and Exceptions

The following are known limitations and exceptions when using SuiteQL:

- SuiteQL is currently supported by SuiteAnalytics Connect only. To learn how to use SuiteQL with SuiteAnalytics Connect, see Using SuiteQL with the Connect Service.
- You can create SuiteQL queries using the syntax for either SQL-92 or Oracle SQL, but you cannot use both syntaxes in the same query. To learn about SuiteQL syntax and grammar, see SuiteQL Syntax and Examples.
- There is no dedicated browser for the new data source yet. To find all record types and fields that are currently available for the new data source schema, you can download a spreadsheet that includes all available records. To access the spreadsheet and download it, go to Available Record Types.

Using SuiteQL

SuiteQL lets you query your NetSuite data using advanced query capabilities. SuiteQL includes a list of supported SQL functions and does not allow you to use unsupported SQL functions in your query, which prevents SQL injection and other unauthorized access to data.
Important: Currently, you can use SuiteQL with SuiteAnalytics Connect only.

To learn how to use SuiteQL, see the following help topics:

- Finding Record Type and Field Names
- Using SuiteQL with the Connect Service

Finding Record Type and Field Names

SuiteQL queries include references to record types and fields. For example, the following SuiteQL string queries for `entityid` field values that are included in employee records:

```
SELECT employee.entityid AS entityid FROM employee
```

To create a query using SuiteQL, you must know the names of the record types and fields that you want to use in your query. You can find these names using several methods:

- Using the SuiteAnalytics Workbook UI
- Using the Available Records Spreadsheet

Using the SuiteAnalytics Workbook UI

You can use the SuiteAnalytics Workbook UI to find record type and field names. SuiteAnalytics Workbook uses the same data source that SuiteQL does, so you can use the SuiteAnalytics Workbook UI to explore the available record types and fields before you create your query.

To find record type and field names using the SuiteAnalytics Workbook UI:

1. In your NetSuite account, click the Analytics tab in the NetSuite navigation menu.
2. On the Workbooks page, click New Workbook.
3. Search for the record type that you want to use as the root record of your query.
   The name of each supported record type is listed in the Record ID column. You can use this page to find all supported record type names, but you cannot use this page to find field names. If you need to find field names, continue to step 4.

4. Click a record type. A workbook is created with the selected record type as the root record.
The left column lists the record types that you can join with the root record. The middle column lists the fields that are available on the selected record.

5. In the middle column, find the field that you want to use in your query. Hover over the field, and click the information button.

Information about the field is displayed. The field name is listed under Field ID. You can also see the type of data that the field contains (text, date, boolean, and so on).

If you want to find field names for fields that are on a different root record, repeat this procedure from step 2 and choose a new root record. To learn more about creating workbooks, see SuiteAnalytics Workbook Tutorial.

Using the Available Records Spreadsheet

Record type and field names are listed in a spreadsheet that you can use when you create your SuiteQL query. This spreadsheet also indicates whether a record or field is available in different contexts (such as in SuiteAnalytics Workbook or SuiteAnalytics Connect) and lists the features and permissions that are required to use the record or field.
To access this spreadsheet, go to Available Record Types and download it using the download link.

**To find record type and field names using the Available Records spreadsheet:**

1. Download and open the spreadsheet.
2. In the **Record Label** column, find the record type that you want to use in your query.

The spreadsheet includes the following columns related to records:

- **Record ID**: The record type name to use in your query
- **Record Label**: The display name or friendly name of the record
- **Record Feature**: The NetSuite feature that must be enabled to use the record (for more information, see the help topic Enabling Features)
- **Record Permission**: The NetSuite permission that your role must have to use the record (for more information, see the help topic NetSuite Permissions Overview)
- **Workbook Enabled, Connect Enabled, SuiteScript Enabled**: Whether the record is available in different contexts, such as in SuiteAnalytics Workbook or SuiteAnalytics Connect

The spreadsheet also includes the following columns related to fields:

- **Field ID**: The field name to use in your query
- **Field Label**: The display name or friendly name of the field
- **Field Feature**: The NetSuite feature that must be enabled to use the field
- **Field Permission**: The NetSuite permission that your role must have to use the record
- **Field Workbook Enabled, Field Connect Enabled, Field SuiteScript Enabled**: Whether the field is available in different contexts, such as in SuiteAnalytics Workbook or SuiteAnalytics Connect

**Using SuiteQL with the Connect Service**

You can use SuiteQL to query your NetSuite data through the Connect Service. To do so, you must consider the following:

- **Syntax Requirements**
- **Querying the New Data Source**
- **Supported Functions**
- **Unsupported Functions**
- **Unsupported Features in SQL-92**

**Syntax Requirements**

As you create queries using SuiteQL and the Connect Service, consider the following syntax requirements:

- For string concatenation, you cannot use the + operator. You should use the || operator instead. This restriction applies to both field and literal concatenation.
- You cannot use more than 1000 arguments in a single **IN** clause.
- You cannot use date literals. You must encapsulate dates using the **to_date()** function.
- When using Oracle SQL syntax, you cannot use right outer joins. For example, the following Oracle SQL is not valid in SuiteQL:

  ```sql
  select a1.id from account a1, account a2 where a1.id (+) = a2.id
  ```

  For more information, see the help topic **SQL Compliance**.
Querying the New Data Source

There is no dedicated browser for the new data source yet. To find all record types and fields that are currently available for the new data source schema, you can do the following:

- Use the Available Records spreadsheet that lists the available record types and fields. To download the spreadsheet, go to Available Record Types.
- Use the OA_COLUMNS, OA_TABLES, and OA_FKEYS database tables. To learn about the tables, see the help topic SuiteAnalytics Connect System Tables.

**Note:** The OA_FKEYS table does not provide information about foreign keys for NetSuite2.com data source. The table provides primary keys only.

The new data source is not accessible for the following roles: Administrator, Full Access (Depreciated), roles requiring Two-Factor Authentication (2FA), and roles accessing the Connect Service with IP restrictions. For more information, see the help topic Role-based Permissions for the New Data Source.

**Supported Functions**

The following table outlines the list of functions you can use when you run queries using SuiteQL with the Connect Service.

<table>
<thead>
<tr>
<th>Supported Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABS</td>
<td>returns the absolute value of n</td>
</tr>
<tr>
<td>ACOS</td>
<td>returns the arc cosine of n</td>
</tr>
<tr>
<td>ADD_MONTHS</td>
<td>returns the date date plus integer months</td>
</tr>
<tr>
<td>APPROX_COUNT_DISTINCT</td>
<td>returns the approximate number of rows that contain distinct values of expr</td>
</tr>
<tr>
<td>ASCII</td>
<td>returns the decimal representation in the database character set of the first character of char</td>
</tr>
<tr>
<td>ASCIIISTR</td>
<td>takes as its argument a string, or an expression that resolves to a string, in any character set and returns an ASCII version of the string in the database character set</td>
</tr>
<tr>
<td>ASIN</td>
<td>returns the arc sine of n</td>
</tr>
<tr>
<td>ATAN</td>
<td>returns the arc tangent of n</td>
</tr>
<tr>
<td>ATAN2</td>
<td>returns the arc tangent of n1 and n2</td>
</tr>
<tr>
<td>AVG</td>
<td>returns the average value of expr</td>
</tr>
<tr>
<td>BFILENAME</td>
<td>returns a BFILE locator that is associated with a physical LOB binary file on the server file system</td>
</tr>
<tr>
<td>BITAND</td>
<td>computes an AND operation on the bits of expr1 and expr2</td>
</tr>
<tr>
<td>CEIL</td>
<td>returns smallest integer greater than or equal to n</td>
</tr>
<tr>
<td>CHARTOROWID</td>
<td>converts a value from CHAR, VARCHAR2, NCHAR, or NVARCHAR2 datatype to ROWIDdatatype</td>
</tr>
<tr>
<td>CHR</td>
<td>returns the character having the binary equivalent to n as a VARCHAR2 value</td>
</tr>
<tr>
<td>COALESCE</td>
<td>returns the first non-null expr in the expression list</td>
</tr>
<tr>
<td>Supported Function</td>
<td>Description</td>
</tr>
<tr>
<td>--------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>COMPOSE</td>
<td>takes as its argument a string, or an expression that resolves to a string, in any datatype, and returns a Unicode string in its fully normalized form in the same character set as the input</td>
</tr>
<tr>
<td>CONCAT</td>
<td>concatenates char1 and char2 into one string</td>
</tr>
<tr>
<td>CORR</td>
<td>returns the coefficient of correlation of a set of number pairs</td>
</tr>
<tr>
<td>CORR_K</td>
<td>calculates the Kendall's tau-b correlation coefficient</td>
</tr>
<tr>
<td>CORR_S</td>
<td>calculates the Spearman's rho correlation coefficient</td>
</tr>
<tr>
<td>COS</td>
<td>returns the cosine of n (an angle expressed in radians)</td>
</tr>
<tr>
<td>COSH</td>
<td>returns the hyperbolic cosine of n</td>
</tr>
<tr>
<td>COUNT</td>
<td>returns the number of rows returned by the query</td>
</tr>
<tr>
<td>COVAR_POP</td>
<td>returns the population covariance of a set of number pairs</td>
</tr>
<tr>
<td>COVAR_SAMP</td>
<td>returns the sample covariance of a set of number pairs</td>
</tr>
<tr>
<td>CURRENT_DATE</td>
<td>returns the current date in the session time zone, in a value in the Gregorian calendar of datatype DATE</td>
</tr>
<tr>
<td>DENSE_RANK</td>
<td>computes the rank of a row in an ordered group of rows and returns the rank as a NUMBER</td>
</tr>
<tr>
<td>DECODE</td>
<td>compares expr to each search value one by one. If expr is equal to a search, then the Oracle database returns the corresponding result</td>
</tr>
<tr>
<td>DECOMPOSE</td>
<td>takes as its argument a string in any datatype and returns a Unicode string after decomposition in the same character set as the input</td>
</tr>
<tr>
<td>EMPTY_BLOB</td>
<td>returns an empty LOB locator</td>
</tr>
<tr>
<td>EMPTY_CLOB</td>
<td>returns an empty LOB locator</td>
</tr>
<tr>
<td>EXP</td>
<td>returns e raised to the nth power</td>
</tr>
<tr>
<td>FLOOR</td>
<td>returns largest integer equal to or less than n</td>
</tr>
<tr>
<td>FROM_TZ</td>
<td>converts a timestamp value and a time zone to a TIMESTAMP WITH TIME ZONE value</td>
</tr>
<tr>
<td>GREATEST</td>
<td>returns the greatest of a list of one or more expressions</td>
</tr>
<tr>
<td>INITCAP</td>
<td>returns char, with the first letter of each word in uppercase, all other letters in lowercase</td>
</tr>
<tr>
<td>INSTR</td>
<td>searches string for substring</td>
</tr>
<tr>
<td>LAST_DAY</td>
<td>returns the date of the last day of the month that contains date</td>
</tr>
<tr>
<td>LEAST</td>
<td>returns the least of the list of exprs</td>
</tr>
<tr>
<td>LENGTH</td>
<td>returns the length of char</td>
</tr>
<tr>
<td>LENGTH2</td>
<td>returns the length of the specified string, using UCS2 code points</td>
</tr>
<tr>
<td>LENGTH4</td>
<td>returns the length of the specified string, using UCS4 code points</td>
</tr>
<tr>
<td>Supported Function</td>
<td>Description</td>
</tr>
<tr>
<td>--------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>LENGTHB</td>
<td>returns the length of the specified string, using bytes instead of characters</td>
</tr>
<tr>
<td>LENGTHC</td>
<td>returns the length of the specified string, using Unicode complete characters</td>
</tr>
<tr>
<td>LN</td>
<td>returns the natural logarithm of n, where n is greater than 0</td>
</tr>
<tr>
<td>LOCALTIMESTAMP</td>
<td>returns the current date and time in the session time zone in a value of datatype TIMESTAMP</td>
</tr>
<tr>
<td>LOG</td>
<td>computes the logarithm of an expression</td>
</tr>
<tr>
<td>LOWER</td>
<td>returns char, with all letters in lowercase</td>
</tr>
<tr>
<td>LPAD</td>
<td>returns expr1, left-padded to length n characters with the sequence of characters in expr2</td>
</tr>
<tr>
<td>LTRIM</td>
<td>removes from the left end of char all of the characters contained in set</td>
</tr>
<tr>
<td>MAX</td>
<td>returns the maximum value of expr</td>
</tr>
<tr>
<td>MEDIAN</td>
<td>is an inverse distribution function that assumes a continuous distribution model. It takes a numeric or datetime value and returns the middle value or an interpolated value that would be the middle value once the values are sorted</td>
</tr>
<tr>
<td>MIN</td>
<td>returns the minimum value of expr</td>
</tr>
<tr>
<td>MOD</td>
<td>returns the remainder of n2 divided by n1. Returns n2 if n1 is 0</td>
</tr>
<tr>
<td>MONTHS_BETWEEN</td>
<td>returns the number of months between date1 and date2</td>
</tr>
<tr>
<td>NANVL</td>
<td>useful only for floating-point numbers of type BINARY_FLOAT or BINARY_DOUBLE. This function is useful for mapping NaN values to NULL</td>
</tr>
<tr>
<td>NEW_TIME</td>
<td>returns the date and time in time zone timezone2 when date and time in time zone timezone1 are date</td>
</tr>
<tr>
<td>NEXT_DAY</td>
<td>returns the date of the first weekday named by char that is later than the date</td>
</tr>
<tr>
<td>NLSSORT</td>
<td>returns the string of bytes used to sort char</td>
</tr>
<tr>
<td>NLS_INITCAP</td>
<td>returns char, with the first letter of each word in uppercase, all other letters in lowercase</td>
</tr>
<tr>
<td>NLS_LOWER</td>
<td>returns char, with all letters in lowercase</td>
</tr>
<tr>
<td>NLS_UPPER</td>
<td>returns char, with all letters in uppercase</td>
</tr>
<tr>
<td>NULLIF</td>
<td>compares expr1 and expr2. If they are equal, then the function returns null. If they are not equal, then the function returns expr1</td>
</tr>
<tr>
<td>NVL</td>
<td>lets you replace null (returned as a blank) with a string in the results of a query</td>
</tr>
<tr>
<td>NVL2</td>
<td>lets you determine the value returned by a query based on whether a specified expression is null or not null</td>
</tr>
<tr>
<td>ORA_HASH</td>
<td>computes a hash value for a given expression</td>
</tr>
<tr>
<td>POWER</td>
<td>returns n2 raised to the n1 power</td>
</tr>
<tr>
<td>RANK</td>
<td>calculates the rank of a value in a set of values</td>
</tr>
<tr>
<td>REGEXP_INSTR</td>
<td>extends the functionality of the INSTR function by letting you search a string for a regular expression pattern</td>
</tr>
<tr>
<td>Supported Function</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>REGEXP_REPLACE</td>
<td>extends the functionality of the REPLACE function by letting you search a string for a regular expression pattern</td>
</tr>
<tr>
<td>REGEXP_SUBSTR</td>
<td>extends the functionality of the SUBSTR function by letting you search a string for a regular expression pattern</td>
</tr>
<tr>
<td>REMAINDER</td>
<td>returns the remainder of $n_2$ divided by $n_1$</td>
</tr>
<tr>
<td>REPLACE</td>
<td>returns char with every occurrence of search_string replaced with replacement_string</td>
</tr>
<tr>
<td>ROUND</td>
<td>returns $n$ rounded to integer places to the right of the decimal point</td>
</tr>
<tr>
<td>ROW_NUMBER</td>
<td>analytic function that assigns a unique number to each row to which it is applied</td>
</tr>
<tr>
<td>RPAD</td>
<td>returns expr1, right-padded to length $n$ characters with expr2, replicated as many times as necessary</td>
</tr>
<tr>
<td>RTRIM</td>
<td>removes from the right end of char all of the characters that appear in set</td>
</tr>
<tr>
<td>SIGN</td>
<td>returns the sign of $n$</td>
</tr>
<tr>
<td>SIN</td>
<td>returns the sine of $n$ (an angle expressed in radians)</td>
</tr>
<tr>
<td>SINH</td>
<td>returns the hyperbolic sine of $n$</td>
</tr>
<tr>
<td>SOUNDINDEX</td>
<td>returns a character string containing the phonetic representation of char</td>
</tr>
<tr>
<td>SQRT</td>
<td>returns the square root of $n$</td>
</tr>
<tr>
<td>SUBSTR</td>
<td>returns a portion of char, beginning at character position, substring_length characters long</td>
</tr>
<tr>
<td>SUM</td>
<td>returns the sum of values of expr. You can use it as an aggregate or analytic function</td>
</tr>
<tr>
<td>SYS_EXTRACT.UTC</td>
<td>extracts the UTC from a datetime value with time zone offset or time zone region name</td>
</tr>
<tr>
<td>TAN</td>
<td>returns the tangent of $n$ (an angle expressed in radians)</td>
</tr>
<tr>
<td>TANH</td>
<td>returns the hyperbolic tangent of $n$</td>
</tr>
<tr>
<td>TO_BINARY_DOUBLE</td>
<td>returns a double-precision floating-point number</td>
</tr>
<tr>
<td>TO_BINARY_FLOAT</td>
<td>returns a single-precision floating-point number</td>
</tr>
<tr>
<td>TO_CHAR</td>
<td>(number) converts $n$ to a value of VARCHAR2 datatype</td>
</tr>
<tr>
<td>TO_CLOB</td>
<td>converts NCLOB values in a LOB column or other character strings to CLOB values</td>
</tr>
<tr>
<td>TO_DATE</td>
<td>converts char of CHAR, VARCHAR2, NCHAR, or NVARCHAR2 datatype to a value of DATE datatype</td>
</tr>
<tr>
<td>TO_MULTI_BYTE</td>
<td>TO_MULTI_BYTE returns char with all of its single-byte characters converted to their corresponding multibyte characters</td>
</tr>
<tr>
<td>TO_NCHAR</td>
<td>converts a character string, CHAR, VARCHAR2, CLOB, or NCLOB value to the national character set</td>
</tr>
<tr>
<td>TO_NCLOB</td>
<td>converts CLOB values in a LOB column or other character strings to NCLOB values</td>
</tr>
<tr>
<td>TO_NUMBER</td>
<td>converts expr to a value of NUMBER datatype</td>
</tr>
</tbody>
</table>
### Supported Functions

<table>
<thead>
<tr>
<th>Supported Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TO_SINGLE_BYTE</td>
<td>returns char with all of its multibyte characters converted to their corresponding single-byte characters</td>
</tr>
<tr>
<td>TO_TIMESTAMP</td>
<td>converts char of CHAR, VARCHAR2, NCHAR, or NVARCHAR2 datatype to a value of TIMESTAMP datatype</td>
</tr>
<tr>
<td>TO_TIMESTAMP_TZ</td>
<td>converts char of CHAR, VARCHAR2, NCHAR, or NVARCHAR2 datatype to a value of TIMESTAMP WITH TIME ZONE datatype</td>
</tr>
<tr>
<td>TRANSLATE</td>
<td>returns expr with all occurrences of each character in from_string replaced by its corresponding character in to_string</td>
</tr>
<tr>
<td>TRUNC</td>
<td>(number) returns n1 truncated to n2 decimal places</td>
</tr>
<tr>
<td>TZ_OFFSET</td>
<td>returns the time zone offset corresponding to the argument based on the date the statement is executed</td>
</tr>
<tr>
<td>UNISTR</td>
<td>takes as its argument a text literal or an expression that resolves to character data and returns it in the national character set</td>
</tr>
<tr>
<td>UPPER</td>
<td>returns char, with all letters in uppercase</td>
</tr>
<tr>
<td>VSIZE</td>
<td>returns the number of bytes in the internal representation of expr</td>
</tr>
<tr>
<td>WIDTH_BUCKET</td>
<td>lets you construct equiwidth histograms, in which the histogram range is divided into intervals that have identical size</td>
</tr>
</tbody>
</table>

### Unsupported Functions

The following table provides a list of functions that are not supported when you run queries using SuiteQL with the Connect Service. It also provides an alternative function you can use for each unsupported function, if available.

<table>
<thead>
<tr>
<th>Unsupported Function</th>
<th>Alternative Function (If Available)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIT_LENGTH</td>
<td></td>
</tr>
<tr>
<td>CEILING</td>
<td>CEIL</td>
</tr>
<tr>
<td>CHAR</td>
<td></td>
</tr>
<tr>
<td>CHARINDEX</td>
<td>INSTR</td>
</tr>
<tr>
<td>CHAR_LENGTH</td>
<td>LENGTH</td>
</tr>
<tr>
<td>CHARACTER_LENGTH</td>
<td>LENGTH</td>
</tr>
<tr>
<td>CONVERT</td>
<td></td>
</tr>
<tr>
<td>COT</td>
<td></td>
</tr>
<tr>
<td>DATEDIFF</td>
<td></td>
</tr>
<tr>
<td>LCASE</td>
<td>LOWER</td>
</tr>
<tr>
<td>LEFT</td>
<td></td>
</tr>
<tr>
<td>LOCATE</td>
<td>INSTR</td>
</tr>
<tr>
<td>POSITION</td>
<td></td>
</tr>
</tbody>
</table>
Unsupported Function | Alternative Function (If Available)
--- | ---
REPEAT |  
RIGHT |  
SUBSTRING | SUBSTR  
UCASE | UPPER

Unsupported Features in SQL-92

When using SQL-92 syntax, there are several features that are not supported, including embedded null values in CHAR fields, DEFAULT clauses for column values, and subqueries in SELECT lists.

For a full list of unsupported features, see Non-Supported SQL-92 functionality.

Available Record Types

SuiteAnalytics Workbook supports hundreds of record types available through the Analytics Data Source. This includes most of the record types used throughout NetSuite, plus analytical record types currently in development for SuiteAnalytics Workbook, such as the Sales Analytical record type. These analytical record types are in a beta state and are subject to change. The data displayed within these record types are also subject to change and should be used for test purposes only.

The following link provides access to a Microsoft Excel worksheet that lists every record type and field that is currently available in SuiteAnalytics Workbook. Custom fields and record types are not included in the worksheet. You can use this list to search for specific record types by name, or for specific fields using the field ID when you create a new dataset.

To access the worksheet, click this link: WorkbookDataSource19_2.xlsx.

Alternatively, click New Dataset on the Analytics Home page to view each record type that you have access to in your account. The record category and ID for each record type is displayed. Record types are divided into three categories:

- Standard – record types that are included in each account of your NetSuite implementation and are available through all NetSuite data sources. For example, the Transaction record type.
- Analytical – record types that have been created specifically for use with SuiteAnalytics Workbook. These record types are based on standard record types but contain a unique set of fields. For example, the Sales Analytical record type.
- Custom – record types created by users in your company, that are unique to your NetSuite account. These record types are not included in the WorkbookDataSource19_2.xlsx spreadsheet.

Important: As fields and record types are continually added to the Analytics Data Source, the contents of the SuiteAnalyticsWorkbookDataSource.xls file are subject to change. Make sure you download the most recent version of the worksheet to view the most current data.

Access to record types and fields in SuiteAnalytics Workbook is dependent on the same permissions used in the NetSuite Saved Search application. For example, to access sales order data through the Transaction record type using SuiteAnalytics Workbook, you need to have the Sales Order permission assigned to your role. Analytical record types such as the Sales (Invoiced) record type are only accessible to users with
Available Record Types

the Analytics Administrator permission. Additionally, some record types are only available in SuiteAnalytics Workbook if you have specific features enabled in your account. For information about permissions—related access to record types and fields in the Analytics Data Source, download the following worksheet: NetSuitePermissionsUsage.xls

After you select a root record type for a dataset or open an existing dataset, the Records list on the Dataset tab shows all the related record types that you have access to. If you cannot find a record type that you think you should have access to, contact your administrator.

**Note:** The search field on the DataSet tab searches across record types that are one join away from the root record type. To find record types or fields within record types that are more than one join away, click **Show more results**.

### Analytics Data Source Changes

The Analytics Data Source is different than the data sources used by the NetSuite Saved Search and Report applications. In the Analytics Data Source, concrete record types that have a corresponding entry form in NetSuite remain mostly unchanged and use the same field labels. For example, the Employee record type in SuiteAnalytics Workbook contains mostly all the of fields that are on the NetSuite employee form, with the same field labels that are used in saved searches and reports. Generic record types that do not have a single corresponding form in NetSuite, such as the Transaction, Entity, and Item record types, use generic field labels. This is because generic record types are representative of multiple concrete record types. Additionally, some fields in the Analytics Data Source are accessible through different record types than in saved searches and reports.

The design of the Analytics Data Source means that the names of some record types and fields have changed or appear differently than on NetSuite forms, saved searches, and reports. Some fields, such as those with calculated values, have also not been ported to the data source and other fields are only accessible by joining specific record types. Furthermore, the Analytics Data Source includes some record types and fields that have been created specifically for SuiteAnalytics Workbook and are not available through saved searches and reports. These record types and fields are in a beta state and should be used for test purposes only.

To help you navigate the Analytics Data Source, the following resources are available in the SuiteAnalytics Workbook user interface and the NetSuite Help Center:

- To view the record types and fields that you have access to, use the Records list on any dataset. By default, datasets display all joinable record types and fields based on the root record type selected and the permissions assigned to the role you use to log in to NetSuite. For example, if you select the Customer record type for your dataset, the following joinable record types are available:
If you click a record type, additional related record types are displayed.

- To recreate your existing saved searches using SuiteAnalytics Workbook, the changes to the Analytics Data Source mean that you might have to use different record types and fields, create custom formula fields, or join multiple record types. Click this link to access a Microsoft Excel worksheet that compares the Transaction record type used by the Saved Search data source to the Transaction record type used in SuiteAnalytics Workbook: TransactionMapping.xlsx

- For annotated steps on how to recreate some of your saved searches using SuiteAnalytics Workbook, see the following topics. Each sample includes the fields, record types, and formulas required to recreate the search:
  - Open Sales Orders Lines
  - Number of Fulfillments
  - Journal Entry to Approve

**Open Sales Orders Lines**

This saved search displays the items allocated to open sales orders in your account, so that you can better monitor your inventory.

To perform this search using the Saved Search application, all required criteria and results fields are available through the Transaction record type. To recreate this search using SuiteAnalytics Workbook however, some required fields are only available through the Transaction Line and Transaction Accounting Line record types. You must therefore join these record types in your dataset to recreate this search. Additionally, some required fields might have different labels in SuiteAnalytics Workbook. The following table lists key differences in fields between the saved search and the dataset:

**Key Field Differences in SuiteAnalytics Workbook**
### Analytics Data Source Changes

<table>
<thead>
<tr>
<th>Field Name in Saved Search</th>
<th>Record Type in SuiteAnalytics Workbook</th>
<th>Required Join in SuiteAnalytics Workbook</th>
<th>Field Name in SuiteAnalytics Workbook</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Line</td>
<td>Transaction Line</td>
<td>Transaction &gt; Transaction Line</td>
<td>Main Line</td>
</tr>
<tr>
<td>Tax Line</td>
<td>Transaction Line</td>
<td>Transaction &gt; Transaction Line</td>
<td>Tax Line</td>
</tr>
<tr>
<td>Closed</td>
<td>Transaction Line</td>
<td>Transaction &gt; Transaction Line</td>
<td>Closed</td>
</tr>
<tr>
<td>Account Type</td>
<td>Account</td>
<td>Transaction &gt; Transaction Line &gt; Account</td>
<td>Type</td>
</tr>
<tr>
<td>Shipping Line</td>
<td>Transaction Account Line</td>
<td>Transaction &gt; Transaction Line &gt; Account</td>
<td>Shipping Cost Item Type</td>
</tr>
</tbody>
</table>

**Warning:** In this workbook dataset you must add fields from the Transaction Line and Transaction Accounting Line record types. When you add fields from either the Transaction Line or Transaction Accounting Line record type to a Transaction dataset, data duplication can occur. For more information, see **Joining Transaction Line and Transaction Accounting Line in a Dataset**.

To recreate this search using **SuiteAnalytics Workbook**:

Create a new dataset with Transaction as the root record type. Then, define the dataset as follows:

**Important:** Users assigned to the Sales role do not have access to the Account record type in SuiteAnalytics Workbook, which is required to properly recreate this saved search. If you create and share this workbook with users assigned to the Sales role, make sure you give them access to the Account record type first.

<table>
<thead>
<tr>
<th>Root Record Type</th>
<th>Joined Record Type(s)</th>
<th>Custom Formula Field(s)</th>
<th>Data Grid</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transaction</td>
<td>■ Transaction Line</td>
<td>Create the following formula fields on the DataSet tab.</td>
<td>Add the following fields to the grid from the</td>
<td>Set the following criteria on the DataSet tab:</td>
</tr>
<tr>
<td></td>
<td>□ Transaction Accounting Line</td>
<td></td>
<td></td>
<td>[Custom Formula Field 2] greater than 0.00</td>
</tr>
</tbody>
</table>
**Important:** Make sure you join the Transaction Accounting Line record type from the Transaction Line record type. If you join both the Transaction Line and Transaction Accounting Line record types directly from the Transaction record, it can duplicate or otherwise skew your data. For more information, see Joining Transaction Line and Transaction Accounting Line in a Dataset.

**Name:** Unfulfilled Items  
**Output Type:** Float  
**Definition:** -(transactionlines.quantity)-NVL(transactionlines.quantitycommitted),0)-NVL(transactionlines.quantityshiprecv),0)

Use this formula to replace null values in the Transaction Line Quantity and Quantity committed fields with 0.00.

**Name:** Positive Item Quantity  
**Output Type:** Float  
**Definition:** -transactionlines.quantity

Use this formula to display your item quantities as positive values.

**Transaction record type:**  
- Transaction  
- Status  
- Posting Period  
- Entity

Add the following fields to the grid from the Transaction Line record type:  
- Item  
- Location  
- Quantity  
- Committed  
- Quantity Shipped/Received/Picked Up

Add the following custom formula fields to the grid:  
- Custom Formula Field 1 (Unfulfilled Items)  
- Custom Formula Field 2 (Positive Item Quantity)

**Type** is Sales Order  
**Status** any of Sales Order : Partially Fulfilled and Sales Order : Pending Fulfillment and Sales Order : Pending Billing/Partially Fulfilled  
**Transaction Line: Main Line** is false  
**Transaction Line: Tax Line** is false  
**Transaction Line: Item Type** none of Shipping Cost Item  
**Account: Type** is income

**Note:** If the Multi-Book Accounting feature is enabled in your account, you can use the Accounting Book field in a criteria filter to view data for specific accounting books. To access the Accounting Book field, use the join path Transaction>Transaction Line> Transaction Accounting Line.

---

**Open Sales Orders Lines Pivot Tables**

Create a new workbook using the Open Sales Order Lines dataset you created, and set the following fields to the appropriate dimensions for each pivot table:

- **Open Sales Orders by Date**  
  **Rows:** Item  
  **Columns:** Date (Quarter)  
  **Values:** [Custom Formula Field 2] (Sum)

- **Open Sales Orders by Location and Date**  
  **Rows:** Location, Item  
  **Columns:** Date (Quarter)  
  **Values:** [Custom Formula Field 2] (Sum)

- **Open Sales Orders by Customer and Date**  
  **Rows:** Entity, Item  
  **Columns:** Date (Quarter)  
  **Values:** [Custom Formula Field 2] (Sum)

After you set each field to the appropriate table dimension, click the Refresh icon to generate the table.

You can also customize the table and add totals and grand totals, or rename each table. For more information, see Pivot Table Customization.
Open Sales Orders Lines Charts

By recreating this saved search using SuiteAnalytics Workbook, you can also chart your source data to visualize the information using different chart types.

Create the following charts by dragging the listed fields from the Dataset panel to the corresponding section of the Layout panel, and select the chart type.

- **Open Sales by Item**
  - **X-Axis**: Item
  - **Series**: N/A
  - **Values**: Total Amount (Sum)
  - **Chart type**: Column chart

- **Open Sales by Date**
  - **X-Axis**: Date (Quarter)
  - **Series**: Item
  - **Values**: Total Amount (Sum)
  - **Chart type**: Line chart

After you set each field and the chart type, click the Refresh icon to generate the chart. You can also filter values, add a title and subtitle, and rename each axis. For more information, see Workbook Charts.

Number of Fulfillments

**Note:** NetSuite Administrators can view a predefined version of this workbook by clicking **Number of Fulfillments (DEMO)** in the Standard Workbooks list on the Workbook Listing Page. For more information, see Workbook and Dataset Templates.

This saved search shows the number of items which have been fulfilled.

To perform this search using the Saved Search application, all required criteria and results fields are available through the Transaction record type. To recreate this search using SuiteAnalytics Workbook however, some required fields are only available through the Transaction Line record type. You must therefore join this record type to your dataset to recreate this search. Additionally, some required fields might have different labels in SuiteAnalytics Workbook. The following table lists key differences in fields between the saved search and the dataset:

**Key Field Differences in SuiteAnalytics Workbook**

<table>
<thead>
<tr>
<th>Field Name in Saved Search</th>
<th>Record Type in SuiteAnalytics Workbook</th>
<th>Required Join in SuiteAnalytics Workbook</th>
<th>Field Name in SuiteAnalytics Workbook</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Transaction Line</td>
<td>Transaction &gt; Transaction Line</td>
<td>Entity</td>
</tr>
<tr>
<td>Period</td>
<td>Transaction</td>
<td>NA</td>
<td>Posting Period</td>
</tr>
<tr>
<td>Amount</td>
<td>Transaction Line</td>
<td>Transaction &gt; Transaction Line</td>
<td>Amount (Net)</td>
</tr>
<tr>
<td>Main Line</td>
<td>Transaction Line</td>
<td>Transaction &gt; Transaction Line</td>
<td>Main Line</td>
</tr>
</tbody>
</table>

**To recreate this search using SuiteAnalytics Workbook:**

Create a new dataset and select Transaction as the root record type. Then, define the dataset as follows:
Number of Fulfillments Pivot Tables

Create a new workbook using the Number of Fulfillments dataset you created, and set the following fields to the appropriate dimensions for each pivot table:

- **Number of Fulfillments Per Customer**
  - **Rows:** Entity
  - **Columns:** Date (Year)
  - **Measures:** Transaction (Count)

After you set each field to the appropriate table dimension, click the Refresh icon to generate the table.

You can also customize the table and add totals and grand totals, or rename each table. For more information, see Pivot Table Customization.

Number of Fulfillments Chart

By recreating this saved search using SuiteAnalytics Workbook, you can chart your source data to visualize the information using different chart types.

Create the following chart by dragging the listed fields from the Dataset panel to the Layout panel, and select the chart type.

- **Number of Fulfillments per Customer**
  - **X-Axis:** Entity
  - **Series:** Date (Year)
  - **Values:** Transaction (Count)
  - **Chart type:** Column chart

After you set each field, click the Refresh icon to generate the chart. You can also filter values, add a title and subtitle, and rename each axis. For more information, see Workbook Charts.
Journal Entry to Approve

⚠️ **Important:** This workbook is only useful if you have enabled the **Require Approvals on Journal Entries** permission in your NetSuite account. For more information, see the help topic **General Accounting Preferences**.

This saved search shows the list of journal entries requiring approval. By recreating this saved search using SuiteAnalytics Workbook, you can use the drill down capability to open and approve each journal entry directly from the Data Grid.

To perform this search using the Saved Search application, all required criteria and results fields are available through the Transaction record type. To recreate this search using SuiteAnalytics Workbook however, some required fields are only available through the Transaction Line and Transaction Accounting Line record types. You must therefore join these records in your dataset to recreate this search. Additionally, some required fields might have different labels in SuiteAnalytics Workbook. The following table lists key differences in fields between the saved search and the dataset:

**Key Field Differences in SuiteAnalytics Workbook**

<table>
<thead>
<tr>
<th>Field Name in Saved Search</th>
<th>Record Type in SuiteAnalytics Workbook</th>
<th>Required Join in SuiteAnalytics Workbook</th>
<th>Field Name in SuiteAnalytics Workbook</th>
</tr>
</thead>
<tbody>
<tr>
<td>Period</td>
<td>Transaction</td>
<td>NA</td>
<td>Posting Period</td>
</tr>
<tr>
<td>Tax Period</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>This field has been deprecated in SuiteAnalytics Workbook</td>
</tr>
<tr>
<td>Name</td>
<td>Transaction Line</td>
<td>Transaction &gt; Transaction Line</td>
<td>Entity</td>
</tr>
<tr>
<td>Memo</td>
<td>Transaction Line</td>
<td>Transaction &gt; Transaction Line</td>
<td>Memo</td>
</tr>
<tr>
<td>Created From</td>
<td>Transaction Line</td>
<td>Transaction &gt; Transaction Line</td>
<td>Created From</td>
</tr>
<tr>
<td>Account</td>
<td>Transaction Accounting Line</td>
<td>Transaction &gt; Transaction Line &gt; Transaction Accounting Line</td>
<td>Account</td>
</tr>
<tr>
<td>Amount</td>
<td>Transaction Accounting Line</td>
<td>Transaction &gt; Transaction Line &gt; Transaction Accounting Line</td>
<td>Amount</td>
</tr>
</tbody>
</table>

⚠️ **Warning:** In this workbook you must add fields from the Transaction Line and Transaction Accounting Line record types. When you add fields from either the Transaction Line or Transaction Accounting Line record type to a Transaction workbook, data duplication can occur. For more information, see **Joining Transaction Line and Transaction Accounting Line in a Dataset**.

To recreate this search using SuiteAnalytics Workbook:

Create a new dataset and select Transaction as the root record type. Then, define the dataset as follows:

<table>
<thead>
<tr>
<th>Root Record Type</th>
<th>Joined Record Type(s)</th>
<th>Custom Formula Field(s)</th>
<th>Data Grid</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transaction</td>
<td>▪️ Transaction Line</td>
<td>▪️ NA</td>
<td>Add the following fields to the grid from the Transaction record type: ▪️ Transaction ▪️ Date</td>
<td>Set the following criteria on the DataSet tab: ▪️ Type is Journal</td>
</tr>
</tbody>
</table>
Guidelines for Joining Record Types in SuiteAnalytics Workbook

SuiteAnalytics Workbook enables you to add fields from multiple record types to a single dataset. This includes record types that are more than one join away from the root record type of a dataset, enabling you to compile workbook source data from a more diverse set of record types.

By default, the DataSet tab lists all joinable record types that you have access to. To complete a join, you must add fields from the desired record type to the Data Grid or create a Criteria filter.

If joining record types is a new concept for you, there are a number of considerations you should make before you attempt to join different record types in a dataset. To best take advantage of this powerful new capability, see the following topics:

- The Analytics Data Source contains a variety of record types with predefined relationships to one another. Depending on the type of relationship between each record type that you add to a dataset, certain joins can cause unwanted duplication of your workbook source data. For more information, see Data Duplication Based on Record Joins.
- The Transaction and Transaction Line record types share a one-to-many relationship which can result in duplication of your workbook source data. Joining the Transaction Accounting Line record type to a Transaction dataset can also cause data duplication. For more information about using the Transaction record type in a dataset, see Joining Transaction Line and Transaction Accounting Line in a Dataset.
- Based on the relationship between each record type that you add to a dataset, the order in which you join record types can also impact your source data. For more information, see Join Order in SuiteAnalytics Workbook.

Data Duplication Based on Record Joins

The Analytics Data Source contains different record types with predefined relationships to one another. In the SuiteAnalytics Workbook user interface, you can browse through these relationships in the Records list on the Dataset tab.
There are two types of relationships that you should be cautious of when you join record types in a dataset: those with a one-to-many relationship with the source record type, and those with a many-to-many relationship with the source record type.

One-to-many relationships between record types are those in which the source record type can be associated to multiple iterations of the target record type. For example, consider the relationship between the Transaction and Transaction Line record types. For each transaction record there can be multiple transaction line records that are associated by common field values such as the transaction ID, and the transaction total. When records with a one-to-many relationship are joined in a dataset, the cardinality of the data from the source record type is duplicated for each instance of the target record type. This duplication can result in inaccurate data aggregations and summaries in your datasets and the associated workbooks.

To better understand the implications of joining record types with a one-to-many relationship, consider the Total Amount field on the Transaction record type.

In a Transaction dataset, for each transaction record listed there is a single value for the Total Amount field.

Note: The record types listed on the Dataset tab are based on the root record type of the dataset, the features enabled in your account, and the permissions assigned to the role you use to log in to NetSuite. If you do not see a record type that you think you should have access to, contact your NetSuite administrator.
However, if you join the Transaction Line record type to the dataset by adding a Transaction Line field to the Data Grid, notice that the number of values listed for the Total Amount field is multiplied by the number of associated transaction line records.

The result is that aggregations based on the duplicated source record fields are inaccurate. This includes the summaries displayed at the bottom of the Data Grid, and the totals and grand totals that you set up on the Pivot Tab of any associated workbooks.
This data duplication can also occur when you create criteria filters using fields from record types that have a one-to-many relationship, even if you do not explicitly add fields from the joined record type to the Data Grid.

For example, assume you are working on a Transaction dataset with only one transaction record that matches your selected criteria.

If you create an additional criteria filter based on the Transaction Line record type, the results are again multiplied in the Data Grid.
In record types with a many-to-many relationship, the same duplication can occur. Many-to-many relationships between record types are those in which multiple iterations of the source record can be associated to multiple iterations of the target record type. For example, in a multi-subsidiary account, each account record can be assigned to multiple subsidiaries and each subsidiary record can be associated with multiple accounts. Consequently, the Account and Subsidiary record types share a many-to-many relationship, and joining these record types in a dataset can also cause data duplication.

You should always be cautious when you create joins between record types that have a one-to-many or many-to-many relationship. If you do perform these types of joins, be aware of the impact they will have on your datasets and the aggregations throughout your workbooks.

Joining Transaction Line and Transaction Accounting Line in a Dataset

In the Saved Search application, by default a Transaction saved search could include both accounting and operational data. In SuiteAnalytics Workbook however, transaction data is stored across three record types: Transaction, Transaction Line, and Transaction Accounting Line. Consequently, to include all transaction-related data in a dataset, you might need to add fields from the Transaction Line or Transaction Accounting Line record types.

If you need to join the Transaction Accounting Line record type in a dataset, you must use the join path **Transaction> Transaction Line> Transaction Accounting Line**. This join path prevents multiple instances of data duplication caused by the relationship between the Transaction, Transaction Line, and Transaction Accounting Line record types, which would occur if you used the join path **Transaction> Transaction Accounting Line**. For more information about data duplication based on specific record joins, see Data Duplication Based on Record Joins.

If you have the Multi-Book Accounting feature enabled in your account and join the Transaction Accounting Line record type in a dataset, be aware that this can cause additional data duplication. This duplication occurs because each Transaction Accounting Line stores data for each accounting book in your NetSuite account. Consequently, joining the Transaction Accounting Line record type with the Multi-Book Accounting feature enabled in your account can cause inaccurate data aggregations and negatively impact the performance speed of your datasets and the associated workbooks. To limit this, consider
creating a criteria filter using the Accounting Book field from the Transaction Accounting Record type, so that data from only one accounting book is included.

To watch a video that demonstrates how data can be impacted by joining the Transaction Line and Transaction Accounting Line record types in a dataset, click here.

Join Order in SuiteAnalytics Workbook

As specified in the Data Duplication Based on Record Joins topic, data duplication can occur when you join record types with a one-to-many or many-to-many relationship in a dataset. We can also demonstrate this duplication by examining the order in which record types are added to a dataset.

Consider the relationship between the Entity and Transaction record types: for each transaction record, there can only be one associated entity or customer record. Each customer record however, can be associated with multiple transaction records. This means that aggregations such as field counts can vary from dataset to dataset even if they contain the same fields and record types, depending on the order that they are added to the dataset.

For example, assume you want to see a list of customers and their associated transactions. If you create a new dataset beginning with the Entity record type, you can then join the Transaction record type to view each associated transaction. If you select the Entity field to view a count of the total number of distinct customers, it is displayed at the bottom of the Data Grid.

If you create your dataset beginning with the Transaction record type and join the Entity record type however, notice that the number of distinct customers decreases.
This discrepancy is another implication of the one-to-many relationship between specific record types. To avoid confusion over these discrepancies, make sure you join related record types in the correct order according to the type of datasets and results you want to generate.
Custom Workbooks and Datasets

In SuiteAnalytics Workbook, you analyze your company data using two distinct objects: a dataset and a workbook.

Datasets are the basis for all workbooks and workbook components in your account. In a dataset, you combine record type fields and criteria filters to create a query. The results of this query act as the source data for your workbooks. A single dataset can be used in multiple workbooks, so to prevent data discrepancies they can only be edited or deleted by dataset owners or users with the Analytics Administrator permission. Additionally, changes that you make to a dataset are automatically propagated to the workbooks that the dataset is used in. This reduces the need for multiple dataset objects in your account and enables less experienced users to create complex workbooks.

Workbooks are where you analyze the results of your dataset queries using different components, such as tables, pivot tables, and charts. All workbooks are based on a dataset, and a single dataset can be used as the basis for multiple workbooks. You can access the dataset used in a workbook from the Dataset Panel in any workbook component. Moreover, when you author a workbook you can either define a new custom dataset, or use any of the existing datasets that you have access to in your account.

To better understand some of the changes to dataset and workbook functionality as of 20.1, see the following table:

<table>
<thead>
<tr>
<th>Functionality</th>
<th>Dataset</th>
<th>Workbook</th>
</tr>
</thead>
<tbody>
<tr>
<td>Add fields and join record types?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>You define the source data for all workbooks in your account by adding fields and joining record types in a dataset query.</td>
<td>If you want to add fields or join record types to a workbook, you must edit the underlying dataset.</td>
</tr>
<tr>
<td>Create visualizations?</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>The dataset is only where you query your business data. To analyze the results of your dataset queries, create a workbook based on the dataset.</td>
<td>The workbook is where you analyze your dataset query results using different components and visualizations.</td>
</tr>
<tr>
<td>Automatically propagate edits to other workbooks?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>A single dataset can be used in multiple workbooks. To prevent data discrepancies, edits that you make to a dataset are automatically propagated to workbooks that are based on that dataset.</td>
<td>Workbooks in your account exist independently of one another. If you edit a workbook, your changes apply only to the workbook you are in.</td>
</tr>
<tr>
<td>Currency conversion or consolidation?</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Prior to 20.1, currency conversion or consolidation was applicable from the Data Grid in the Dataset tab. As of 20.1, you can only apply currency conversion to a field from within a workbook component such as a pivot table or chart. Alternatively, on the Dataset tab you can create a custom formula field that converts the values of a field using the TO_NUMBER function. For more information, see Currency Conversion Using Custom Formula Fields.</td>
<td>You can convert field values to a specific currency directly from the user interface in any workbook component. For more information, see Currency Conversion from the User Interface.</td>
</tr>
<tr>
<td>Sharing?</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>You can share a dataset with other users in your account as its own object, or as part of a shared workbook. Recipients of a shared workbook cannot edit the</td>
<td>Shared workbooks include all workbook components.</td>
</tr>
</tbody>
</table>
Defining a Dataset

Datasets are the basis for all workbooks in your account. In a dataset, you combine the fields of a root record type and any joined related record types to create a query. The record types and fields that you have access to are based on the features enabled in your account and the permissions assigned to the role you use to log into NetSuite. You can also create custom formula fields to calculate values that are not available through standard record type fields.

On the Dataset tab, the results of your query are displayed in a tabular format in the Data Grid on the right. When you first create a new dataset, the Data Grid is automatically populated with fields based on the root record type. Joinable record types and fields that you can add to your query appear in the Records and Fields lists on the left. Only fields that you that add to the Data Grid can be used to build tables, pivot tables, and charts in a workbook.

To view a record type’s fields, click the name of the record type to refresh the Fields list.
To view additional related record types, click the arrow next to any record type in the Records list.
To join a record type to a dataset, add fields from the record type to the Data Grid or use the field to create a criteria filter. For more information about dataset criteria filters, see Dataset Criteria Filters.

You can join any number of record types in a dataset, however more than ten joined record types can negatively impact performance.

For more information about joining record types in a dataset, see Guidelines for Joining Record Types in SuiteAnalytics Workbook.

For information about access to specific record types and fields in NetSuite, download the following worksheet: NetSuitePermissionsUsage.xls.

For information about editing a dataset that is used in a workbook, see Editing a Dataset.

**To define a new dataset:**

1. Click New Dataset on the Dataset subtab of the Analytics Home page or on the Select a dataset to create a new workbook page.
2. Select a root record type for the dataset. The record type you choose will determine the record types and fields that you can join to the dataset.
3. Add fields from the root record type to the Data Grid. You have three options:
Drag the desired fields from the Fields list to the Data Grid.

- Double-click the desired field names in the Fields list.
- Type the name of the desired fields in the search bar above the Fields list, then drag or double-click them to add them to the Data Grid.

**Note:** If you add a hierarchical field to the Data Grid, you are prompted to select whether to display the child values or the full hierarchy for each record type in the corresponding field column. For more information, see Hierarchical Fields.

4. Add fields from related record types to the Data Grid.
   a. Click the arrow next to any record type in the Records list to view additional related record types.
   b. Click the desired record type name to update the Fields list.
   c. Double-click or drag the desired fields to the Data Grid.

**Note:** Certain record types in SuiteAnalytics Workbook have multiple variants. For example, there are Entity Job, Entity Customer, and Entity Vendor record types accessible in a Transaction dataset. Make sure you select the correct record type depending on the type of data you want to query.

5. Optionally, click Formulas to view, create, and add custom formula fields to the Data Grid.
   For step-by-step instructions on how to create a custom formula field, see Formula Fields.

6. Remove any fields you do not want to include in the dataset.
   a. Click the Field Menu icon in the column you want to remove from the Data Grid.
   b. Select Remove Column from the dropdown list.

**Important:** If you create a workbook based on the current dataset, removing a field from the Data Grid also removes it from any associated workbooks and workbook components. This can cause workbook failures or other unwanted results. Exercise caution when you remove a field from the grid in datasets that are used in a workbook.

7. Click Save to save the dataset. Alternatively, if you are creating the dataset from within a new workbook, click Save & Close to save the dataset and access the workbook.
   The Save Dataset As window appears.

8. Enter a name and description for the dataset in the fields provided, then click Save.

9. Optionally, to preview your dataset in a workbook before saving your changes, click Create New Workbook or Apply to workbook. The workbook will appear.

**Note:** You must save the dataset before you can save the connected workbook. Unsaved datasets are denoted by a warning icon in the Dataset panel of a workbook. For more information, see Editing a Dataset.

**Editing a Dataset**

Only a dataset owner or users with the Analytics Administrator permission can save changes to an existing dataset. This prevents data discrepancies among workbooks that share the same dataset. Users with whom a dataset is shared however, can edit the dataset and save it under a new name. Additionally,
all users with access to a dataset can edit it and preview their changes in a workbook to see how they will affect the different workbook components. This enables you to create a single dataset for multiple users with different use cases.

**To edit a dataset that you own:**

1. Click the dataset or workbook name on the Analytics Home page. To quickly filter the available options, select **My Workbooks** or **My Datasets** in the dropdown list of either the Workbooks or Datasets subtabs.
2. Edit the dataset. For more information, see **Defining a Dataset**.
3. Click **Save**. Alternatively, if you accessed the dataset through a connected workbook, click **Save & Close** to save your changes and open the workbook.
4. Optionally, click **Create New Workbook** or **Apply to workbook** to preview your changes in a workbook before saving the dataset.
   
   The workbook will appear with a warning icon ▲ next to the dataset name, denoting an unsaved dataset.
5. If you are satisfied with your changes, click the arrow next to the dataset name and select **Save Changes**.
   
   If you are not satisfied, click the arrow and select **Open Dataset** to continue editing the dataset, or **Discard Changes**.

   **Important:** Remember that changes you save to your datasets are automatically propagated to any workbooks that use the same dataset, including workbooks created by other users. This can drastically change the connected workbooks, so if you are not sure about the impact of your changes, consider saving the dataset using a different name.

**To edit a dataset that has been shared with you:**

1. Click the dataset or workbook name on the Analytics Home page. To quickly filter the available options, select **Shared with me** in the dropdown list of either the Workbooks or Datasets subtabs.
2. Edit the dataset. For more information, see **Defining a Dataset**.
3. Click **Save As**.
   
   The Save Dataset As window appears.
4. Enter a name and description for the dataset in the fields provided, then click **Save**.
5. Optionally, click **Create New Workbook** or **Apply to workbook** to preview your changes in a workbook.
   
   The workbook will appear with a warning icon ▲ next to the dataset name, denoting an unsaved dataset.
6. If you are satisfied with your changes, click the arrow next to the dataset name and select **Open Dataset** to save it using a new name.

**Formula Fields**

In SuiteAnalytics Workbook, you can create custom formula fields to calculate values that are not available through standard record fields. You can add formula fields to your datasets on the Data Grid and use them to define criteria filters. You can also use them in any workbook components that are based on
Defining a Dataset

the dataset. The values of custom formula fields are updated each time you refresh the dataset, or the connected workbook components. Currently, you cannot create custom formula fields based on existing formula fields.

To create a custom formula field, you combine NetSuite fields and SQL formula functions in a formula definition. You must also select an output type for the formula, depending on the fields and functions you include in your definition. SuiteAnalytics Workbook supports the following formula output types:

- **Boolean** - Returns True, False, or NULL values
- **Date** - Returns day, month, and year values
- **Datetime** - Returns day, month, year, hour, and minute values
- **Float** - Returns values that include a decimal, such as currency values
- **Integer** - Returns values that are in whole numbers only, such count values
- **String** - Returns fixed string character values, such as names
- **Clobtext** - Returns long unicode character strings, such as item descriptions
- **Percent** - Returns numeric values as percentages
- **Duration** - Returns hour and minute values, such as hours worked

Knowledge of SQL will help you to fully leverage the flexibility and power of SQL functions to define complex formulas. The following link provides access to a Microsoft Excel worksheet that describes every SQL function currently supported in the SuiteAnalytics Workbook formula builder. The information contained in this worksheet is also available on the Functions subtab in the Formula Field window. You can use this worksheet if you are not sure about which function to use in a formula definition.

To access the worksheet, click this link: SuiteAnalyticsWorkbookFormulaFunctions.xls.

For more information about SQL formula functions, see the help topic SQL Expressions.

For sample formulas you can create using some of the supported SQL functions, see Sample Formulas.

**To create a custom formula field in SuiteAnalytics Workbook:**

In the following example, you create a formula field that converts date values to a different format. Remember that the Formula Field window only includes fields from the root record type on the dataset and any fields from related record types that have been added to the Data Grid.

**Important:** To perform accurate aggregations and other types of numeric manipulation on fields that contain values in multiple currencies, you must first convert the values of the fields. In the Dataset tab, you can only do this using a custom formula field that contains the TO_NUMBER function. For more information, see Currency Conversion Using Custom Formula Fields.

1. Click **Formulas** above the Records list on the DataSet tab.
2. In the Fields list, click **New Formula**.
   The Formula Field window appears.
3. Enter a Formula Field Name.
   For example, enter **Formatted Date**.

4. Select an Output Type for the formula field values.
   For the purposes of this procedure, select **String**.
5. In the Formula field, enter the field IDs and SQL formula functions to use in the formula expression. Alternatively, double-click the desired field IDs or formula functions from the Functions and Fields subtabs to add them to the expression.

For the purposes of this procedure, select the TO_CHAR function and replace the content in the brackets with `{trandate}, 'Month DD, YYYY'.
6. To validate the formula, click **Validate**.

   **Note:** If there are errors with the formula, click the error icon to view the details.

7. Click **Apply** to add the formula field to the dataset.

   The field appears in the Field lists on the Dataset tab when you click **Formulas**. If you add the field to the Data Grid, it is also available for use in any workbooks connected to the dataset.

**To create criteria filters using formula fields:**

1. Create a valid formula field on the Dataset tab.
2. Double-click or drag the field from the Fields list to the Criteria Builder.
3. Set the desired filter conditions in the Filter window. For details, see **Filter Types**.

**To add formula fields to a workbook component:**

1. Create a valid formula field on the Dataset tab.
2. Add the field to the Data Grid so that it is included in any workbooks connected to the dataset.
3. On the Table, Pivot, or Chart tabs of the workbook, drag the field from the Dataset panel to the desired section of the Layout panel.
Sample Formulas

The SuiteAnalytics Workbook formula builder enables you to create custom formula fields using any of the formula functions listed in the SuiteAnalyticsWorkbookFormulaFunctions.xls spreadsheet. See the following sections for sample formulas you can create using the CAST_TO_DATE, TO_NUMBER, TO_NCHAR, and CONCAT functions:

- Calculating DATE and DATETIME values using CAST_TO_DATE
- Calculating Duration Values with TO_NUMBER and TO_NCHAR
- Combining CONCAT and other Functions to Calculate String Values
- Aggregating Numeric Values using TO_NUMBER

For additional sample formulas, see the help topic Search Formula Examples and Tips.

For information about normalizing currency values using custom formula fields, see Currency Conversion Using Custom Formula Fields.

Calculating DATE and DATETIME values using CAST_TO_DATE

Date and time values in NetSuite are stored using multiple formats. For example, the Transaction record type contains a Date field with values that are stored in the DATE format, and a Date Created field with values that are stored using the DATETIME format.

Currently, the SuiteAnalytics Workbook formula builder does not support the output type INTERVALDS. This means that if you want to calculate the amount of time that has elapsed between different DATE and DATETIME values, you must first normalize the values using the CAST_TO_DATE function.

For example, assume you want to know how many days have passed between the Date and the Date Created in each of the following transaction records:

To do so, you can use the formula definition CAST_TO_DATE({createddate}) – CAST_TO_DATE({trandate}), with an output type of FLOAT.
The resulting values display the number of days between each date, regardless of date formats used in the formula definition.

```
CAST_TO_DATE(created_date) - CAST_TO_DATE(translate)
```

The `CAST_TO_DATE(expr)` function returns `DATETIME` formula field values using the `DATE` output type.

Example:

`CAST_TO_DATE(created_date)`
Calculating Duration Values with TO_NUMBER and TO_NCHAR

Duration values are incompatible with the TO_NUMBER function unless they are first converted to a variable format using the TO_NCHAR function. Consequently, if you want to create a custom formula field that displays duration values as a number, you must use the formula definition TO_NUMBER(TO_NCHAR({field_ID})).

For example, assume you want to see the amount of time that has elapsed for each case in your account, in hours.

In this case, use the formula TO_NUMBER(TO_NCHAR((timeelapsed))) with an output type of Float.
Combining CONCAT and other Functions to Calculate String Values

You can combine the CONCAT function with other functions to calculate complex string values. For example, if you want to view the duration values for all the cases in your account in days and hours, you
must normalize the values with TO_NUMBER and TO_NCHAR, then concatenate them using the following definition. The output type for this formula definition is STRING:

CONCAT(CONCAT('Days: ',TO_NCHAR(FLOOR(TO_NUMBER(TO_NCHAR(timeelapsed)/24)))),
CONCAT(' Hours: ',TO_NCHAR(MOD(TO_NUMBER(TO_NCHAR(timeelapsed)),24))))
Try combining different formula functions with the CONCAT function to calculate different string values.

**Aggregating Numeric Values using TO_NUMBER**

You cannot aggregate field values that contain numbers unless you normalize the values of each field using the TO_NUMBER function. For example, if you attempt to aggregate the values of two fields in the formula definition TO_NUMBER(field ID1-field ID2), the formula is invalid. However, if you normalize the values for each field using the format TO_NUMBER(field ID1) — TO_NUMBER(field ID2), the calculation will work.

For example, if you want to calculate the difference between the unit price and cost for each item in your account, you can use the following formula definition: TO_NUMBER(item<pricing.unitprice>) - TO_NUMBER(item<cost>). The output type for this formula is FLOAT.
Hierarchical Fields

SuiteAnalytics Workbook supports hierarchical fields. Hierarchical fields behave similarly to standard record fields, except that you can choose to display the field values as hierarchies or child values. You can also create filter conditions at the parent or child levels of the hierarchy.

Display Options for Hierarchical Fields

When you add a hierarchical field to the Data Grid or to a pivot table or chart, you are prompted to select a display option for the field values.

On the Data Grid, you have the following options:

- Select **Show child level only** to display only the child-level values for the field.
- Select **Show hierarchy** to display the full hierarchy values for the field.

To change the hierarchy display after adding a field to the grid, click the Field Menu icon and select **Show Hierarchy**.

On the Pivot and Chart tabs, you have the following options:
Defining a Dataset

- Select **Show child level only** to display only the child-level values for the field.
- Select **Show single-column hierarchy** to display the full hierarchy values for the field in a single column or chart measurement.
- Select **Show multi-column hierarchy** to display each level of the hierarchy in a separate table column or chart measurement. If you select this option and enable total or grand totals for the pivot table, totals are calculated for each hierarchy level.

For example, in the following table the Item field is displayed as a multi-column hierarchy. Consequently, the table calculates totals for each surgical item and for the Surgical Equipment parent level.

To change the hierarchy display for a field after adding it to a pivot table or chart, click the Field Menu icon in the Layout panel and select a new display option.
Filter Conditions for Hierarchical Fields

When you create a filter condition based on a hierarchical field, there is an additional Show Hierarchy option displayed in the Filter window.
When this option is enabled, the Filter window displays only the parent values for the selected field. If you create a filter condition at the parent level, only records with fields that have the selected parent are included in your workbook. For example, assume your source data has two records with a class of New Customer but only one of those records has a parent class of Web Store Business. If you create a filter condition to exclude records that have a parent value of Web Store Business, one of the New Customer records is removed from your workbook.

**Advanced Sorting Options**

You can sort the values that are displayed in the Data Grid using the Advanced Sorting window. Sorting options that you apply to the Data Grid do not affect any workbooks that are connected to the dataset and should only be used to improve the readability of the values presented on the grid. To filter the values included in your dataset, you must create criteria filters using the Criteria Builder, located above the Data Grid. For more information, see [Dataset Criteria Filters](#).

To open the Advanced Sorting window, click the Field Menu icon ‣ next to a column in the Data Grid and select **Add Sort...** from the menu.

In the advanced sorting window, you can set up sorting conditions for any field in the Data Grid. After you set up each condition, you can select the order in which each condition should be considered.

The elements of the Advanced Sorting window are identified in the following image:

1. **Up/ Down Arrows** — Click the arrows to change the order of the sorting conditions. Alternatively, click and drag the entire row to the desired location.
2. **Field list** — Select the field you want to create a sorting condition for.
3. **Sort** — Sort the result set in ascending ‣ or descending ‣ order, based on the values of the selected field.
4. **Options** — Click this icon to view the following options specific to the selected sorting condition:
   - **NULL First** — If checked, blank values for the selected field are listed first in the corresponding column in the Data Grid.
   - **Case Sensitive** — If checked, values beginning with capital letters are listed first in the corresponding column in the Data Grid.
   - **Language** — Sort the result set based on the alphabetic sequence of the selected language.
5. **Delete** — Remove the selected sorting condition.
### Joining Records Types in a Dataset

SuiteAnalytics Workbook enables you to join multiple record types in the same dataset. This includes record types that are more than one join away from the root record type selected for the dataset, enabling you to compile data from more diverse record types.

By default, the Dataset tab lists all joinable record types that you have access to. To complete a join, simply add fields from the desired record type to the Data Grid or create a criteria filter using the Criteria Builder.

If joining record types is a new concept for you, there are a number of considerations you should make before you begin, such as the effect of one-to-many relationships between record types, and the direction and order of your joins. This is especially true if you are working on a Transaction dataset and want to join the Transaction Line and Transaction Accounting Line record types.

For more information, see [Guidelines for Joining Record Types in SuiteAnalytics Workbook](#).

### Currency Conversion in Datasets and Workbooks

Datasets are designed to display only raw field data. This means that some fields will display data in multiple currencies. To perform accurate data aggregations and other types of numeric manipulation based on these fields, you must convert or consolidate the field to a single currency.

- In the Dataset tab, you can create a custom formula field using the **TO_NUMBER** function to convert the values of a field to a specific. For more information, see [Currency Conversion Using Custom Formula Fields](#).
- With Transaction Accounting Line fields, you can apply currency consolidation when you create criteria filters on the Dataset tab. For more information, see [Criteria Filters Based on Fields with Values in Multiple Currencies](#).
- In workbook Table Views, Pivot Tables, and Charts, you can apply currency conversion to a field directly from the user interface. For more information, see [Currency Conversion from the User Interface](#).

In SuiteAnalytics Workbook, currency consolidation converts the values of a field to the currency of the lowest level subsidiary that is a common parent to all the subsidiaries that you have access to in your account. Conversely, currency conversion enables you to convert the values of a field to any currency that you have set up in your account.

To apply currency conversion in a dataset or workbook, you must have the Multiple Currencies feature enabled in your account. To apply currency consolidation, you must be in a NetSuite OneWorld account. Additionally, you should make sure that your currency records, chart of accounts, currency exchange rates, and currency conversion rates are all set up correctly to ensure that the correct rates and accounting periods are used during conversion. For more information, see the topics:

- **Currency Exchange Rates**
- **Consolidated Exchange Rates**
- **Multiple Currencies in OneWorld**

---

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td><strong>Add Sorting</strong> — Add another sorting condition, for a different field.</td>
</tr>
</tbody>
</table>
| 7    | **OK** — Apply the selected sorting conditions to the Data Grid.  
**Cancel** — Close the Advanced Sorting window without making any changes to the existing sorting conditions.  
**Remove All** — Remove all of the sorting conditions currently listed in the Advanced Sorting window. |
Currency Conversion Using Custom Formula Fields

On the Dataset tab, you can create custom formula fields using the TO_NUMBER function to convert field values that are in multiple currencies. This is useful for when you want to perform data aggregations between two fields that contain values in multiples currencies. For example, to create a formula that displays the remaining balances on the invoices in your account regardless of the original currency used on each invoice, you can create a custom formula field using the following definition: TO_NUMBER ({total#sign_consolidated}) - TO_NUMBER ({amountpaid#sign_consolidated}).

Use the following custom formula field definitions to create fields that convert your Total Amount (Transaction Currency) values using a specific currency ID, and date. The output type for each of these formulas is FLOAT:

- **TO_NUMBER(.foreigntotal#converted))**
  - Converts the amounts using the currency of the lowest level subsidiary that is a common parent to all the subsidiaries that you have access to in your account, and today's date

- **TO_NUMBER(.foreigntotal#converted[1])**
  - Converts the amount using the currency ID specified in the square brackets [1] and today's date

- **TO_NUMBER(.foreigntotal#converted[1;2017-01-30])**
  - Converts the amount using the currency ID [1] and the date specified in the square brackets [2017-01-30]

Criteria Filters Based on Fields with Values in Multiple Currencies

**Important:** The Consolidate field box is only available when you create a criteria filter using amount fields from the Transaction Accounting Line record type. To create criteria filters based on converted values from other record type fields, you must first define a custom formula field that applies currency conversion to the field, then create your filter conditions based on the custom formula field. For more information about currency conversion using custom formula fields, see Currency Conversion Using Custom Formula Fields.

When you create criteria filters based on Transaction Accounting Line fields that have values in multiple currencies, the Filter window includes a Consolidate Field box.
When you check the Consolidate field box, the values of the field are consolidated before the selected filter conditions are applied. The currency used for the consolidation is that of the lowest level subsidiary that is a common parent to all the subsidiaries that you have access to in your account. The date used to calculate the rate of the consolidation is the current date.

**Currency Conversion from the User Interface**

To apply consolidation or conversion from within a workbook table view, pivot table, or chart, click the Field Menu icon next to an applicable field in the Layout Panel or column header, then select **Currency**. Depending on the field, you are presented with up to four options:

- **Display Original**: displays each amount in the original currency used for the transaction.
- **Apply Consolidation**: consolidates each amount to the currency of the lowest level subsidiary that is a common parent to all the subsidiaries that you have access to in your account. In SuiteAnalytics Workbook, the rate type used for the consolidation is based on the general rate type set up for each account in your chart of accounts: either Historical, Average, or Current. For more information about Consolidated Exchange Rates in NetSuite, see the help topic **Consolidated Exchange Rates**.

  **Note**: You can only apply currency consolidation to amount fields from the Transaction Accounting Line record type. To convert amount fields from the Transaction and Transaction Line record types, use the currency conversion options or define a custom formula field. For more information about custom formula fields, see **Currency Conversion Using Custom Formula Fields**.

- **Apply Conversion**: converts each amount using the currency and date selected on the Convert To window. By default, the Convert To window is set to the current date and the currency of the lowest level subsidiary that is a common parent to all the subsidiaries that you have access to in your account.
Conversion Options...: opens the Convert To window. In the Convert To window, you select the currency and date to use when the Apply Conversion option is selected. The rates used in the conversion are drawn from the table of currency exchange rates set up in your account. For more information, see the help topic Currency Exchange Rates List Page.

Note: If you check the Anchor Relative to Today box, the current date will be used for the conversion each time the workbook is opened.

Dataset Criteria Filters

On the Dataset tab above the Data Grid, the Criteria Builder enables you to filter your dataset results. Unlike filters that you create within workbook components such as pivot tables or charts, criteria filters remove entire records and fields from a dataset which, impacts all workbooks that are based on the dataset. For example, if you create a criteria filter that removes invoice records from a dataset, workbooks based on that dataset will also no longer include invoice data. Use caution when applying new criteria filters to a dataset that is used in multiple workbooks.

Criteria filters are joined by AND/OR logic within the Criteria Builder and can be grouped so that multiple filter conditions are evaluated as one item within the list of filters. You can edit or delete criteria filters as necessary, or move filters so that they are evaluated in a different order. Any fields that you use in a criteria filter are highlighted in the Fields list, however they do not appear at the top of the Fields list like fields that are added to the Data Grid. If you are not sure which record type a field in the Criteria Builder belongs to, click the Field menu icon next to a criteria filter and click Show Location in Field List.

When you create a new criteria filter, the results in the Data Grid are automatically updated. To update the results in a workbook connected to the dataset however, you must manually refresh each workbook component.

Important: If you create a criteria filter based on a joined record type that has a one-to-many or many-to-many relationship with the root record type of the dataset, it can cause data duplication. For more information, see Data Duplication Based on Record Joins.

To create a dataset criteria filter:

1. On the Dataset tab, drag a field from the Fields list to the Criteria Builder above the Data Grid. The Filter window appears.
2. In the Filter window, select the filter conditions you want to apply to the field. Up to four types of filters are available depending on the field you select. For more information, see Filter Types.
   Note: For hierarchical fields, you can set any filter type at the child or hierarchy level. For more information, see Filter Conditions for Hierarchical Fields.
3. Optionally, if you want to group your criteria filters, click New Group.
   Grouped criteria filters are considered one item in the list of criteria filters and are evaluated in the order that they appear in the Criteria Builder. For more information, see Grouping Filters.
4. Repeat steps 1–3 for each filter or filter group you want to define.
   By default, criteria filters are added using an AND operator. To change the relationship between filters and filter groups, click AND and select OR from the popup window.
5. Optionally, if you accessed the dataset from within a workbook, click Apply to workbook to preview your changes in the workbook.
6. Click Save to save your dataset changes.
   If you do not own the dataset, click Save As to save it under a different name.

Filter Types

When you add a field from the Fields list to the Criteria Builder, the Filter window appears. Use the Filter window to set up specific filter conditions for a field. The types of filters you can set up depend on the values of the field, with each filter type represented by a different tab in the Filter window.

**Important:** The Filter window is also available from the Pivot tab within a workbook, however filter conditions set up from the Pivot tab only impact the pivot table and do not affect the underlying dataset or other components of the workbook. Only filters that you set up from the Criteria Builder above the Data Grid can impact a dataset.

In each tab of the Filter window, you can define the values and expressions for the filter. You can only create one type of filter per field at a time however, unless you use a group of filters. For more information, see Grouping Filters. The available values and expressions in each tab of the Filter window depend on the type of field you select.

- **Values:** Create a filter condition based on existing values or dates in the source data, or custom values
- **Ranges/ Date Ranges:** Create a filter condition based on a range of values or dates available in the source data
- **Relative Conditions/ Relative Dates:** Create a filter condition relative to the existing values or dates in the source data
## Conditions/ Specific Dates
Create a filter condition using custom values or dates and an expression

### Note:
For hierarchical fields, filter conditions can be set at the parent or child level. For more information, see [Hierarchical Fields](#).

If you are in a NetSuite OneWorld account and create a criteria filter based on a field that contains values in multiple currencies, a Consolidate Field box is also displayed in the Filter window. Check the Consolidate Field box to apply the filter based on the consolidated values of the field. For more information, see [Criteria Filters Based on Fields with Values in Multiple Currencies](#).

### Grouping Filters

In the Criteria Builder, you can click **New Group** to create a group of criteria filters.

Grouped criteria filters are the same as parenthetical expressions in the existing Saved Search application. Use them to define a string of filter conditions connected by AND or OR operators, to be evaluated as one item within the list of criteria filters.

For example, if you set up the following criteria filters, SuiteAnalytics Workbook evaluates the entire set of grouped filter conditions (Status is Open AND Sales Rep is A Wolfe-admin) before the Start Date filter, and after the Date filter.

![Criteria Filters Example](image)

You can also create a group of filters within another group. If you do, SuiteAnalytics Workbook evaluates the conditions in order from inside-to-outside.

For example, in the following group of filters, (Status is Closed AND Sales Rep is J Wolfe) is considered before (Status is Open OR Sales Rep is Kennedy, Sean). Moreover, because the entire group is placed before the Start Date filter, the grouped filters are evaluated first.
Creating a Workbook

A workbook is where you analyze the results of a dataset query by creating workbook components such as tables, pivot tables, and charts.

All workbooks are based on a dataset, however a single dataset can be used in multiple workbooks. Although you can access the underlying dataset from within a workbook, the dataset exists as its own object, with its own creator and access rights. Moreover, changes to a dataset are automatically propagated to any connected workbooks. This prevents data discrepancies but also means that your workbooks can change unexpectedly if you do not own the underlying dataset. Finally, you can only create workbook components using fields that have been added to the underlying dataset. If you do not see a field that you want to include in specific workbook component, you must add it to the dataset or contact the dataset owner so that they can add it for you. For more information about defining a dataset, see Defining a Dataset.

The types of workbook components that you can create include table views, pivot tables, and charts:

- **Table Views** enable you to display and analyze your dataset results in a simplified table. For more information, see <Table Views>.

  **Note:** By default, all workbook templates include a Table View based on the underlying dataset. For more information about workbook and dataset templates, see <Workbook and Dataset Templates>.

- **Pivot tables** enable you to pivot your dataset results so that you can analyze different subsets of the data, such as the number of unfulfilled orders per customer in your account. For more information, see Workbook Pivot Tables.

- **Charts** enable you to create different visualizations of your dataset results so that they can be analyzed at a glance. For more information, see Workbook Charts.

To create a new workbook based on new dataset:

1. From the Analytics Home page on the Workbooks subtab, click **New Workbook**.
Creating a Workbook

2. On the Select a dataset to create a new workbook page, click New Dataset.
3. Select a record type for the dataset.
   The Dataset tab appears with preselected fields in the Data Grid.
4. Select the fields and criteria filters you want to include in the dataset. For more information, see Defining a Dataset and Dataset Criteria Filters.
5. When you are satisfied with your results, click Apply to workbook.
6. Select a workbook component to begin.
7. Edit the layout for each workbook component that you add.
   For more information, see Workbook Table Views, Workbook Pivot Tables, or Workbook Charts.
8. Click Save...
   The Save Workbook As window appears.

   **Important:** You cannot save a workbook with an unsaved dataset. If you have not already saved your changes to the dataset, click the arrow next to the dataset name in the Dataset Panel of the workbook and select Save Changes. Alternatively, if you want to continue editing the dataset, click Open Dataset.

9. Enter a name and description for the workbook in the fields provided, then click Save.
10. Optionally, click Share to share the workbook with other users in your account.
   The Share Workbook window appears.
11. Select the roles or user IDs that you want to share the workbook with, then click Share.
   For more information about sharing workbooks, see Accessing and Sharing Workbooks and Datasets.

**To create a new workbook based on an existing dataset:**

1. From the Analytics Home page on the Workbooks subtab, click New Workbook.
   Alternatively, if you are already in an existing dataset, click Create New Workbook and proceed to step 3.
2. Select a dataset on the Select a dataset to create a new workbook page.
3. Select a workbook component to begin.

   **Important:** Keep in mind that you can only create workbook components using fields that have been added to the selected dataset. If you do not own the selected dataset and you want to add fields or criteria to it, you must save the dataset using a different name. Additionally, if you proceed without saving your own version of the dataset, the dataset creator can make changes to the dataset which will impact your workbook. Use caution when creating workbooks based on datasets that you do not own.

4. Edit the layout for each workbook component that you add.
   For more information, see Workbook Table Views, Workbook Pivot Tables, or Workbook Charts.
5. Click Save...
   The Save Workbook As window appears.
6. Enter a name and description for the workbook in the fields provided, then click Save.
7. Optionally, click Share to share the workbook with other users in your account.
   The Share Workbook window appears.
8. Select the roles or user IDs that you want to share the workbook with, then click Share.
Workbook Table Views

Workbook table views are where you can explore your dataset query results without altering the source data of any workbooks that are based on the selected dataset. Using the table view does not require complex customization and enables you to view your data without setting up a layout or defining custom formula fields.

You can only create table views using the fields selected in the underlying dataset, as displayed in the Dataset panel. Each field in the Dataset panel includes an icon that identifies the type of value contained within the field. For more information about each field type, open the underlying dataset. By default, all workbook templates include a Table View based on the underlying dataset. For more information about workbook and dataset templates, see <Workbook and Dataset Templates>.

To create a table view, you drag fields from the Dataset Panel to the Table Viewer. After you add fields to the Table Viewer, you can filter and sort them as needed. When you add a new field to the Table Viewer or apply new sorting or filtering options, the results are automatically updated. You can further customize your table view by renaming the columns and each table view tab in your workbook. You can create as many table views as you like using the same dataset. Additionally, you can export the data presented in your table view to a CSV file.

To create a table view:

**Important:** Sorting, filtering, and other customization options that you apply to the table view do not affect the underlying dataset or any other workbook components. To change the associated dataset, click the dataset name in the Dataset Panel. If you do not own the underlying dataset, contact the dataset owner.

1. Click the add icon from anywhere within the workbook and select **Table**.
2. On the Table tab, drag fields from the Dataset Panel to the Table Viewer. Fields added to the Table Viewer are highlighted in blue on the Dataset Panel.

   **Note:** If you add hierarchical fields to the table, you are prompted to select a display type for the field values. For more information, see **Hierarchical Fields**.

3. Optionally, customize the appearance of your table:
   a. Change the order of the columns by dragging them to the desired position or clicking the Field Menu icon and selecting one of the move options.
   b. Rename the columns by clicking the Field Menu icon in the column header that you want to rename, then selecting **Rename**.

   **Note:** The change applies to the column name of the selected table view only. The name does not change in the Dataset Panel, the underlying dataset, or any other workbook components that are based on the selected dataset.

c. Remove unwanted columns by clicking the Field Menu icon in the column header that you want to remove, then selecting **Remove Column**.

4. Optionally, sort the data presented in the table:
   a. Click the Field Menu icon next to the field you want to sort.
   b. Select **Ascending** or **Descending** to apply one of the default sorting options, or select **Add Sort...** to apply advanced sorting.

For more information about sharing workbooks, see Accessing and Sharing Workbooks and Datasets.
5. Optionally, filter the data presented in the table:
   a. Click the Field Menu icon next to the field that you want to filter and select Filter...
      The Filter window appears.
   b. Select the conditions or values for the filter, then click Apply. For more information about
      the available filtering options, see Value-based Filters.
      The Table Viewer is automatically updated.
6. Optionally, click the Export icon to save a CSV file of your completed table.

Workbook Pivot Tables

The Pivot tab is where you pivot your dataset query results to analyze different subsets of data. Within
each table you can define multiple fields for each pivot table dimension, or create filters unique to the
table to customize your results. You can also change the appearance of your table by formatting the
numeric values that are presented, renaming your table rows and columns, adding totals and grand
totals, or applying sorting options.

As with all workbook components, you can only create a pivot table based on the fields in the underlying
dataset. On the Pivot tab, these fields appear in the Dataset Panel on the left. The Pivot Table Viewer on
the right displays your completed table based on the fields you define as rows, columns, and measures
in the Layout Panel. Each time you change or update your layout, you must click the Refresh icon
to update the table. You must also refresh your table if changes are made to the dataset that the workbook
is based on.

To create a pivot table:
1. Click the add icon from anywhere within the workbook and select Pivot.
2. On the Pivot tab, drag the desired fields from the Dataset Panel to the Rows, Columns, or Measures
tabs in the Layout panel. Alternatively, drag the fields from the Dataset Panel directly to the Pivot
Table Viewer.

   Note: If you add hierarchical fields to the table, you are prompted to select a display type
   for the field values. Depending on where you add the field and the display type you select,
   you can also add additional subtotals to the pivot table for each level in the hierarchy. For
   more information, see Hierarchical Fields.
3. Select the summary type and format options for any date or numerical fields you add to the pivot
table.
   1. Click the Field Menu icon next to the field you want to format in the Layout panel.
   2. Select a summary type from the popup window.
      The summary options vary depending on the type of field you select.
   3. Optionally, select Currency... to view the currency consolidation or conversion options for
      any fields with values in multiple currencies.
      For more information, see Currency Conversion from the User Interface.
   4. Optionally, click Format... to customize the numeric values for a field.
4. Add totals and grand totals to the pivot table.
   1. Click the Totaling icon \( \sum \).
   2. In the Totaling window, select where you want the totals or grand totals for each applicable field to appear. If there are multiple fields that can be totalled in the rows or columns, check the \textit{Set Individually} box to select where the totals for each field will appear on the pivot table.
   3. Click \textit{OK}.
5. Click the Refresh icon \( \circ \) to generate the pivot table.
6. Optionally, filter the data displayed in the pivot table.

\begin{center}
\textbf{Note:} Filter conditions created on the Pivot tab only impact the data displayed in the pivot table. No changes are made to the dataset that the workbook is based on.
\end{center}

1. Click the Field Menu icon \( \vdash \) next to the field you want to create a filter for. Depending on whether the field has been defined as a Column, Row, or Measure, the following options are available. If you click the Field menu icon from the Fields List or the Layout Panel, it can also impact the available options:
   - Top 10: display only the top 10 rows or columns based on the measures defined for the table.
   - Bottom 10: display only the bottom 10 rows or columns based on the measures defined for the table.
   - Filter [Field Name] by...: enables you to define a custom measure-based filter for the selected row or column.
   - Filter [Field Name]: enables you to define a custom value-based filter based on specific values within the table results.
   - Add as Filter...: enables you to define a custom value-based filter based on specific values within the table results.
   - Filter Date: enables you to define a custom date filter based on date ranges that you choose.
2. The results in the table are updated automatically.

For more information, see \textit{Workbook Component Filters}.

\section*{Pivot Table Customization}

\textit{SuiteAnalytics Workbook} enables you to customize many aspects of your pivot tables. Click the following links for more information:

- Customizing Numeric Values
- Grouping Pivot Table Fields
- Compact and Expanded Mode
- Additional Pivot Table Customization Options

\section*{Customizing Numeric Values}

You can customize the numeric values displayed in your pivot table using the Format window. To access the Format window, click the Field Menu icon \( \vdash \) next to the desired field in the Fields list or Layout panel and select \textit{Format...} from the list.
The following options are available. To change the default settings, check the **Override** box. After you make a selection, the Preview field displays your changes. To apply your changes to the table, click **OK** and refresh the table. To define your own syntax, click the Special tab and enter the syntax in the field provided.

- **Settings Applied From**: Enables you to apply numeric formatting based on a specific language. To define each setting manually, select **Custom**. To use the numeric formatting set up in your NetSuite personal preferences, select **User Preferences**. For more information about personal preferences, see the help topic **Setting Personal Preferences**.

- **Decimal Places**: The number of decimal places to include for each value.
  - Select **Per Currency/Unit** to use the decimal places of the currency or unit of measure for each value.
  - Select **Unbound** to place no limits on the number of decimal places used for each value.

- **Negative Values**: The format to use for negative values.

- **Decimal Separator**: The punctuation to indicate the decimal place. Select **Custom** to define your own punctuation.

- **Thousands Separator**: The punctuation to separate groups of thousands. Select **Custom** to define your own punctuation.

- **Prefix**: Enables you to define a prefix for the values in the field.

- **Suffix**: Enables you to define a suffix for the values in the field.

- **Currency Symbol**: Enables you to define where the currency symbol appears for dollar values in the field.

- **Units**: Enables you to abbreviate the values of the field by thousands, millions, or billions.

## Grouping Pivot Table Fields

Grouping fields in the pivot table Layout panel changes the granularity of the data presented in the table. By defining multiple fields as rows or columns, you can display subsets of data in the table.

For example, in the following Transaction table, only the Sales Rep field has been defined as a row. The pivot table therefore only displays the total transactions for each sales representative.
If you also define the Entity field as a row however, the table displays the total transactions per sales representative and customer.

<table>
<thead>
<tr>
<th>Sales Rep</th>
<th>Entity</th>
<th>Total Amount (Transaction) 2006</th>
<th>Total Amount (Transaction) 2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lakshmi</td>
<td>Sales Rep</td>
<td>547.90 USD</td>
<td>1,260.50 USD</td>
</tr>
<tr>
<td>James</td>
<td>Sales Rep</td>
<td>1,450.50 USD</td>
<td>2,780.00 USD</td>
</tr>
<tr>
<td>John</td>
<td>Sales Rep</td>
<td>980.30 USD</td>
<td>1,980.50 USD</td>
</tr>
<tr>
<td>Lisa</td>
<td>Sales Rep</td>
<td>1,520.00 USD</td>
<td>2,780.00 USD</td>
</tr>
<tr>
<td>Maria</td>
<td>Sales Rep</td>
<td>2,000.00 USD</td>
<td>2,780.00 USD</td>
</tr>
<tr>
<td>Alex</td>
<td>Sales Rep</td>
<td>2,500.00 USD</td>
<td>2,780.00 USD</td>
</tr>
<tr>
<td>456</td>
<td>Sales Rep</td>
<td>3,000.00 USD</td>
<td>2,780.00 USD</td>
</tr>
</tbody>
</table>

Try grouping different fields in your pivot table layouts to analyze different subsets of data.

**Compact and Expanded Mode**

By default, if you group fields or include multicolumn hierarchical fields in your pivot table, the table expands horizontally which can make it difficult to view your data.
To display the table data vertically, click the Compact Mode icon.

Additional Pivot Table Customization Options

To further customize the appearance of your pivot tables, SuiteAnalytics Workbook offers the following options:

- To freeze column or row headers so that they are always visible as you scroll through your table, click the Freeze Column or Freeze Row icons.
To enable row or column highlighting when you point to a specific part of the table, click the Highlight Column or Highlight Row icons.

To rename a column or row, click the Field Menu icon and select Rename... from the menu.

To resize a column or row, drag one of the column or row boundaries until it is the size you want.

To change the width of a column based on its values, double-click the column header.

To expand or minimize the number of rows displayed in a column, click the icons in the column header.

To expand or minimize the number of values displayed for a row, click the icon in the row header.

Pivot-based Portlets

You can see your pivot-based workbook data on your home dashboard by adding the Analytics portlet. The portlet enables you to quickly see the workbook data on your dashboard and provides quick access to your workbook. Visualizing the data right on your dashboard enables you to spend more time learning from it and less time gathering it.

You can also choose how you want to visualize your pivot-based workbook by entering the number of visible rows you want to view at once. To identify the Analytics portlet on your dashboard, you can also enter a title. By default, the title displays the name of the workbook and the pivot table.

For more information about how to add and set up the Analytics portlet, see the help topic Workbooks Overview.

Workbook Charts

The Chart tab is where you create visualizations of your dataset query results. There are multiple chart types you can create, all of which you can add to the Analytics portlet on any NetSuite dashboard. You can also print or export your charts to an SVG file. Additionally, you can customize the appearance of your chart by adding a title and subtitle, or by renaming each axis. Filtering capabilities are also supported, enabling you to display only the most pertinent values in each chart.

As with the Table View and Pivot tabs, the Chart tab displays any fields that are included in the underlying dataset in the Dataset Panel on the left. Completed charts are displayed in the Chart Viewer on the right, based on the fields you define as the x-axis, series, and measures in the Layout Panel. Each time you change or update your layout, you must click the Refresh icon to update the chart. You must also refresh the chart if you make changes to the underlying dataset.
To create a chart:

1. Drag the desired fields from the Dataset Panel to the X-Axis, Series, or Measures tabs in the Layout panel.
2. Select the summary type and format options for any date or numerical fields you add to the chart.
   a. Click the Field Menu icon next to the field you want to format in the Layout panel.
   b. Select a summary type from the popup window.
   c. Optionally, click Format... to customize the numeric values for a field.
      For more information about numeric formatting options, see Customizing Numeric Values.
   d. Optionally, select Currency... to view the currency consolidation or conversion options for any fields with values in multiple currencies.
      For more information, see Currency Conversion from the User Interface.
3. In the Layout panel, select the type of chart you want to produce from the popup window.
   For information about each chart type, see the Chart Types topic.
4. Optionally, click the Properties subtab in the Layout panel to add a title and subtitle to the chart, or to rename each axis.
5. Click the Refresh icon to generate your chart.
6. Optionally, filter the data displayed in the chart:
   a. Click the Field Menu icon next to the field you want to create a filter for. Depending on whether the field has been defined as the X-Axis, Series, or Measure, or if you click the Field menu icon from the Fields List or the Layout Panel, the following options are available:
      - Top 10: display only the top 10 results based on the measures defined for the chart.
      - Bottom 10: display only the bottom 10 results based on the measures defined for the chart.
      - Filter [Field Name] by... enables you to define a custom measure-based filter for the selected chart component.
      - Filter [Field Name]: enables you to define a custom value-based filter based on specific values within the chart results.
      - Add as Filter... enables you to define a custom value-based filter based on specific values within the chart results.
   b. The results in the table are updated automatically.
      For more information, see Workbook Component Filters.

Chart Types

There are multiple chart types you can use to visualize your data. To apply a chart type from either the Chart tab or the Analytics portlet, click the chart type dropdown and select an option from the popup window. Changing the chart type from the Analytics portlet does not affect the chart type selected for the corresponding workbook. Chart types let you compare values, and show trends. When you select a chart type, keep in mind the data included in the chart and the type of information you want to display. The following chart type options are available:

- Column Chart – Enables you to compare values for different categories or compare value changes over a period of time for a single category. For example, sales by period of time (weekly, monthly,
quarterly, or yearly). You can also use column charts to display negative values and to show an overview of the highest and lowest categories.

- Bar Chart – Enables you to compare values offering the same capabilities of the column chart. You can use this chart type when the data labels are long as it improves readability. For example, when using regions or sales representatives as dimensions.
- Area Chart – Enables you to display trends and accumulative value changes over time, such as item stock, number of employees, or savings account.
- Line Chart – Enables you to display trends for a higher number of data points. For example, when showing more than 20 data points.
- Stacked Column Chart – Enables you to show the composition of the data, by displaying the proportion of each category to a whole. For example, you can use it to see the percentage of the base price and discount price by customer.
- Stacked Bar Chart – Enables you to display data in a bar chart emphasizing the composition, instead of comparison.
- Stacked Area Chart – Enables you to display data in an area chart showing how each category contributes to the total over a period of time.

To see some examples, see the following charts:
- Open Sales Orders Lines Charts
- Number of Fulfillments Chart
- Value of Shipping Charges Charts

Chart-based Portlets

You can see your chart data on your home dashboard by adding the Analytics portlet. The portlet enables you to quickly see the chart on your dashboard and provides quick access to your workbook. Visualizing the data on your dashboard enables you to spend more time learning from it and less time gathering it.

You can also choose how you want to visualize your chart by setting layout options such as the portlet size and chart type. To identify the Analytics portlet on your dashboard, you can also enter a title. By default, the title displays the name of the workbook and the chart.

For more information on how to add and set up the Analytics portlet, see the help topic Workbooks Overview.
Workbook Component Filters

After you set up a table view, pivot table, or chart, you can filter the data that is displayed using value-based or measure-based filters.

In table views and pivot tables, value-based filters are applied to every row and column and removes those that do not contain the selected value. Similarly, in charts, any columns, bars, or lines that do not contain the selected value are removed from the results.

In pivot tables, measure-based filters are applied to the row and column totals and remove any columns or rows that do not match the selected filter criteria. In charts, any columns, bars, or lines with totals that do not meet the selected criteria are removed. Measure-based filters are not supported in table views.

In all workbook components, you can also create filters based on specific dates or custom date ranges that you choose.

There is no limit on how many value-based filters you can apply to a workbook component, however you can only apply one measure-based or date-based filter. Additionally, if you apply both value-based and measure-based filters, all value-based filters are applied first.

Filters that you apply to a workbook component do not affect the dataset that the workbook is based on and only refine the values displayed in the selected workbook component. To filter the dataset, you must create criteria filters from the Dataset tab. Additionally, if you are in a NetSuite account that has values in multiple currencies, you must consolidate or convert these values before you can use them in a measure-based filter condition.

For more information about filtering a dataset, see Dataset Criteria Filters.

For more information converting or consolidating values in a workbook component, see Currency Conversion in Datasets and Workbooks.

Value-based Filters

Value-based filters enable you to filter the data displayed in your workbook components using specific values from any field that has been added to the Layout panel or Table Viewer. In pivot tables, value-based filters are applied to every row and column in the table and removes those that do not contain the selected value. In charts, any columns, bars, or lines that do not contain the selected value are removed from the results.

To apply a value-based filter to a workbook component:

1. Click the Field Menu icon next to any field in the Layout panel or Viewer and select Filter [FieldName]...
2. In the Filter window, select the field values and operator to use in the filter condition.
3. Click OK.

The results are updated and the selected filter criteria is displayed above the Viewer.

Measure-based Filters

In pivot tables, measure-based filters enable you to filter out entire columns or rows using filter conditions that are applied to the totals displayed in the table, based on the measures defined for the
Workbook Component Filters

In charts, any columns, bars, or lines with total values that do not meet the selected criteria are removed from the chart.

For example, assume you have set up the following pivot table and you only want to see customers with over thirty thousand dollars in total transactions:

To do so, you can apply a measure-based filter on the Entity field of **Entity by Total Amount (Transaction Currency) (Sum) greater 30,000.00**.

Alternatively, if you want to quickly display the top 10 or bottom 10 customers based on their total transactions, you can select the **Top 10** or **Bottom 10** options from the Field Menu.
In both cases, a filter is applied to the Entity rows based on their Total Amount (Transaction Currency) totals.

**Note:** If you are in a NetSuite account that has values in multiple currencies, you must consolidate or convert these values before you can use them in a measure-based filter condition. For more information about currency conversion in SuiteAnalytics Workbook, see Currency Conversion in Datasets and Workbooks.

To apply a custom measure-based filter to your pivot table or chart:

1. Click the Field Menu icon next to any column, row, x-axis, or series field in the Layout panel or Viewer.
2. Select **Filter [Field name] by...** and click the desired measure.
3. In the Filter window, select **Greater/Less than**, then select the measure, operator, and value for the filter condition.

4. Click **OK**.
   The table or chart automatically updates the results.

**To apply a Top N or Bottom N measure-based filter to your pivot table or chart:**

1. Click the Field Menu icon next to any column, row, x-axis, or series field in the Layout panel or Viewer.
2. To quickly view the top 10 or bottom 10 results based on the measure defined for the table, click **Top 10 [Field name]** or **Bottom 10 [Field name]**.
   The table or chart automatically updates the results.
3. Alternatively, to customize the number of top or bottom results, the Field Menu icon and select **Filter [Field name] by...**, then click the desired measure.
4. In the Filter window, make sure **Top/Bottom** is selected.
5. In the fields provided, select whether to display the top or bottom results, the number of results to display, and the measure to use for the filter.
6. Click **OK**.
   The table or chart automatically updates the results.

**Date Filters**

Date filters enable you to filter your results based on a specific date or custom date range that you choose. You can only apply one date filter per workbook component.

**To apply a date filter to a workbook component:**

1. Click the Field Menu icon in the Dataset Panel or Layout Panel next to a date field and select **Filter Date> Advanced...**
2. In the Filter Date (Advanced..) window, use the Specific Dates tab to enter a custom date or date range to use for the filter. Use the Values tab to select specific dates from the underlying dataset query results.
3. Click **Apply**.
   The table or chart automatically updates the results.
Workbook and Dataset Templates

SuiteAnalytics Workbook currently offers over 20 predefined workbook and dataset templates.

In a dataset template, all of the required fields, record types, and criteria filters are predefined so that you can create a workbook without having to first define a complex, custom dataset. Conversely, workbook templates include predefined workbook components such as tables, pivot tables, and charts, so that you can analyze and visualize the results of the accompanying dataset templates.

By default, only users with the Analytics Administrator permission can access workbook and dataset templates. If you do not have the Analytics Administrator permission, you can access these templates only if a user with the Analytics Administrator permission shares them with you. You must also have access to the underlying dataset template to open a workbook template. Additionally, some templates are feature dependent. If you do not see one of the listed templates in your account, contact your account administrator.

If you have the Analytics Administrator permission, you can access the templates from the Analytics Home page, from either the Workbooks or Datasets subtabs.

For more information about the Analytics Administrator permission, see Analytics Administrator Permission.

To see the dataset templates currently available in SuiteAnalytics Workbook, see Dataset Templates.

To see the workbook templates currently available in SuiteAnalytics Workbook, see Workbook Templates.

Dataset Templates

**Important:** By default, only users with the Analytics Administrator permission can access the workbook and dataset templates in your account. If you do not have the Analytics Administrator permission, contact a user with the Analytics Administrator permission about sharing the templates with you.

SuiteAnalytics Workbook offers over 20 dataset templates. Each template includes preselected fields, joined record types, and criteria filters so that you can quickly create a custom workbook or your own version of the dataset. Additionally, each dataset template has an accompanying, predefined workbook template. For information about workbook templates, see Workbook Templates.

The following dataset templates are currently available in SuiteAnalytics Workbook. If you have the Analytics Administrator permission, access the templates by selecting Templates on the Datasets subtab of the Analytics Home page:

- System Notes v2 Dataset Template
- Purchases (Billed) Dataset
- Purchases (Ordered) Dataset
- Transaction Detail Dataset Template
- Warehouse Inventory: Counts & Adjustments Dataset Template
- Warehouse Inventory: Inbound Dataset
- Warehouse Inventory: Outbound Dataset

**Important:** Some templates are feature dependent. If you do not see one of the listed templates in your account, contact your account administrator.
Dataset Templates

- Actual Time Dataset Template
- Time-Off Analysis Dataset Template
- SuiteCommerce Top Searches (Beta) Dataset Template
- SuiteCommerce Top Searches with No Results (Beta) Dataset Template
- Manufacturing Dataset Template
- Items by Customer Dataset Template
- Customers by Item Dataset Template
- Web Store Orders Dataset Template
- Employee Tax Jurisdictions (Beta) Dataset Template
- Workplace Tax Jurisdictions (Beta) Dataset Template

Workbook Templates

⚠️ **Important:** By default, only users with the Analytics Administrator permission can access the workbook and dataset templates in your account. If you do not have the Analytics Administrator permission, contact a user with the Analytics Administrator permission about sharing the templates with you.

SuiteAnalytics Workbook offers over 20 workbook templates, based on the available dataset templates in your account. Each template includes a different set of workbook components for you to analyze your data, including a Table View containing all of the fields from the underlying dataset. Use these templates to quickly analyze and visualize different parts of your company data. To access the underlying dataset template, click the dataset name in the Dataset Panel from any of the workbook components and select Open Dataset.

The following workbook templates are currently available in SuiteAnalytics Workbook. If you have the Analytics Administrator permission, access the templates by selecting Templates on the Workbooks subtab of the Analytics Home page:

⚠️ **Important:** Some templates are feature dependent. If you do not see one of the listed templates in your account, contact your account administrator.

- Purchases (Billed) Workbook
- Purchases (Ordered) Workbook
- Manufacturing Workbook Template
- System Notes v2 Workbook
- Transaction Detail Workbook
- Employee Tax Jurisdictions Workbook (Beta)
- Workplace Tax Jurisdictions (Beta) Workbook
- Time-Off Analysis Workbook
- SuiteCommerce Top Searches (Beta) Workbook
- SuiteCommerce Top Searches with No Results (Beta) Workbook
- Items by Customer Workbook
- Customers by Item Workbook

SuiteAnalytics Workbook
Workbook-based Portlets

With the Analytics portlet, SuiteAnalytics Workbook enables you to view your workbook data on your dashboards. The Analytics portlet lets you add charts and pivot tables from workbooks listed in the My Workbooks and Shared with Me sections of the Workbook Listing Page. You can add up to 10 Analytics portlets to your dashboards, each with a unique chart and pivot table.

For more information, see the help topic Workbooks Overview.

Displaying Chart and Pivot Data in the Analytics Portlets

To display your chart and pivot data on your home dashboard, you can add and set up the Analytics portlet. The portlet enables you to quickly see the workbook data and provides quick access to your workbook. Visualizing the data right on your dashboard enables you to spend more time learning from it and less time gathering it.

You can also choose how you want to visualize the workbook data on your portlet. To identify the Analytics portlet on your dashboard, you can enter a title. By default the title displays the name of the workbook and the chart. Additionally, you can set layout options, such as the following:

- For chart-based portlets, you can set the portlet size and chart type.
- For pivot-based portlets, you can enter the number of rows you want to view at once when loading the pivot table.

For more information on how to add and set up an Analytics portlet, see the help topics Adding an Analytics Portlet and Setting Up the Analytics Portlet.
SuiteAnalytics Workbook Tutorial

Use this tutorial to walk through the authoring process for SuiteAnalytics Workbook.

In this tutorial, you create a sample Transaction dataset and a workbook that includes a pivot table and chart. The pivot table and chart display the total billed sales orders for each sales representative in your company, for the date range you choose.

The following table describes the steps to create the dataset then the workbook. Each step builds on the previous step, so you must complete them in order:

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1: Select a Root Record Type</strong></td>
<td>Begin your dataset by choosing a root record type.</td>
</tr>
<tr>
<td><strong>Step 2: Add Fields and Join Record Types</strong></td>
<td>Choose the fields and record types that you want to include in your dataset.</td>
</tr>
<tr>
<td><strong>Step 3: Filter Your Dataset</strong></td>
<td>Apply criteria filters to refine your dataset query results.</td>
</tr>
<tr>
<td><strong>Step 4: Create a Workbook Based on Your Dataset</strong></td>
<td>Continue your analysis by creating a workbook based on your dataset.</td>
</tr>
<tr>
<td><strong>Step 5: Pivot Your Dataset Query Results</strong></td>
<td>Create a pivot table using your dataset query results.</td>
</tr>
<tr>
<td><strong>Step 6: Chart Your Dataset Query Results</strong></td>
<td>Create a chart using your dataset query results.</td>
</tr>
</tbody>
</table>

**Note:** This tutorial assumes that you have the appropriate permissions and features enabled in your account to view transaction and sales order data. If you are not sure about which permissions need to be enabled to view transaction records or fields, download the following worksheet: NetSuitePermissionsUsage.xls. If you do not have a specific permission enabled, contact your NetSuite administrator.

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**Step 1: Select a Root Record Type**

The following steps show you how to select a root record type for your dataset. The available record types are based on the features enabled in your account and the permissions assigned to the role you use to log in to NetSuite. If you do not see the Transaction record type, contact your administrator.

**To select a root record type:**

1. Click the **Analytics** tab in the NetSuite navigation menu.
2. On the Analytics Home page, click the Datasets subtab and select **New Dataset**.
3. Select a record type from the list.
   - The Dataset tab opens with preselected fields on the Data Grid based on the record type you choose.
   - For the purposes of this tutorial, select the Transaction record type.

Continue to **Step 2: Add Fields and Join Record Types**.

---

**Step 2: Add Fields and Join Record Types**

If you have not already done so, complete **Step 1: Select a Root Record Type**.
The following steps show you how to add fields and join record types to your dataset. Only fields that are included on the Data Grid can be used to build workbook components such as tables, pivot tables, and charts.

By default, the Data Grid displays preselected fields based on the root record type selected for the workbook. Fields that you add to the grid appear highlighted at the top of the Fields list.

**To add fields and join record types:**

1. Add fields from the root record type to the Data Grid. You have three options:
   - Drag the fields from the Fields list to the Data Grid.
   - Double-click the fields in the Fields list.
   - Type the name of the fields in the search bar at the top of the Fields list, then drag or double-click them to add them to the Data Grid.

   For the purposes of this tutorial, add the Sales Rep and Status fields to the Data Grid.

   **Note:** If you add a hierarchical field to the Data Grid, you are prompted to select whether to display the child values or the full hierarchy for each record in the corresponding field column. For more information, see Hierarchical Fields.

2. Join related record types to the dataset by adding their fields to the Data Grid.
   a. By default, the Records list on the Dataset tab shows all related record types that you have access to in your account.

      Click the arrow next to any record type in the Records list to view additional related record types.

      b. Click the desired record type name to update the Fields list.
Step 2: Add Fields and Join Record Types

c. Double-click or drag the desired fields to the Data Grid.

**Note:** Depending on the relationship between record types that you join in a dataset, data duplication might occur. For more information, see Guidelines for Joining Record Types in SuiteAnalytics Workbook.

For the purposes of this tutorial, no related record type fields are required.

3. Create and add formula fields to the Data Grid.

   a. Click the **Formulas** link above the Records list.

   b. Click **New Formula** in the Fields list.

   The Formula Field window appears.

   The Formula Field window appears.
c. Enter the formula field name.

d. Select an output type for the formula field values.

**Note:** Each output type only works with certain fields and formula functions. If you select an incompatible output type for the formula, the formula is invalidated. For more information, see Formula Fields.

e. In the Formula field, enter the field IDs and SQL formula functions to use in the formula expression. Alternatively, double-click the desired field IDs or formula functions from the Functions and Fields subtabs to add them to the expression.

**Note:** The Fields subtab only includes fields from the root record type on the workbook and any related record types that you have accessed on the Dataset tab. If you want to include fields from a related record type in your formula expression, you must either access the record type on the Dataset tab or manually enter the field ID into the expression.

f. To validate the formula, click Validate.

g. If there are no errors, click Apply to add the formula field to the workbook.

For the purposes of this tutorial, no formula fields are required.

4. Remove any fields you do not want to include in the dataset.

   a. Click the Field Menu icon in the column you want to remove from the Data Grid.

   b. Select Remove Column from the dropdown list.
Step 2: Add Fields and Join Record Types

For the purposes of this tutorial, remove the Memo, Document Number/ID, and Transaction fields.

**Warning:** Any changes you make to a dataset are automatically propagated to workbooks that are based on the dataset. Removing a field from the Data Grid can therefore cause failures in the connected workbooks. Exercise caution when removing a field from the grid.

Continue to Step 3: Filter Your Dataset.

Step 3: Filter Your Dataset

If you have not already done so, complete Step 2: Add Fields and Join Record Types.

The following steps show you how to filter your dataset query results. Criteria filters that you apply to the dataset are propagated to any new or existing workbooks that you create based on the dataset. For example, if you create a criteria filter to exclude any sales orders created in the last week, data from those sales orders are not presented in any previously associated workbooks, or new workbooks that you create using this dataset.

To filter your dataset:

1. On the Dataset tab, drag the desired record field or formula field from the Fields list to the Criteria Builder above the Data Grid.

The Filter window appears.

2. In the Filter window, select the filter conditions you want to apply to the field. Up to four options are available for filtering the data, depending on the type of field that is selected. For hierarchical fields, you can set any of the following filters at the child or hierarchy level:
   - **Values:** Existing values or dates from the source data, or custom values
   - **Ranges/Date Ranges:** Range of values or dates available in the source data
   - **Relative Conditions/Relative Dates:** Conditions relative to the existing values in the source data
### Step 3: Filter Your Dataset

#### Conditions/Specific Dates: Specific value or date and an expression

For the purposes of this tutorial, set the following filter conditions:

- Date within X and Y
- Status is Sales Order: Billed

**Note:** If you want to group filter conditions, click New Group. Grouped filters are considered one item in the list of conditions and are evaluated in the order that they appear in the Criteria Builder. For more information, see Grouping Filters.

3. Repeat steps 1–2 for each filter you want to define.

   By default, filters are added using an AND operator. To change the relationship between filters and filter groups, click AND and select OR from the popup window.

4. After you define each filter, the Data Grid is updated with only the data that matches your selected criteria and a criteria summary is displayed above the grid.
Step 3: Filter Your Dataset

**Important:** If you want to convert field values that are in multiple currencies, you must do so from within a workbook or using a custom formula field with the TO_NUMBER function. For more information, see Currency Conversion in Datasets and Workbooks.

5. Click **Save**.
   The Save Dataset As window appears.
6. Enter a name and description for the dataset in the fields provided.
7. Click **Save**.

Continue to **Step 5: Pivot Your Dataset Query Results**.

Step 4: Create a Workbook Based on Your Dataset

If you have not already done so, complete **Step 3: Filter Your Dataset**.

The following steps show you how to create a workbook based on your completed dataset.

**Note:** If you want to create additional workbooks based on the dataset you saved in Step 3, go to the Analytics Home page and click New Workbook on the Workbooks subtab. Then, select the dataset you saved to open a new workbook.

If you want to edit the dataset from within your workbook, click the dataset name in the Dataset Panel in any workbook component.

**To create a workbook based on your dataset:**

1. On the Dataset tab, click **Create New Workbook**.
2. A workbook will open.
   By default, the workbook is named after the root record type on the dataset.
3. Select a workbook component you want to create: either a Table View, Pivot table, or Chart.
   For the purposes of this procedure, select **Pivot**.

Continue to **Step 5: Pivot Your Dataset Query Results**.

Step 5: Pivot Your Dataset Query Results

If you have not already done so, complete **Step 4: Create a Workbook Based on Your Dataset**.

The following steps show you how to pivot your dataset query results to create a pivot table.

**To pivot your source data:**

1. On the Pivot tab, drag the desired fields from the Fields list to the Rows, Columns, or Values tabs in the Layout panel. Alternatively, drag the fields from the Fields list directly to the Pivot Table Viewer.
Step 5: Pivot Your Dataset Query Results

For the purposes of this tutorial, add the Sales Rep field to the pivot table Rows, add two instances of the Date field to the pivot table Columns, and add the Total Amount (Transaction Currency) field to the pivot table Measures.

**Note:** If you add hierarchical fields to the table, you are prompted to select a display type for the field values. Depending on where you add the field and the display type you select, you can also add additional subtotals to the pivot table for each level in the hierarchy. For more information, see Hierarchical Fields.

2. Select the summary type and format options for any date or numerical fields you add to the pivot table.
   1. Click the Field Menu icon next to the field you want to format in the Layout panel.
   2. Select a summary type from the popup window.

3. Optionally, select **Currency...** to view the currency consolidation or conversion options for any fields with values in multiple currencies.

   For more information, see Currency Conversion from the User Interface.
4. Optionally, click **Format...** to customize the numeric values for a field.

For more information about numeric formatting options, see [Customizing Numeric Values](#).

For the purposes of this tutorial, select the following summary types. No numeric formatting is required:
- Date (Year)
- Date (Quarter)
- Total Amount (Transaction Currency) (Sum)

3. Add totals and grand totals to the pivot table.
   1. Click the Totaling icon  
   2. In the Totaling window, select where you want the totals or grand totals for each applicable field to appear. If there are multiple fields that can be totalled in the rows or columns, check the **Set Individually** box to select where the totals for each field will appear on the pivot table.

   ![Totaling Window](image)

   3. Click **OK**.

For the purposes of this tutorial, set the Row totals to appear on the bottom and the Column totals to appear on the right.

4. Click the Refresh icon to generate the pivot table.
5. Optionally, filter the data displayed in the pivot table.

**Note:** Filter conditions created on the Pivot tab only impact the data displayed in the pivot table. No changes are made to the underlying dataset.

a. Click the Field Menu icon next to the field you want to create a filter for. Depending on whether the field has been defined as a Column, Row, or Measure, or if you click the Field menu icon from the Fields List or the Layout Panel, the following options are available:

- Top 10: display only the top 10 rows or columns based on the measures defined for the table.
- Bottom 10: display only the bottom 10 rows or columns based on the measures defined for the table.
- Filter [Field Name] by...: enables you to define a custom measure-based filter for the selected row or column.
- Filter [Field Name]: enables you to define a custom value-based filter based on specific values within the table results.
- Add as Filter...: enables you to define a custom value-based filter based on specific values within the table results.
Step 5: Pivot Your Dataset Query Results

b. The results in the table are updated automatically.
   For more information, see Workbook Component Filters.
   For the purposes of this tutorial, no pivot table filters are required.

Continue to Step 6: Chart Your Dataset Query Results.

Step 6: Chart Your Dataset Query Results

If you have not already done so, complete Step 5: Pivot Your Dataset Query Results.

The following steps show you how to create a chart using your dataset query results.

To chart your source data:

1. Click the add icon and select Chart.
2. On the Chart tab, drag the desired fields from the Fields list to the X-Axis, Series, or Measures tabs in the Layout panel.
   For the purposes of this tutorial, add the Sales Rep field to the X-Axis, add two instances of the Date field to the Series, and add the Total Amount (Transaction Currency) field to the Measures.

   **Note:** If you add any hierarchical fields to the chart, you are prompted to select a display type for the field values. Currently, only the Show Child Level Only and Single-Column Hierarchy options are supported in charts. For more information, see Hierarchical Fields.

3. Select the summary type and format options for any date or numerical fields you add to the chart.
   1. Click the Field Menu icon next to the field you want to format in the Layout panel.
   2. Select a summary type from the popup window.
   3. Optionally, select Currency... to view the currency consolidation or conversion options for any fields with values in multiple currencies.
      For more information, see Currency Conversion from the User Interface.
Step 6: Chart Your Dataset Query Results

4. Optionally, click **Format...** to customize the numeric values for a field.

   For more information about numeric formatting options, see [Customizing Numeric Values](#).

For the purposes of this tutorial, select the following summary types. No numeric formatting is required:

- Date (Year)
- Date (Quarter)
- Total Amount (Transaction Currency) (Sum)

4. In the Layout panel, select the type of chart you want to produce from the popup window.

   ![Chart Creation Panel](image)

   For information about each chart type, see the [Chart Types](#) topic.

   For the purposes of this tutorial, select the **Basic Column Chart**.

5. Optionally, click the Options subtab in the Layout panel to add a title and subtitle to the chart, or to rename each axis.

6. Click the Refresh icon to generate the chart.
7. Click the **Save**.

8. In the Save Workbook As window, enter a name and description for the workbook in the fields provided and click **Save**.

   All selections made in each workbook component is saved.

9. Optionally, share the workbook with other users in your account.
   
   a. Click the **Share**.
   
   b. In the Share Workbook window, select the users or roles you want to share the workbook with.

   c. Click **Share**.

   For more information about sharing workbooks, see [Accessing and Sharing Workbooks and Datasets](#).

10. Optionally, if you want to make edits to the underlying dataset, click the dataset name in the Dataset Panel from within any workbook component.

    For more information, see [Editing a Dataset](#).
Navigating SuiteAnalytics Workbook

The SuiteAnalytics Workbook user interface includes an entry point, a Dataset tab, and three workbook component tabs. Click the following links to learn more about each area of the interface:

- Analytics Home Page
- Dataset Tab
- Table Tab
- Pivot Tab
- Chart Tab

Analytics Home Page

The Analytics Home page appears when you click the Analytics tab in the NetSuite navigation menu. The page includes Workbook and Dataset subtabs, enabling you to open and view any of the workbooks and datasets that you have access to. If you have the Analytics Administrator permission, you can also access predefined workbook and dataset templates and any of the workbooks or datasets created by other users in your account. For more information about the Analytics Administrator permission, see The Analytics Administrator Permission.

The elements of the Analytics Home page are identified in the image below:

**Note:** The options available on this page vary depending on whether you are in the Workbooks or Datasets subtab.

1. **Favorite Workbooks** — Includes any workbooks you have marked as a favorite. Click the icon in the upper right corner to sort the workbooks by name, in ascending or descending order.

2. **Workbooks/Datasets subtabs** — Switch between viewing the workbooks and datasets in your account.

3. **Search** — Search for saved workbooks or datasets using a field name, user name, criteria filter, or any other workbook or dataset element. Searches are only executed across the selected list (4).
For example, to search workbooks that you are the owner of, make sure that My Workbooks is selected in the drop down list of the Workbooks subtab.

4 **Workbook/Dataset lists** — Specify the workbooks or datasets you want to view. You can only view templates and objects created by other users if you have the Analytics Administrator permission:

- All Workbooks/ Datasets- Every workbook or dataset that you have access to in your account.
- My Workbooks/ Datasets- Workbooks or datasets that you have created.
- Shared with me- Workbooks and datasets that other users have created and shared with you.
- Employee Workbooks/ Datasets- Workbooks and datasets created by other users in your account.
- Templates- Predefined workbook and dataset templates. For more information, see Workbook and Dataset Templates.

5 **New Workbook/Dataset** — On the Workbook subtab, click New Workbook to begin authoring a workbook using an existing dataset or a new dataset that you create. On the Dataset subtab, click New Dataset to select a record type and begin authoring a new dataset. For more information, see Custom Workbooks and Datasets.

6 **Workbook/Dataset table** — All workbooks and datasets that you have access to are presented in a table. If you are on the Workbooks subtab, you can also view each workbook as a thumbnail.

- To view a summary of the fields and criteria filters in each dataset, click Details.
- To delete or share a workbook or dataset, click the Action icon and select Share or Delete. For datasets, you also have the option to Create Workbook.

**Dataset Tab**

The Dataset tab appears after you select a root record type for a new dataset, or if you click the dataset name in the Dataset Panel of a workbook. On this tab you combine record types, fields, and criteria filters to create queries. The results of these queries are the basis for all workbooks in your account.

On the Dataset tab, your query results are displayed in a tabular format in the Data Grid on the right. Record types, fields, custom formula fields, and configuration options appear in the Records and Fields lists on the left. Only fields that are included in the Data Grid can be used to build workbook components such as pivot tables and charts.

Above the Data Grid is the Criteria Builder where you create criteria filters to refine the results displayed in the grid. Criteria filters impact not only your dataset query results but also the data presented in workbooks that are based on the dataset.

To build your dataset, drag fields from the Fields list to the Data Grid. To create a filter condition, drag fields from the Fields list to the Criteria Builder. On the grid itself, you can sort and filter the values that are presented. After you create your query, you have multiple options to apply or preview the results in a workbook.

- For information about how to use the Dataset tab to create a query, see Defining a Dataset.
- For information about creating criteria filters to refine your query results, see Dataset Criteria Filters.
- For information about creating a workbook based on your dataset query results, see Creating a Workbook.

The elements of the Dataset tab are identified in the image below:
Note: The appearance of the Dataset tab varies slightly if you access it from within a workbook or on its own. See the following table for more information.

1 Dataset Information — Click to view or edit the dataset name, description, or internal ID.

2 Undo, Redo, and Refresh — Undo or redo your latest edits, and refresh the data in the Data Grid.

3 Search — Search for record types and fields using keywords. The search is performed against the root record type and any record types that are only one join away from the root record type. To find record types that are more than one join away from the root record type, click Show more results.

4 Records list — Lists all the related record types that you have access to, based on the root record type selected for the dataset. Any record type with a number listed beside it indicates how many fields from that record type are in the Data Grid. You can perform the following actions from the Records list:
   - To join a record type to the dataset, add a field from the record type to the Data Grid or a criteria filter. For more information, see Guidelines for Joining Record Types in SuiteAnalytics Workbook.
   - To create and view custom formula fields, click Formulas. For more information about formula fields, see Formula Fields.
   - To view additional information about a record type, point to the record type name and click the Information icon.
   - To view the fields of a record type and update the Fields list, click the record type name.
   - To view additional related record types, click the Arrow icon next to any record type listed.
   - To limit the number of record types displayed in the list and view only those with fields that have been added to the Data Grid, click the toggle icon.

5 Fields list — The Fields list displays all the fields that you have access to for the record type you currently have selected in the Records list. If you click Formulas in the Records list, the Fields list displays any custom formula fields created for the dataset. At the top of the Fields list, any fields from the selected record type that have been added to the Data Grid are highlighted and listed in alphabetical order. Fields that are used in a criteria filter are highlighted but are not included at the top of the list. Next to each field, the following icons are used to provide additional information:
   - This icon denotes a custom field. For more information about custom fields, see the help topic Custom Fields.
   - This icon denotes a polymorphic field. Polymorphic fields contain values that exist on multiple record types. For example, the Customer field on the Sales Order record, which contains the same data as the Name/ID field in the Customer record.
This icon denotes a hierarchical field. Hierarchical fields have a defined parent-child relationship in NetSuite. These fields have multiple display options and can be used to create criteria filters based on the parent or child values in each record. For more information, see Hierarchical Fields.

These icons denote the type of values contained within the field. Fields can include either text, numerical, date, or boolean data.

Using the Fields list, you can perform the following actions:

- To collapse the Records and Fields lists and expand the Data Grid, click the double arrows.
- To view additional information about a field, point to the field and click the icon.
- To add a field to your dataset, double-click or drag the field from the Fields list to the Data Grid.
- To create a criteria filter, drag a field from the Fields list to the Criteria Builder above the Data Grid.

**Important:** When you add fields from related record types to the Data Grid or use fields from related record types to create criteria filters, the record type is joined to the dataset. Depending on the relationship between the related record type and the root record type of the dataset, certain joins can have unexpected results such as data duplication. If joining record types is a new concept for you, see Guidelines for Joining Record Types in SuiteAnalytics Workbook for more information.

**Criteria Builder** — The Criteria Builder displays the criteria filters you have created for the dataset in the order that they are applied to the Data Grid, as well as the operators that connect them. For example, the filters “Cleared is true AND Status any of Open, Paid In Full” means the values of the Cleared field are evaluated first, followed by the values of the Status field.

Criteria filters refine your dataset query results and are automatically propagated to any workbooks that are based on the dataset. For example, if you create a criteria filter to remove all invoices from your dataset, invoice data is also removed from any pivot tables or charts in the connected workbooks.

You can add filters to the Criteria Builder by dragging fields from the Fields list to the builder, then setting the specific filter conditions in the Filter window. For more information, see Dataset Criteria Filters. Within the Criteria Builder, you can perform the following actions:

- To edit a filter, click the name of the filter.
- To delete a filter, point to the filter and click the Delete icon.
- To change the order of the filters, point to the filter you want to move and click the arrows.
- To create a group of filters, click New Group. For more information about grouping filters, see Grouping Filters.
- To change the operator between individual or grouped filters, click AND or OR and select a different operator from the popup window.
- To see where a field is located in the Fields list, point to the associated filter, click the Menu icon and select Show Location in Field List.
- To reset your criteria filters, click Reset Criteria.
- To hide the Criteria Builder and expand the Data Grid, click the arrow next to the criteria summary.

**Data Grid** — Your dataset query results are displayed in the Data Grid. By default, the grid displays preselected fields based on the root record type selected for the dataset. You can add fields to the grid by double-clicking them on the Fields list, or dragging them to the grid. The number of rows displayed on each page of the grid is based on the Number of Rows in List Segments setting in your NetSuite user preferences, to a maximum of 500 rows per page. Only fields that are included on the grid can be used in workbook components that are based on the dataset. On the grid itself, you can perform the following actions:

- To sort the values displayed in the grid, click the Field Menu icon in the column header and select Sort Ascending, Sort Descending, or Edit Sort... to apply advanced sorting to the grid.
  For more information, see Advanced Sorting Options.
- To filter the values that are displayed in the grid, click the Field Menu icon next to the field you want to apply the filter to and select Filter... from the dropdown list. The filter window appears with up to four types...
of filters you can set depending on the values of the field. For more information about the Filter window, see Filter Types.

**Note:** Filter conditions and sorting options set up on the Data Grid only impact the values that are displayed in the grid itself and do not affect field values any connected workbooks. If you want to change your dataset query results and any associated workbooks, you must set up criteria filters using the Criteria Builder above the Data Grid. For more information, see Dataset Criteria Filters.

- If there is a hierarchical column in the grid, click the Field Menu icon next to it and select Show Hierarchy to display the values of the field as a full hierarchy. For more information, see Hierarchical Fields.
- To move a column, drag the column header to the desired location. Alternatively, click the Field Menu icon next to the column you want to move and select a move option from the list.
- To remove a column from the grid, click the Field Menu icon next to the column you want to delete and select Remove Column.
- To rename a column, click the Field Menu icon next to the field column and select Rename...
- To change the width of a column, drag the right boundary of the column header until it is as wide as you want.
- To view the records associated to any links displayed in the grid, click the link. The corresponding NetSuite record opens in a new browser tab.
- To view different pages, click the arrows at the bottom of the grid.
- To view a summary of the values for any column in the grid, click the column header. The summary is displayed at the bottom of the grid.
- To see where a field is located in the Records and Fields lists, click the Field Menu icon and select Show Location in Field List.

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8 **Create New Workbook/ Apply to Workbook** — Click Create New Workbook to create a workbook based on the current dataset. If you accessed the dataset from within an existing workbook, click Apply to Workbook to apply your dataset changes to the workbook components before saving them. This feature enables you to preview the impact that your dataset changes will have before saving the connected workbook.

9 **Export** — Export the data presented in the Data Grid to a CSV file. To use this feature, you must have the Export Lists permission.

10 **Share** — Share your dataset with individual users or roles. For more information about sharing, see Accessing and Sharing Workbooks and Datasets

11 **Save** — Save your dataset, including any joined record types, custom formula fields, or criteria filters. If you do not own the dataset you are working in, you must save a copy of the dataset using the Save As function.

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**Table Tab**

The Table tab is where you can explore your dataset query results without altering the source data of any associated workbooks and without having to set a layout. Any fields that are included in the underlying dataset appear in the Dataset Panel on the left. To build your table, drag fields from the Dataset Panel to the Viewer.

You can create multiple table views in a single workbook using the dataset query results.

For information about how to explore your data in a table view, see Workbook Table Views.

The elements of the Table View tab are identified in the image below:
1 **Workbook Information** — Click to view or edit the workbook name, description, or internal ID. This information is available from anywhere within the workbook.

2 **Undo, Redo, and Refresh** — Undo or redo your latest edits, and refresh the data in the workbook component you are currently working in. Keep in mind that the undo and redo options apply to any action within the workbook and not just the current tab you are working in. For more information about data refreshing, see Data Refresh in SuiteAnalytics Workbook.

3 **Add** — Click the add icon to add a new workbook component.

4 **Dataset Panel** — The leftmost area of any workbook component, the Dataset Panel contains all of the fields included in the underlying dataset that is connected to the workbook. To build a workbook component, drag fields from the Dataset Panel to the Layout Panel or the Table Viewer. You can also access and edit the underlying dataset using the dataset link at the top of the panel.

   - To view additional information about a field, point to the field and click the icon.
   - To collapse the Dataset Panel and expand the Viewer, click the double arrows.

5 **Export** — Click this icon to export a CSV file of the table.

6 **Table Viewer** — The Table Viewer displays your table automatically after you add the fields. In the Table Viewer itself, you can customize the appearance of the columns, and sort and filter your data.

   - To customize the appearance of the your table, you can perform the following actions:
     - To rename a field, click the Field Menu icon and select Rename...

   **Note:** The change applies to the column name of the selected table view only.

   - To change the order of the columns, drag them to the desired position or click the Field Menu icon and select one of the move options.
   - To remove unwanted columns, click the Field Menu icon in the column header that you want to remove, and then select Remove Column.
To filter and sort your data, click the Field Menu icon next to the field you want and then perform the following actions as needed:

- To apply the default sorting options to the table, select Ascending or Descending.
- To apply advanced sorting options, select Add Sort... For more information, see Advanced Sorting Options.
- To filter your data, select Filter... and then define the filtering conditions. For more information, see Value-based Filters.

Navigation Panel — Displays the number of rows shown in your table view and lets you navigate through the different pages.

To view different pages, click the arrows at the bottom of the viewer.

Last Updated — Displays when the data in the current workbook component was last updated. To retrieve the latest results, click the Refresh icon.

For more information, see Data Refresh in SuiteAnalytics Workbook.

Workbook Menu — This menu is available from within all workbook components.

- Click Share to share the workbook and the underlying dataset with other users in your account.
  For more information, see Accessing and Sharing Workbooks and Datasets
- Click Save to save your workbook, including all selections made on the Table, Pivot, and Chart tabs. You can only save your workbook if the underlying dataset has also been saved. If you do not own the underlying dataset, save a copy using a different name.

Pivot Tab

The Pivot tab is where you pivot your dataset query results. Any fields that are included in the underlying dataset appear in the Dataset Panel on the left. To build your pivot table, drag fields from the Dataset Panel to the Layout panel, then click the Refresh icon. The generated pivot table is displayed in the Pivot Table Viewer on the right.

You can create multiple pivot tables using the same dataset query results.

For information about how to use the Pivot tab to pivot your dataset query results, see Creating a Workbook.

The elements of the Pivot tab are identified in the image below:
1 **Workbook Information** — Click to view or edit the workbook name, description, or internal ID. This information is available from anywhere within the workbook.

2 **Undo, Redo, and Refresh** — Undo or redo your latest edits, and refresh the data in the workbook component you are currently working in. Keep in mind that the undo and redo options apply to any action within the workbook and not just the current tab you are working in. For more information about data refreshing, see Data Refresh in SuiteAnalytics Workbook.

3 **Add** — Click the add icon to add a new workbook component.

4 **Dataset Panel** — The leftmost area of any workbook component, the Dataset Panel contains all of the fields included in the underlying dataset that is connected to the workbook. To build a workbook component, drag fields from the Dataset Panel to the Layout Panel or the Viewer. You can also access and edit the underlying dataset using the dataset link at the top of the panel.
   - To view additional information about a field, point to the field and click the icon.
   - To create a value-based filter, click the Field Menu icon and select Filter [Field Name] from the list. You can also create measure-based filters from the Layout panel or the Viewer. For more information, see Workbook Component Filters.
   - To collapse the Dataset Panel and expand the Viewer, click the double arrows.

5 **Layout panel** — The Layout panel displays the layout for your pivot table. For date and numeric fields, the summary type is also displayed next to the field. Every time you make changes to your pivot table layout, you must click the Refresh icon for the changes to take effect.
   - To add fields to the layout, drag them from the Dataset Panel to the desired section of the pivot table. You can define multiple fields for the same table component. For more information, see Grouping Pivot Table Fields.
   - If you are in a NetSuite account with multiple currencies and your workbook contains fields with values in multiple currencies, click the Field Menu icon next to an applicable field and select Currency... to apply currency consolidation or conversion. You must convert values that are in multiple currencies to perform...
accurate data aggregations and other types of numeric manipulation. For more information, see Currency Conversion in Datasets and Workbooks.

- To create a value-based filter for the table, click the Field Menu icon \( 	ext{Filter [Field name]} \) and select Filter [Field name]... You also create measure-based filters for the table if you select the Top 10 [Field name], Bottom 10 [Field name], or Filter [Field name] by options. For more information, see Workbook Component Filters.
- To rename a field, click the Field Menu icon \( 	ext{Rename...} \).
- To format the numeric values that are displayed in the table, click the Field Menu icon \( 	ext{Format...} \). For more information, see Customizing Numeric Values.
- To change the summary type for dates and numeric values displayed in the table, click the Field Menu icon \( 	ext{next to an applicable field and select the preferred summary type.} \)
- To collapse the Layout panel and expand the Pivot Table Viewer, click the double arrows \( \text{ } \leq \text{ } \).
- To add a grand total for a field, click the Field Menu icon \( 	ext{Show Grand Total} \).

6 Pivot Table menu — This menu contains additional formatting options for the pivot table. The following options are available:

- Totaling icon \( \sum \) — Add totals and grand totals to your pivot table for any applicable fields. Totals for columns can be added to the right or left of the table. Totals for rows can be added to the top or bottom.
- Highlight Rows icon \( \text{ } \) — When enabled, rows are highlighted when you point to them.
- Highlight Columns icon \( \text{ } \) — When enabled, columns are highlighted when you point to them.
- Row Lock icon \( \text{ } \) — When enabled, the top row is locked so that it remains visible while scrolling through the table.
- Column Lock icon \( \text{ } \) — When enabled, the first column is locked so that it remains visible while scrolling through the table.
- Compact Mode icon \( \text{ } \) — If you define multiple fields as rows or add a multi-column hierarchy to your table, turn on compact mode to condense the fields into a single column.

7 Pivot Table filter summary — Displays a summary of the filter conditions applied to the pivot table. Filter conditions created on the Pivot tab only affect the data displayed in the pivot table and do not change workbook source data.

8 Pivot Table Viewer — The Pivot Table Viewer displays your generated pivot table after updating the layout and clicking the Refresh icon. As an alternative to dragging fields to the Layout panel to construct your table, you can add them directly to the Pivot Table Viewer.

In the Pivot Table Viewer itself, you can perform the following actions:

- To resize a column or row, drag one of the column or row boundaries until it is the size you want.
- To change the width of a column based on its values, double-click the column header.
- To add a total for a column or row, click the Field Menu icon \( 	ext{Show Grand Total} \).
- To create a measure-based filter for the table, click the Field Menu icon \( 	ext{Top 10 [Field name], Bottom 10 [Field name], or Filter [Field name]} \).
- To create a value-based filter for the table, click the Field Menu icon \( 	ext{Filter [Field Name]}... \). For more information, see Workbook Component Filters.
- To rename a field, click the Field Menu icon \( 	ext{Rename...} \) from the list.
- To apply sorting to the table, click the Field Menu icon \( 	ext{Sort A to Z, Sort Z to A, or Sort [Field name]}... \).

9 Last updated — Displays when the data in the table was last updated. Keep in mind that this does not necessarily correspond to the time of the last refresh, since the table might have been refreshed using cached data. To retrieve the latest results, click the Menu icon \( 	ext{next to the date, select Clear cache, then refresh the table.} \)
For more information, see Data Refresh in SuiteAnalytics Workbook.

10 Workbook Menu — This menu is available from within all workbook components.

- Click Share to share the workbook and the underlying dataset with other users in your account.
  
  For more information, see Accessing and Sharing Workbooks and Datasets
  
- Click Save to save your workbook, including all selections made on the Table, Pivot, and Chart tabs. You can only save your workbook if the underlying dataset has also been saved. If you do not own the underlying dataset, save a copy using a different name.

Chart Tab

The Chart tab is where you create visualizations of your dataset query results. Any fields that are included in the underlying dataset appear in the Dataset Panel on the left. To build your chart, drag fields from the Dataset Panel to the Layout panel, then click the Refresh icon. The generated chart is displayed in the viewer on the right.

You can create multiple charts using the same dataset query results.

For information about how to use the Chart tab to create a chart with your dataset query results, see Workbook Charts.

The elements of the Chart tab are identified in the image below:

1 Workbook Information — Click to view or edit the workbook name, description, or internal ID. This information is available from anywhere within the workbook.

2 Undo, Redo, and Refresh — Undo or redo your latest edits, and refresh the data in the workbook component you are currently working in. Keep in mind that the undo and redo options apply to any action within the workbook and not just the current tab you are working in. For more information about data refreshing, see Data Refresh in SuiteAnalytics Workbook.
Add — Click the add icon to add a new workbook component.

Dataset Panel — The leftmost area of any workbook component, the Dataset Panel contains all of the fields included in the underlying dataset that is connected to the workbook. To build a workbook component, drag fields from the Dataset Panel to the Layout panel or the Viewer. You can also access and edit the underlying dataset using the dataset link at the top of the panel.
  - To view additional information about a field, point to the field and click the icon.
  - To create a value-based filter, click the Field Menu icon \(\text{Filter [Field Name]}\) from the list. You can also create measure-based filters from the Layout panel or the Viewer. For more information, see Workbook Component Filters.
  - To collapse the Dataset Panel and expand the Viewer, click the double arrows ❯

Layout panel — The Layout panel displays the layout for your chart. For date and numeric fields, the summary type is also displayed next to the field. Every time you make changes to your chart layout, you must click the Refresh icon in the Workbook menu for the changes to take effect.
  - To select a chart type, click the chart type link and select an option from the menu. The following options are available:
    - Column Chart
    - Bar Chart
    - Area Chart
    - Line Chart
    - Stacked Column Chart
    - Stacked Bar Chart
    - Stacked Area Chart
    - For more information, see Chart Types.
  - To display the measures in the chart as a percentage of the totals for each record, click Show percentage.
  - To add fields to the layout, drag them from the Dataset Panel to the desired section of the chart. As with pivot tables, you can also group multiple fields in the same chart component to change the granularity of information displayed in the chart. For more information, see Grouping Pivot Table Fields.
  - If you are in a NetSuite account with multiple currencies and your workbook contains fields with values in multiple currencies, click the Field Menu icon next to an applicable field and select Currency... to apply currency consolidation or conversion. You must convert values that are in multiple currencies to perform accurate data aggregations and other types of numeric manipulation. For more information, see Currency Conversion in Datasets and Workbooks.
  - To create a value-based filter for the chart, click the Field Menu icon \(\text{Filter [Field name]}\) and select Filter [Field name]... You can also create measure-based filters for the chart if you select the Top 10 [Field name], Bottom 10 [Field name], or Filter [Field name] by options. For more information, see Workbook Component Filters.
  - To rename a field, click the Field Menu icon and select Rename...
  - To format the numeric values that are displayed in the chart, click the Field Menu icon and select Format... For more information, see Customizing Numeric Values.
  - To change the summary type for dates and numeric values displayed in the table, click the Field Menu icon next to an applicable field and select the preferred summary type.
  - To change the summary type of a field, click the Field Menu icon and select the preferred summary type.
  - To create a title and subtitle for the chart or to add labels for the X and Y axes, click the Properties subtab and complete the appropriate fields.
  - To collapse the Layout panel and expand the Chart Viewer, click the double arrows ❯

Chart menu — This menu contains additional options for the chart displayed in the viewer. The following options are available:
- **Print** — Print the chart currently displayed in the viewer.
- **Export** — Export an SVG file of the chart currently displayed in the viewer.

7 **Chart filter summary** — Displays a summary of the filter conditions applied to the chart. Filter conditions created on the Chart tab only affect the data displayed in the chart and do not change workbook source data.

8 **Chart Viewer** — The Chart Viewer displays your generated chart after updating the layout and clicking the Refresh icon.

   In the Chart Viewer itself, you can perform the following actions:
   - To view the exact amounts for a specific measure, point to the desired bar or data point in the chart.
   - To hide specific data points in the chart, click the corresponding color in the legend below the chart.

9 **Last updated** — Displays when the data in the chart was last updated. Keep in mind that this does not necessarily correspond to the time of the last refresh, since the table might have been refreshed using cached data. To retrieve the latest results, click the Menu icon next to the date, select **Clear cache**, then refresh the table.

   For more information, see Data Refresh in SuiteAnalytics Workbook.

10 **Workbook Menu** — This menu is available from within all workbook components.
   
   - Click **Share** to share the workbook and the underlying dataset with other users in your account.
     
     For more information, see Accessing and Sharing Workbooks and Datasets
   
   - Click **Save** to save your workbook, including all selections made on the Table, Pivot, and Chart tabs. You can only save your workbook if the underlying dataset has also been saved. If you do not own the underlying dataset, save a copy using a different name.