appviewX

Reporting User Guide

Version: 2021.1.0

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External Reference Links

This product includes software developed by the CentOS Project (www.centos.org).

This product includes software developed by Red Hat, Inc. (www.redhat.com).

This product includes software developed by VMware, Inc. (www.vmware.com).

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Contents

Preface

Revision History

Revision	Description	Date
1.0	Initial release of document for Release 2021.1.0	September 2021

About this Guide

This guide describes AppViewX's Build Your Own Report (BYOR) tool and provides step by step instructions on creating customized reports using preexisting hooks and query builder, sharing and scheduling reports, performing actions on reports (pin, share, clone, delete), associating workflows to reports and more.

Audience

This guide aims to allow users to self-serve, build reports around certificate lifecycle management and application delivery and security automation. It is intended for the following audience:

- Chief Information Security Officer (CISO)
- PKI Security
- Security Operations (SecOps)
- IT Director
- Network and Automation Engineers
- Application Delivery and Traffic Management
- Director of Automation and Security Services
- Network Operations (NetOps)
- Network Engineering and Service Delivery

Text Conventions

The following text conventions are used in this document:

Convention	Description
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in the text or the glossary.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.

Convention	Description
`codeblock`	Indicates commands with a paragraph, URLs, codes in examples, text that appears on the screen, or text that you enter.

Chapter 1: Module Overview

AppViewX's Build Your Own Report (BYOR) report builder is a low-code reporting and product usage analytics tool that empowers non-technical users to build best-in-class reports and eliminates dependence on development teams. AppViewX's Reporting platform showcases interactive dashboards that display compelling report data, thereby assisting in smarter decision making.

With AppViewX's BYOR you can:

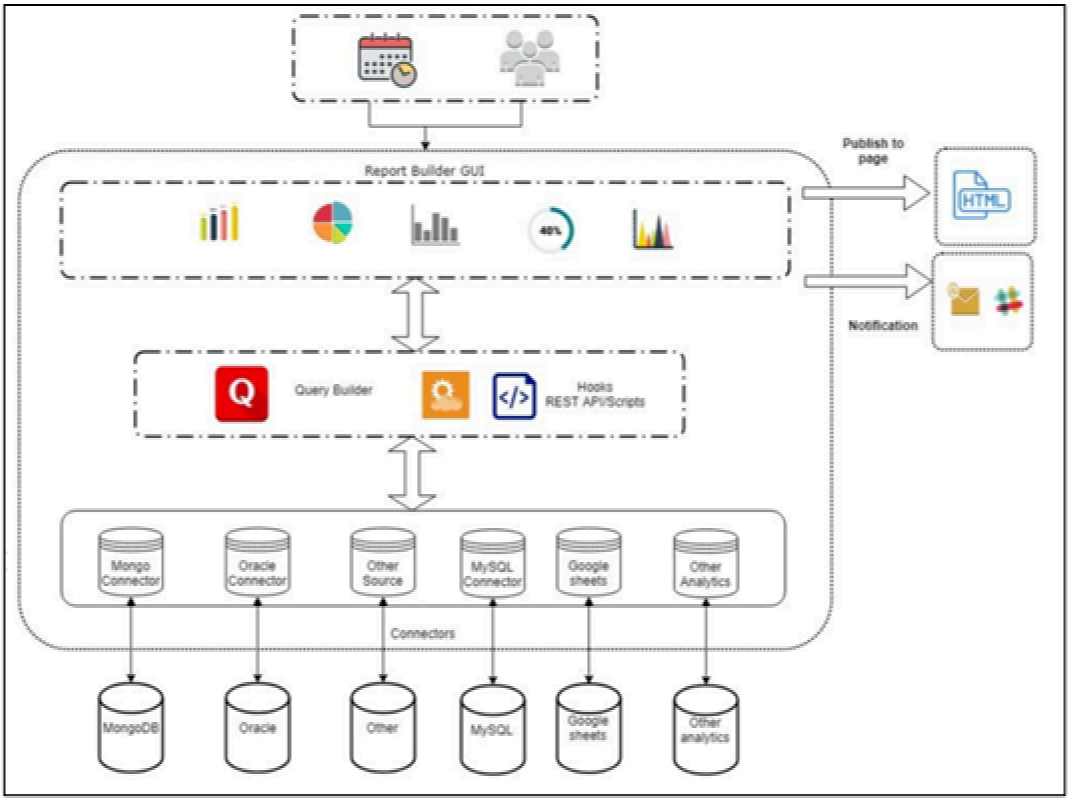
- **Explore pre-shipped reports**: Application Delivery, Security, Certificate, and Automation
- **Build your own reports (BYOR)**: Build customizable reports using Low Code report builder/
- **Access multiple data sources**: Query explorer, REST API, Script
- **WYSIWYG**: What you see is what you get, preview reports as you build them.
- **Configure chart drilldowns**: Add detailed levels of data to your reports.
- **Visualize your data**: Pin reports to a self-service dashboard for quick access and insights.
- **Schedule reports**: Schedule and share reports as email attachments (PDF, xls, csv).
- **Build actionable reports**: Integrate with visual workflow for actionable reports and auto remediation.
- **Connect to your data**: Study data quickly and easily through product & feature usage report metrics.
- **Reduce turnaround time**: Increased efficiency with automation of the reporting process

Chapter 2: Prerequisites

Web Browser Requirement

Browsers	Version
Internet Explorer	v11.0.9600.18817 or later
Firefox	v74.0.1 (64-bit) or later
Google Chrome	v85.0.4183.83 (64-bit) or later

Chapter 3: Reference Architecture



The plug-in as part of the above architecture is **avx-commons**.

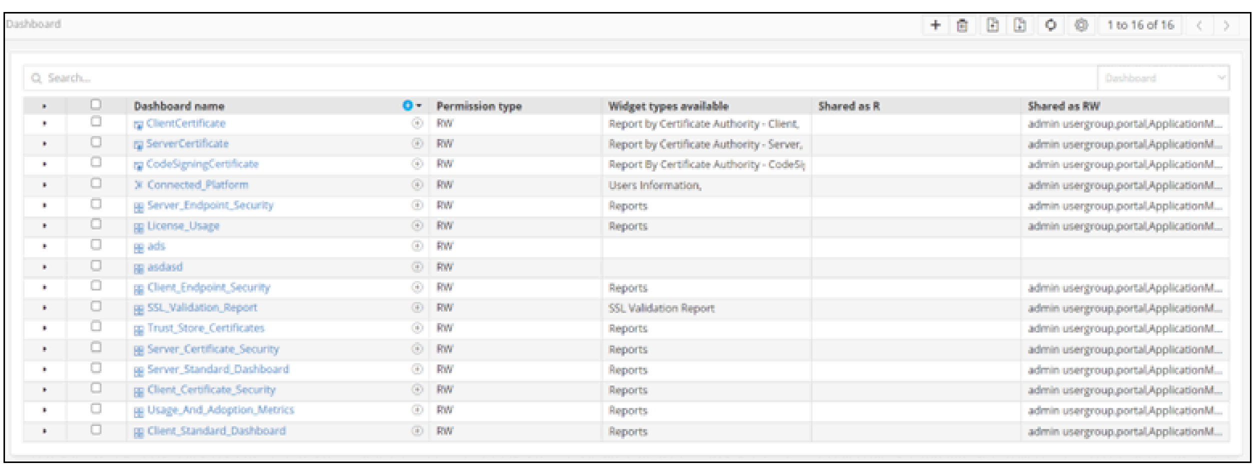
Chapter 4: Getting Started with Dashboard

Overview

The Dashboard enables you to manage, monitor, and interpret all configured applications and their objects. Widgets on the dashboard display reports that provide consolidated statistics of all accessible certificates, devices, and objects by extracting data from the respective inventories and recording the key value indicators.

- **Default dashboards** - Display predefined widgets to provide AppViewX metric usage reports and up-to-the-minute reports. It contains the status and statistics of devices and certificates managed within the AppViewX platform.

- **Custom dashboards** - Display widgets created by the user. Widgets and dashboards can be added, removed, or modified as necessary and can also be shared among multiple roles.



Dashboard   1 to 16 of 16

Search...   Dashboard

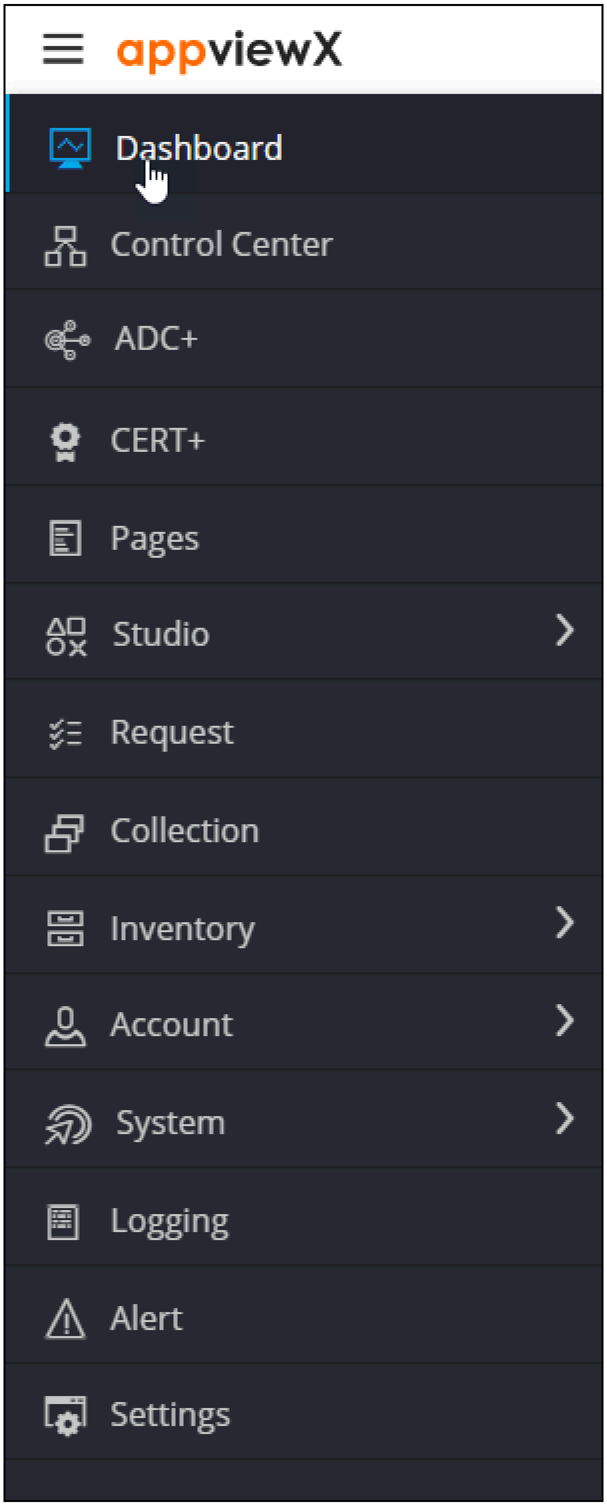
Dashboard name	Permission type	Widget types available	Shared as R	Shared as RW
ClientCertificate	RW	Report by Certificate Authority - Client,		admin usergroup.portal.ApplicationM...
ServerCertificate	RW	Report by Certificate Authority - Server,		admin usergroup.portal.ApplicationM...
CodeSigningCertificate	RW	Report By Certificate Authority - CodeSi		admin usergroup.portal.ApplicationM...
Connected_Platform	RW	Users Information,		admin usergroup.portal.ApplicationM...
Server_Endpoint_Security	RW	Reports		admin usergroup.portal.ApplicationM...
License_Usage	RW	Reports		admin usergroup.portal.ApplicationM...
ads	RW			
asdasd	RW			
Client_Endpoint_Security	RW	Reports		admin usergroup.portal.ApplicationM...
SSL_Validation_Report	RW	SSL Validation Report		admin usergroup.portal.ApplicationM...
Trust_Store_Certificates	RW	Reports		admin usergroup.portal.ApplicationM...
Server_Certificate_Security	RW	Reports		admin usergroup.portal.ApplicationM...
Server_Standard_Dashboard	RW	Reports		admin usergroup.portal.ApplicationM...
Client_Certificate_Security	RW	Reports		admin usergroup.portal.ApplicationM...
Usage_And_Adoption_Metrics	RW	Reports		admin usergroup.portal.ApplicationM...
Client_Standard_Dashboard	RW	Reports		admin usergroup.portal.ApplicationM...

The following table describes the various options on the **Dashboard** inventory page:

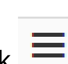
Options	Description
Search bar	Searches for the given keyword(s) in the field and shows a list of results that match the searched keyword(s).
	Allows users to create a new dashboard.
	Allows users to delete a dashboard from the list.
	Allows users to export a dashboard from the list.
	Allows users to import a file to create a dashboard.
	Refreshes the page by clicking on the refresh button.
	Allows users to auto-sort the dashboards alphabetically.

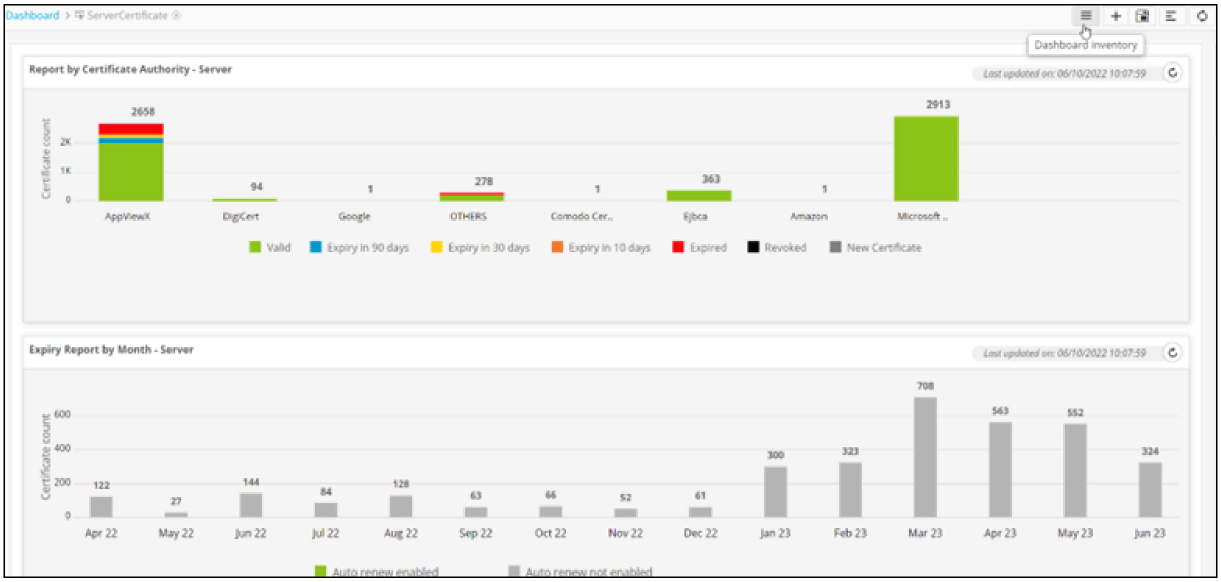
Getting Started with the Prebuilt Dashboard for Reports

1. From the top left corner of the screen, click .
2. From the menu displayed, select **Dashboard**.

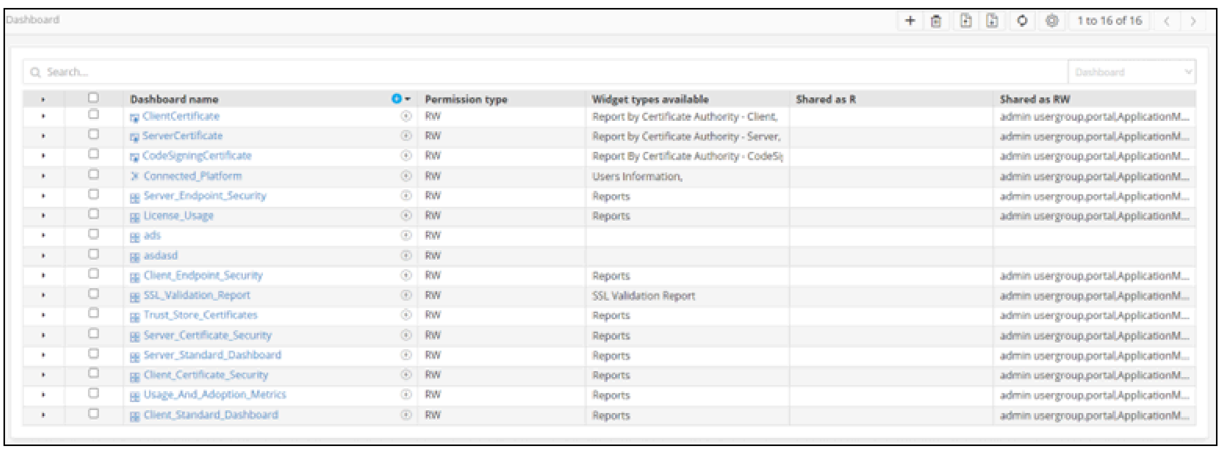


The last opened or pinned **Dashboard** is displayed.

3. To view the **Dashboard** inventory, form the top right corner of the screen, click .

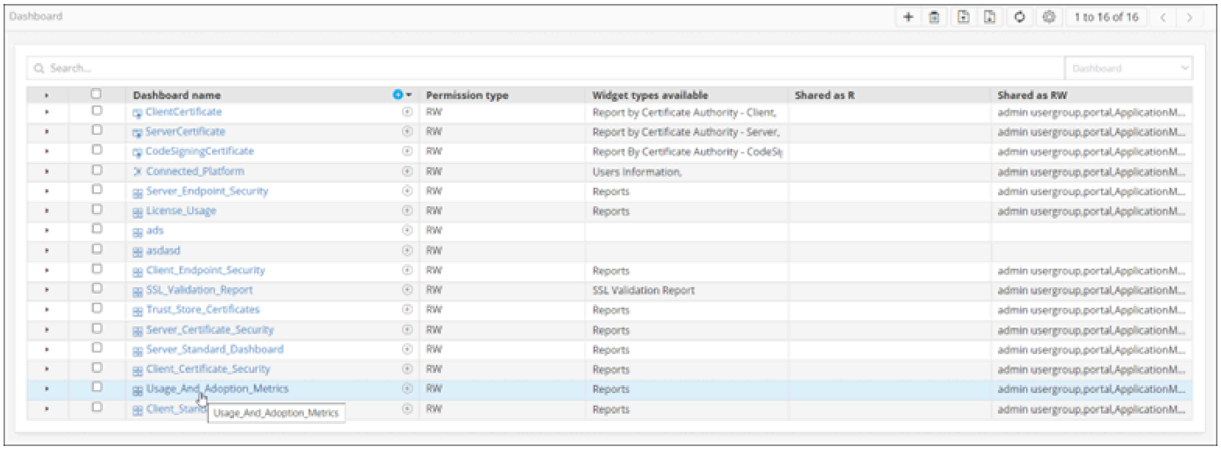


The **Dashboard** inventory page is displayed.



Dashboard name	Permission type	Widget types available	Shared as R	Shared as RW
ClientCertificate	RW	Report by Certificate Authority - Client,		admin usergroup,portal,ApplicationM...
ServerCertificate	RW	Report by Certificate Authority - Server,		admin usergroup,portal,ApplicationM...
CodeSigningCertificate	RW	Report By Certificate Authority - CodeSi		admin usergroup,portal,ApplicationM...
Connected_Platform	RW	Users Information,		admin usergroup,portal,ApplicationM...
Server_Endpoint_Security	RW	Reports		admin usergroup,portal,ApplicationM...
License_Usage	RW	Reports		admin usergroup,portal,ApplicationM...
ads	RW			
asdasd	RW			
Client_Endpoint_Security	RW	Reports		admin usergroup,portal,ApplicationM...
SSL_Validation_Report	RW	SSL Validation Report		admin usergroup,portal,ApplicationM...
Trust_Store_Certificates	RW	Reports		admin usergroup,portal,ApplicationM...
Server_Certificate_Security	RW	Reports		admin usergroup,portal,ApplicationM...
Server_Standard_Dashboard	RW	Reports		admin usergroup,portal,ApplicationM...
Client_Certificate_Security	RW	Reports		admin usergroup,portal,ApplicationM...
Usage_And_Adoption_Metrics	RW	Reports		admin usergroup,portal,ApplicationM...
Client_Standard_Dashboard	RW	Reports		admin usergroup,portal,ApplicationM...

4. To access the prebuilt dashboard for Reports, under **Dashboard name**, click **Usage_And_Adoption_Metrics**.

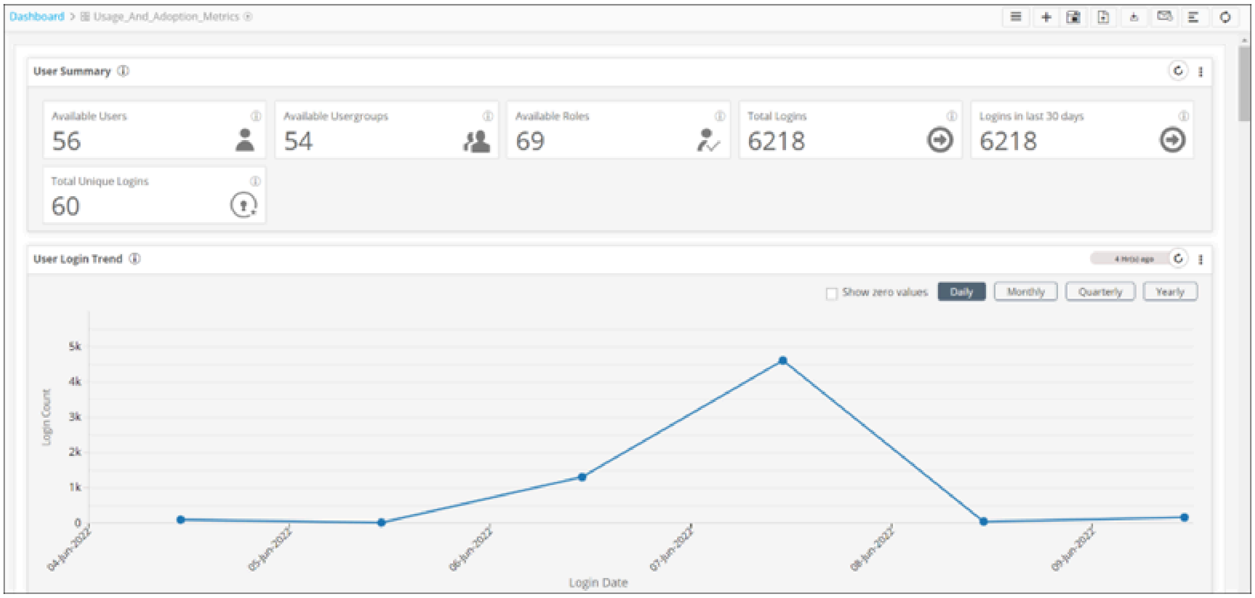


- Usage and Adoption Metrics Dashboard

Usage and Adoption Metrics Dashboard

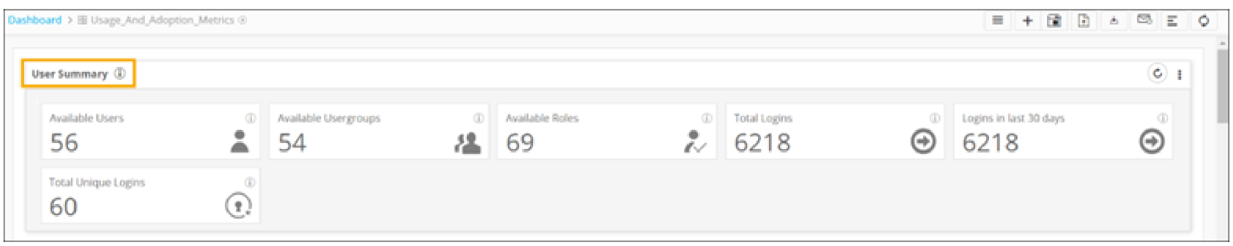
Product Usage and Metrics is a useful tool for understanding the interactions between the customer and your product/service. It helps capture day to day information on how the product or service is being used by customers. Moreover, it can help capture the duration, frequency, feature usage, activity logs. Analyzing this data empowers you to provide an improved customer experience.

The **Usage and Adoption Metrics** dashboard displays predefined widgets to provide the AppViewX metric usage reports and up-to-the-minute reports. It contains the status and statistics of devices and certificates managed within the AppViewX platform. It displays reports related to user summary, logins, user activity, asset inventory and more.



Following are the various reports and metrics that are available on this dashboard:

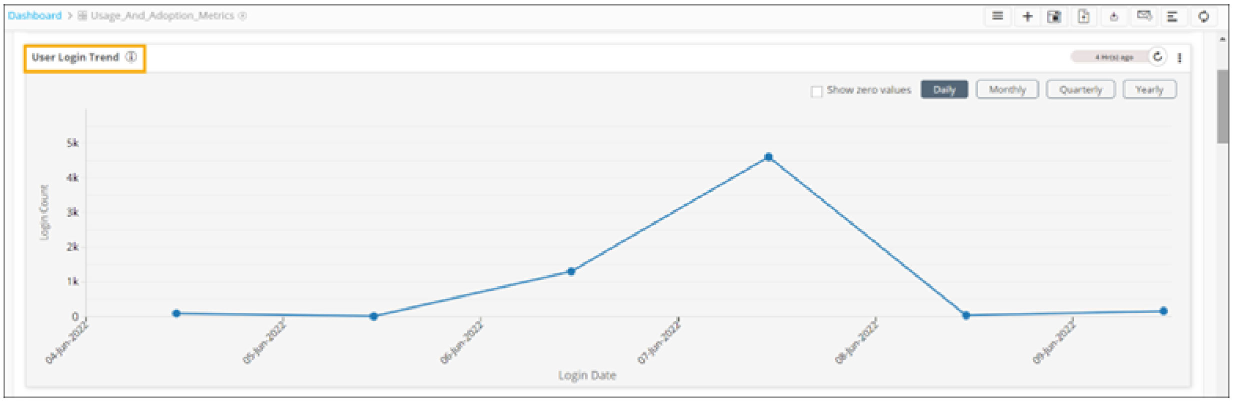
- The **User Summary** report gives a snapshot of user login, summary, and trends.



The following table describes the metrics displayed in this widget:

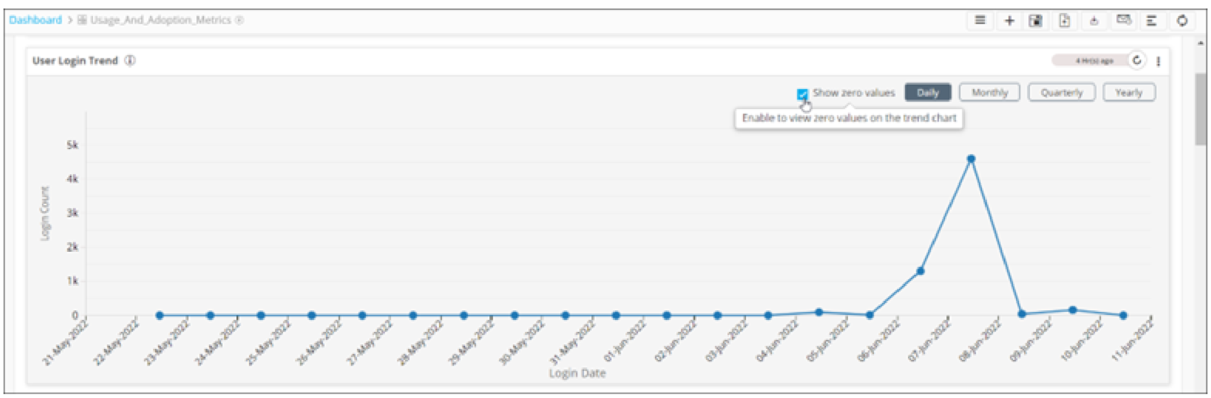
Metric	Description
Available Users	This metric displays available users in AppViewX.
Available User Groups	This metric displays available user groups in AppViewX.
Available Roles	This metric displays the available roles in AppViewX.
Total Logins	This metric displays the total number of logins in AppViewX.
Logins in last 30 days	This metric displays the number of logins in the last 30 days.
Total Unique Logins	This metric displays the total unique logins from different IDs.

- The **User Login Trend** report displays the date-wise count of logins in AppViewX.

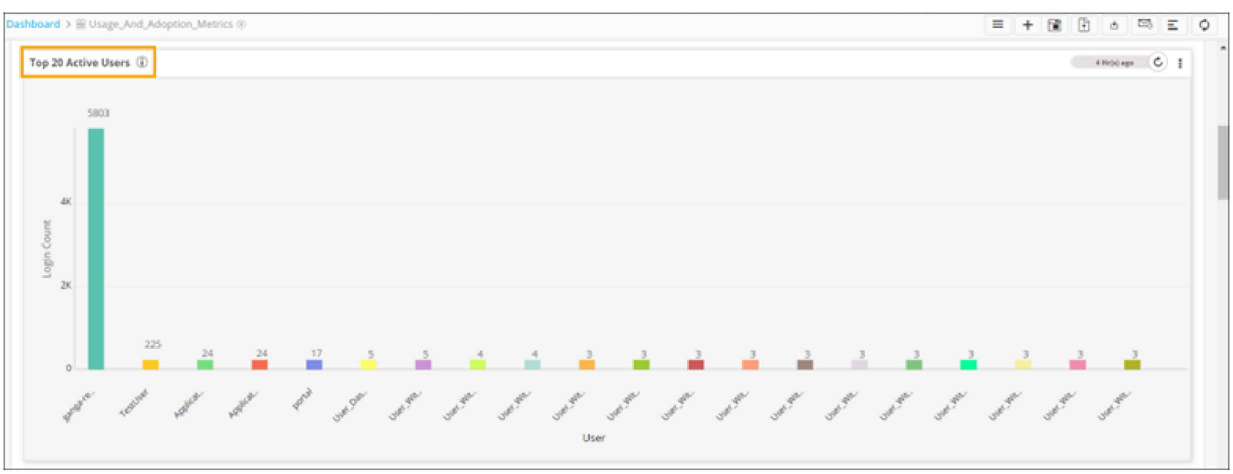


Note: The default selection is set to **Daily**.

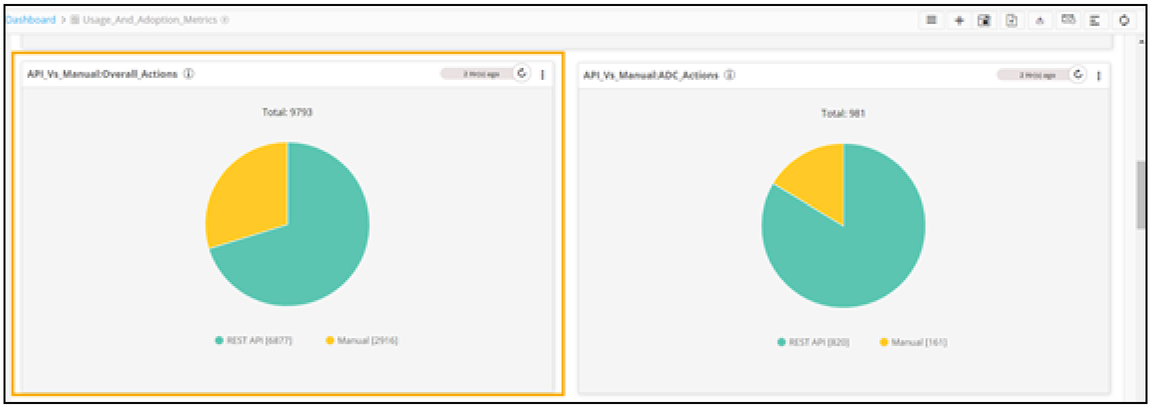
- To display dates on which there were zero logins into AppviewX, select the **Show zero values** checkbox.



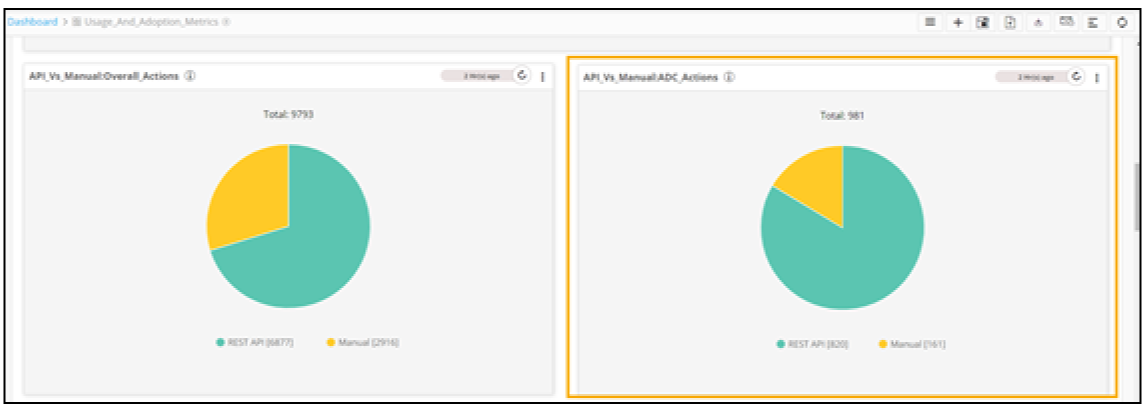
- Select **Monthly**, **Quarterly**, and **Yearly** options to get data based on the respective timelines.
- The **Top 20 Active Users** chart displays the top 20 active users by login count.



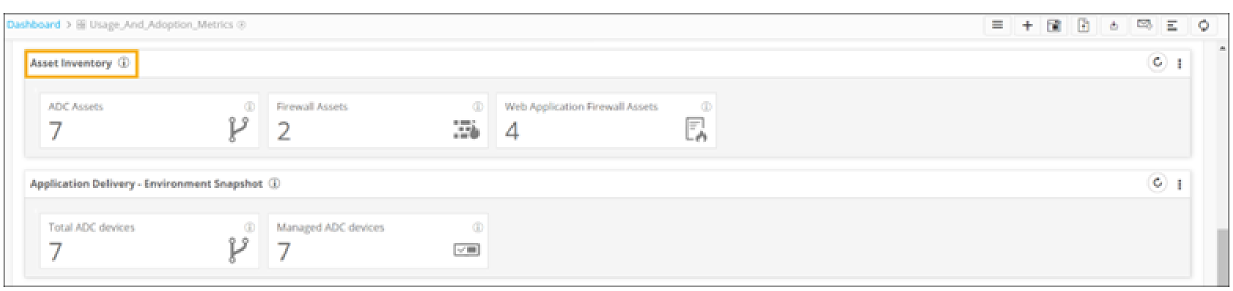
- The **API_vs_Manual:Overall_Actions** pie chart shows the list of actions triggered either manually or via API.



- The **API_vs_Manual:ADC_Actions** pie chart shows the list of ADC actions triggered either manually or via API.



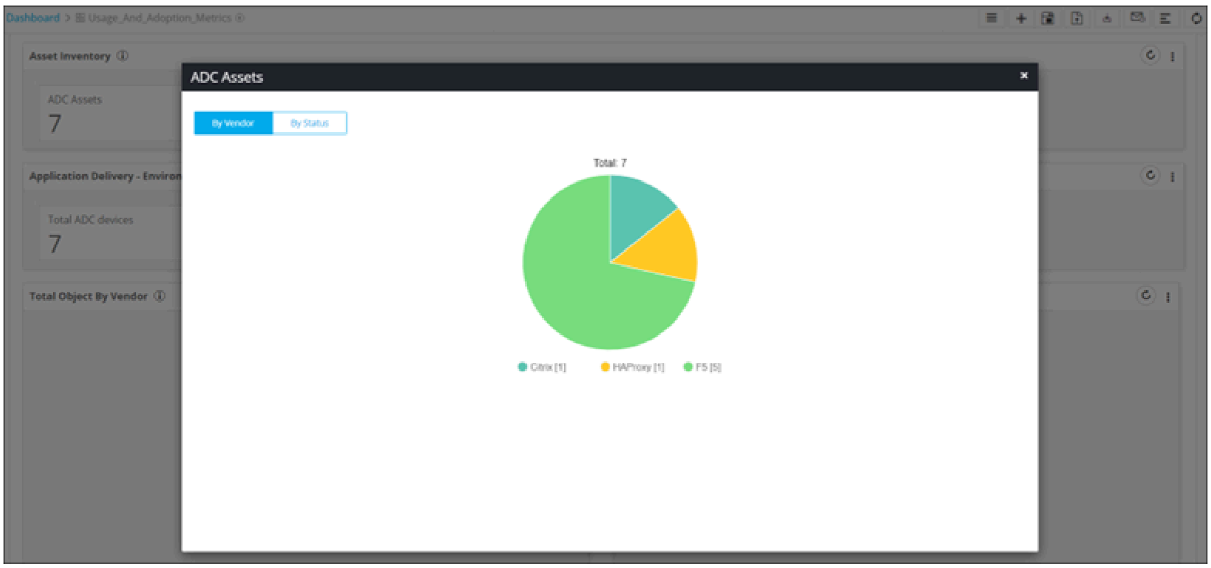
- The **Asset Inventory** widget displays the inventory of different types of assets such as ADC, firewall, and WAF.



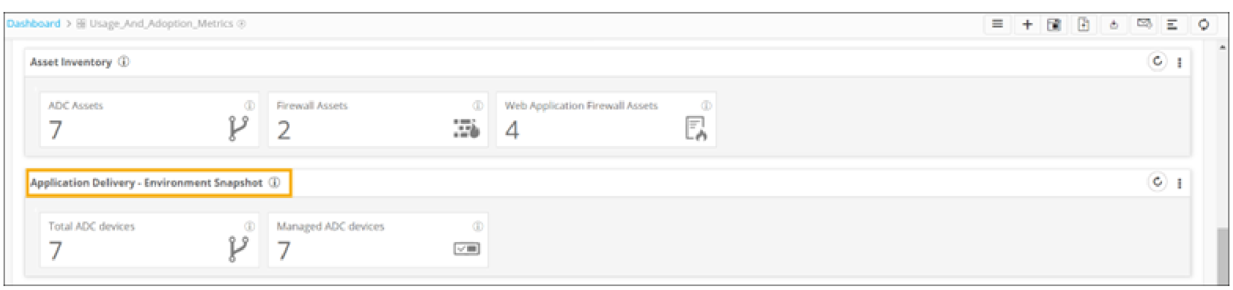
The following table describes the metrics displayed on this widget:

Metric	Description
ADC Assets	This metric displays the total count of all available ADC devices.
Firewall Assets	This metric displays the total count of all available Firewall devices.
Web Application Firewall Assets	This metric displays the total count of all available WAF devices.

- To drill down a chart to display more levels of information, click any metric.



- The **Application Delivery - Environment Snapshot** widget displays a snapshot of application delivery. Each metric displays the total count of respective devices.

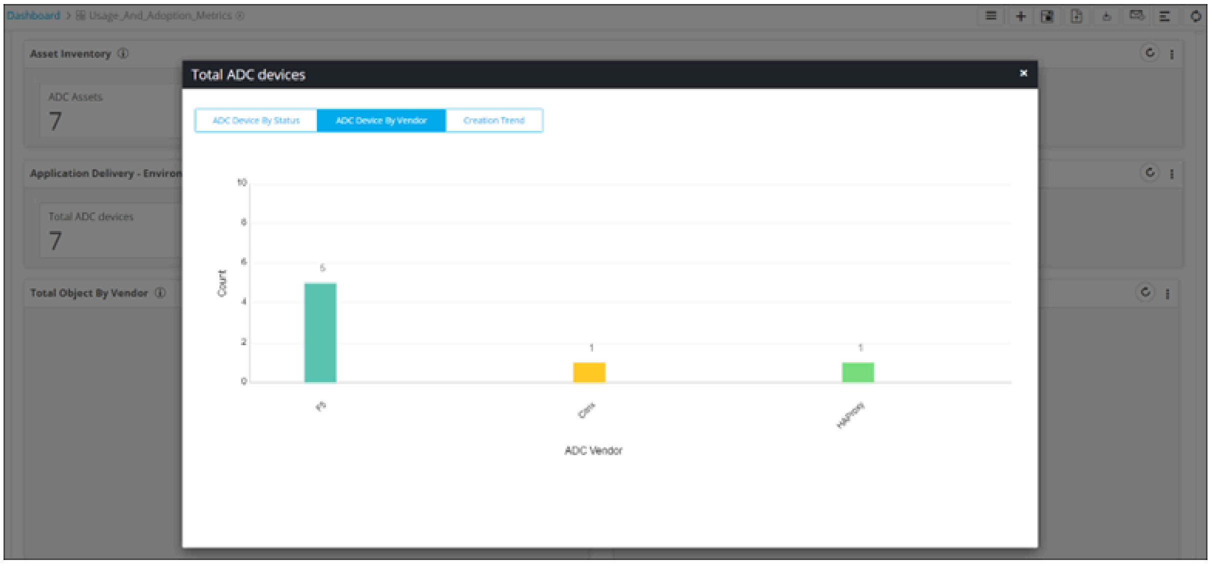


The following table describes the metrics displayed on this widget:

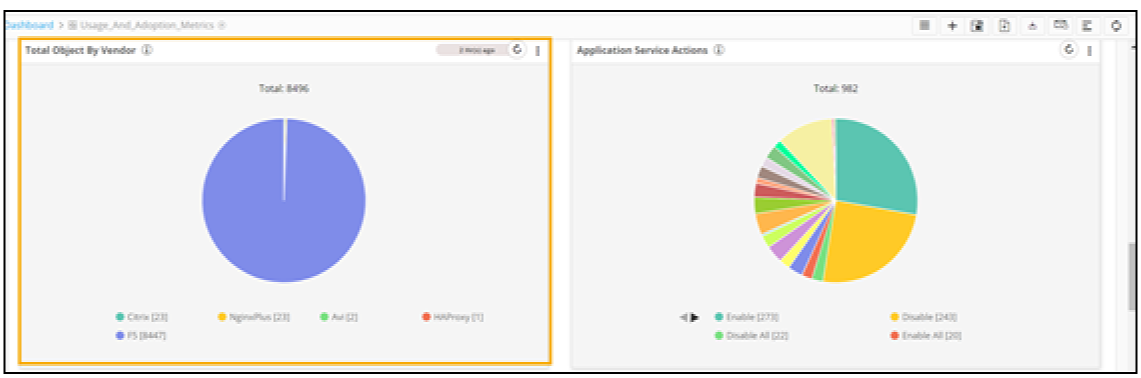
Metric	Description
Total ADC devices	This metric displays the total count of all available ADC devices.

Metric	Description
Total Application Service Objects	This metric displays the total application service objects.
Managed ADC devices	This metric displays all the managed ADC devices.

• To drill down a chart to display more levels of information, click any metric.

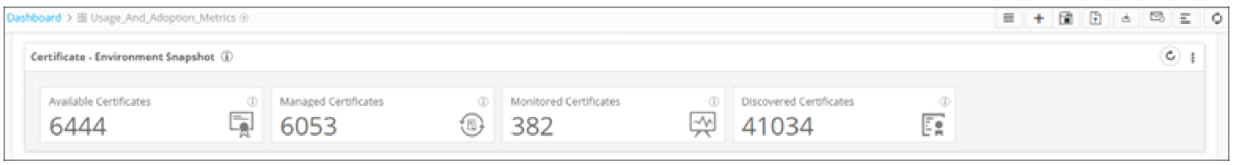


• The **Total Object by Vendor** pie chart displays the count of all ADC objects by vendor.



• The **Application Service Actions** pie chart shows a snapshot of application services performed.

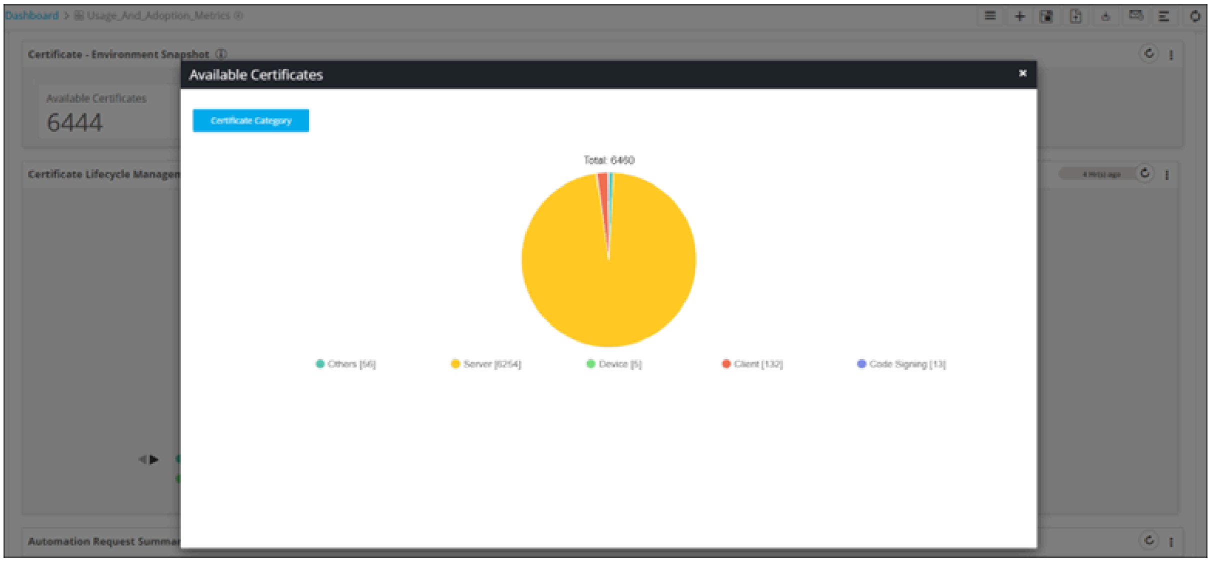
- The **Certificate - Environment Snapshot** widget displays a snapshot of managed and monitored certificates.



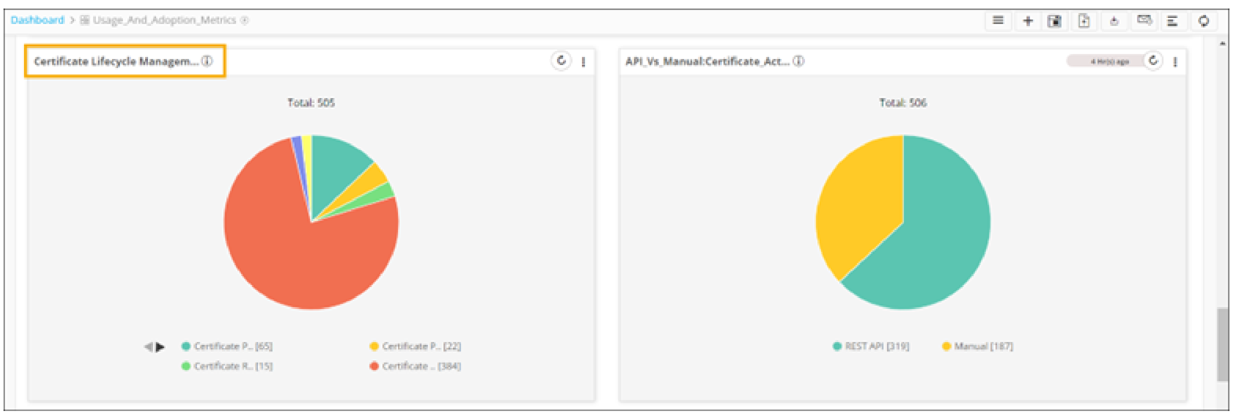
The following table describes the metrics displayed on this widget:

Metric	Description
Available Certificates	This metric displays the total count of all available certificates.
Managed Certificates	This metric displays the total count of all managed certificates.
Discovered Certificates	This metric displays the total count of all discovered certificates.

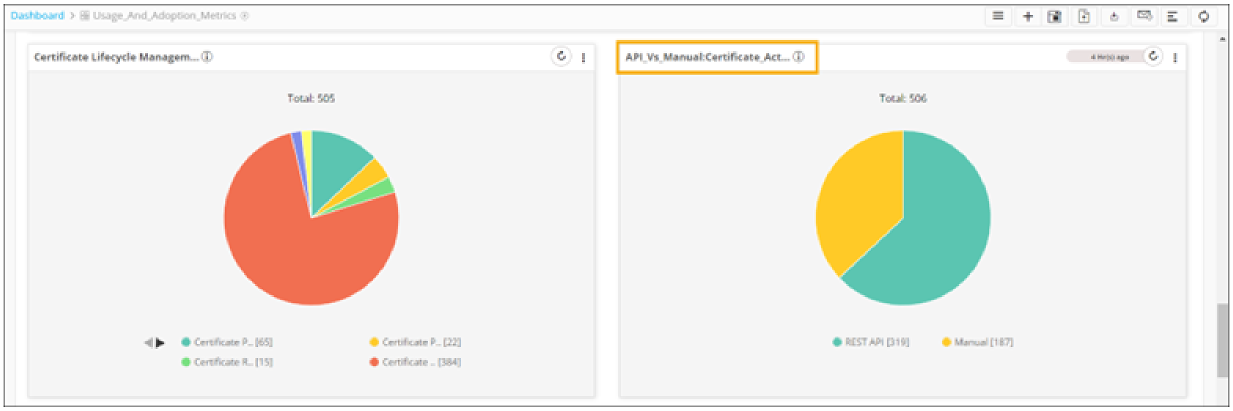
- To drill down a chart to display more levels of information, click any metric.



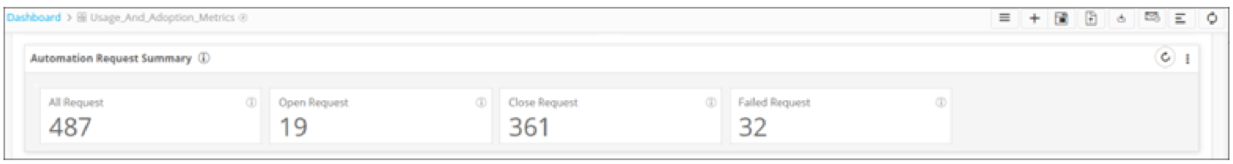
- The **Certificate Lifecycle Management** pie chart displays a snapshot of certificate actions performed, such as certificate push, certificate rollback, certificate push and bind and so on.



- The **API_vs_Manual:Certificate_Actions** pie chart shows a list of certificate actions triggered either manually or via API.



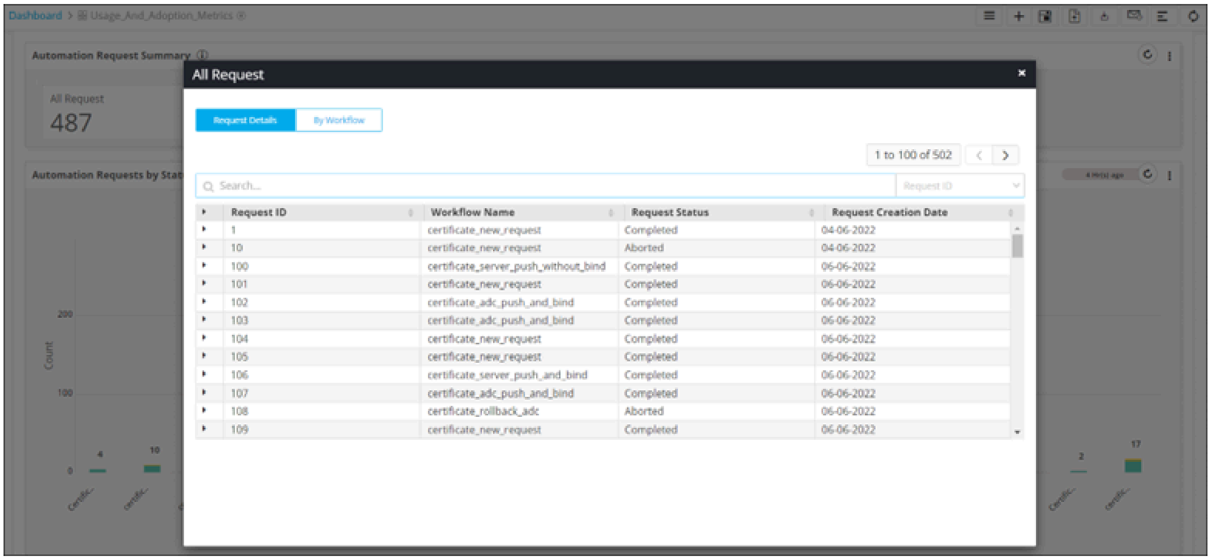
- The **Automation Request Summary** widget displays a snapshot of automation request status and trend.



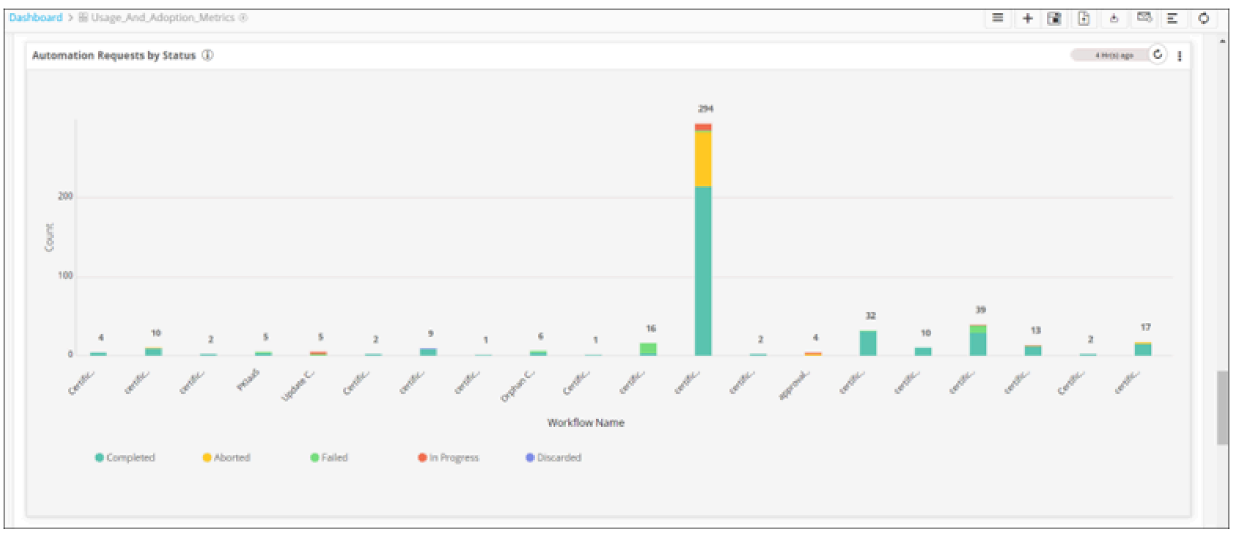
The following table describes the metrics displayed in this widget:

Metric	Description
All Request	This metric displays the count of total workflow automation requests.
Open Request	This metric displays the count of open workflow automation requests.
Close Request	This metric displays the count of closed workflow automation requests.
Failed Request	This metric displays the count of failed workflow automation requests.

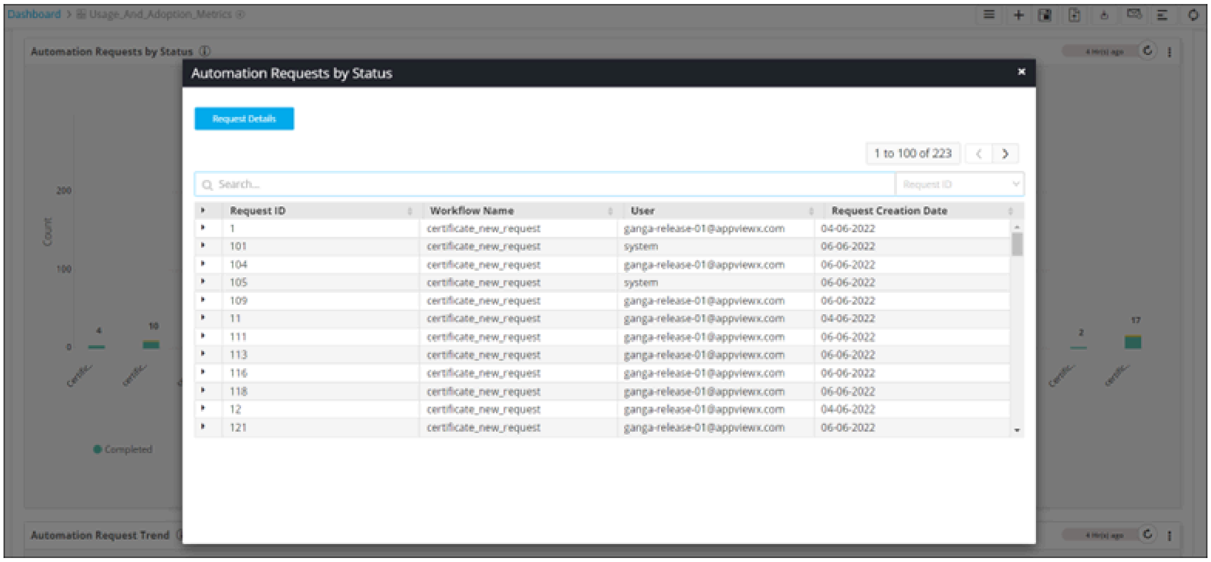
- To drill down a chart to display more levels of information, click any metric.



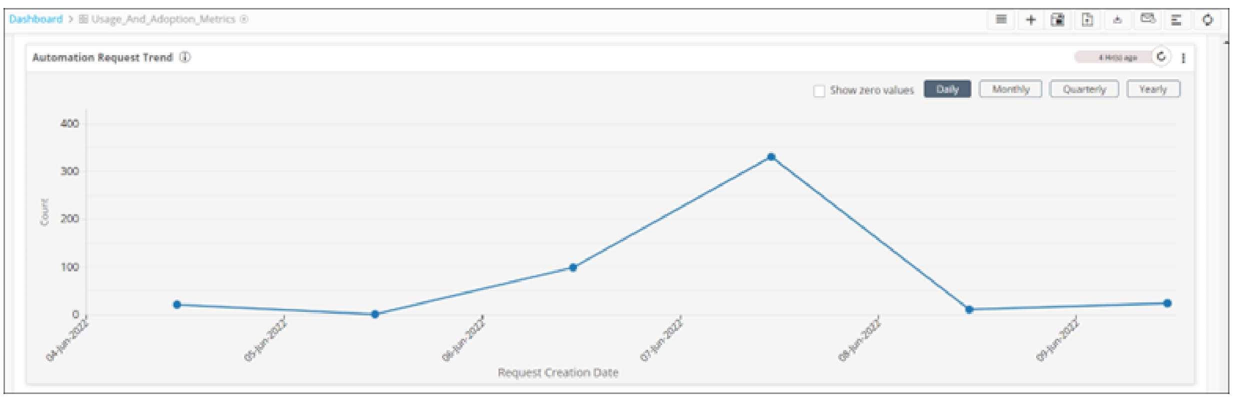
- The **Automation Request by Status** stacked bar graph displays the request status by workflow.



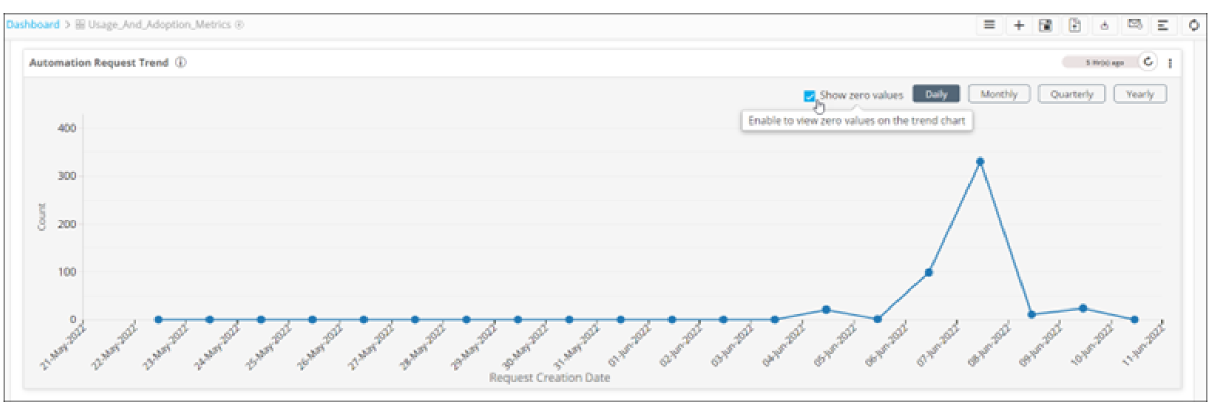
- To drill down a chart to display more levels of information, click any metric.



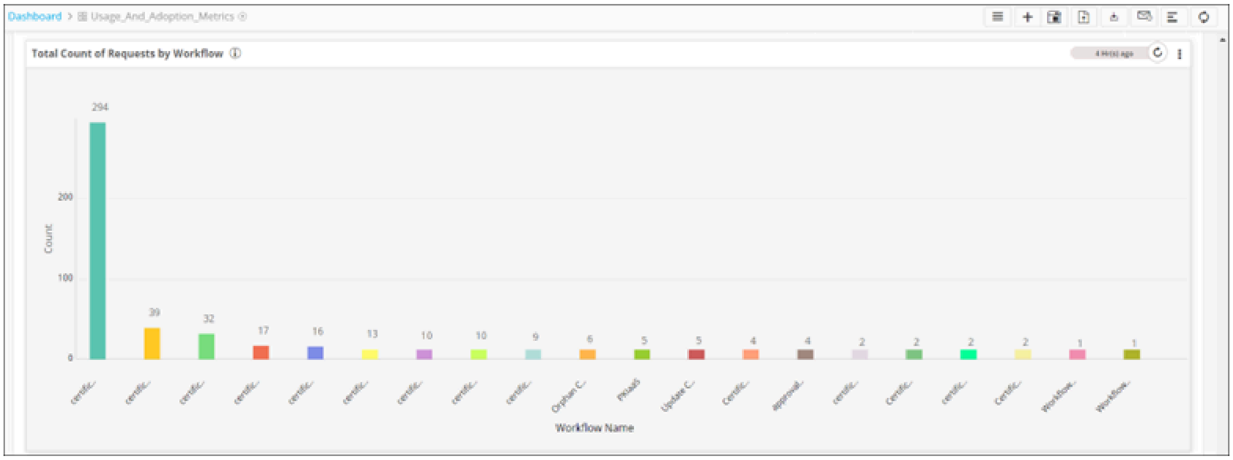
- The **Automation Request Trend** line chart displays the trend of all automation requests.



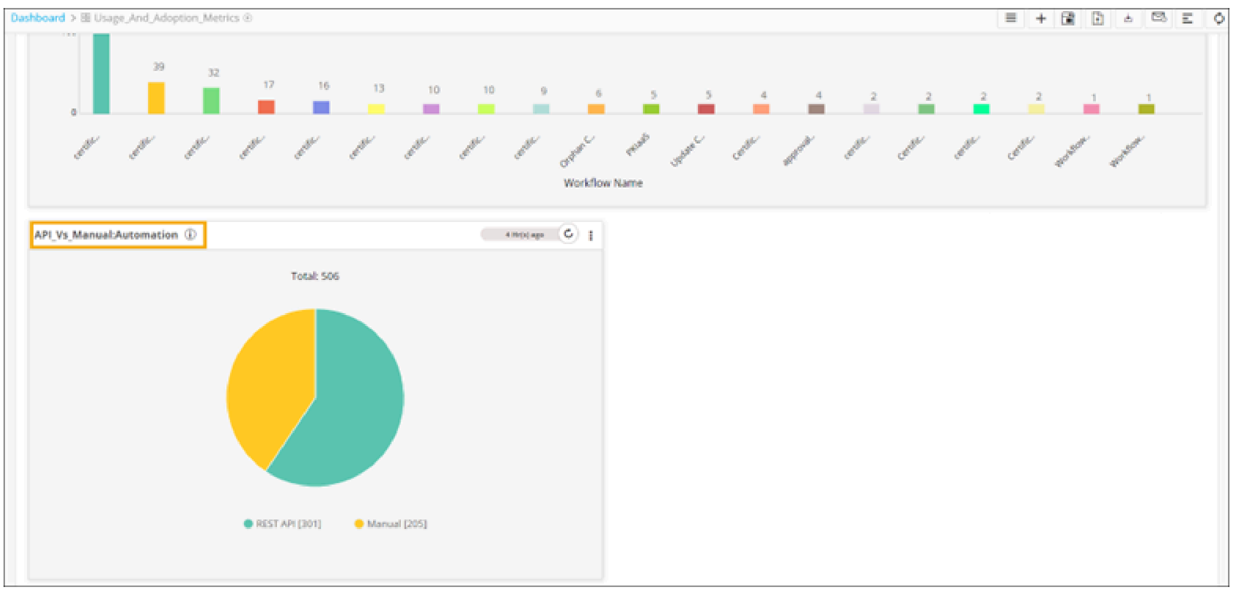
- To display dates on which there were zero logins into AppviewX, select the **Show zero values** checkbox.



- To get data based on the respective timelines, click **Monthly**, **Quarterly**, and **Yearly** buttons.
- The **Total Count of Requests by Workflow** bar graph displays the total count of requests by workflow.

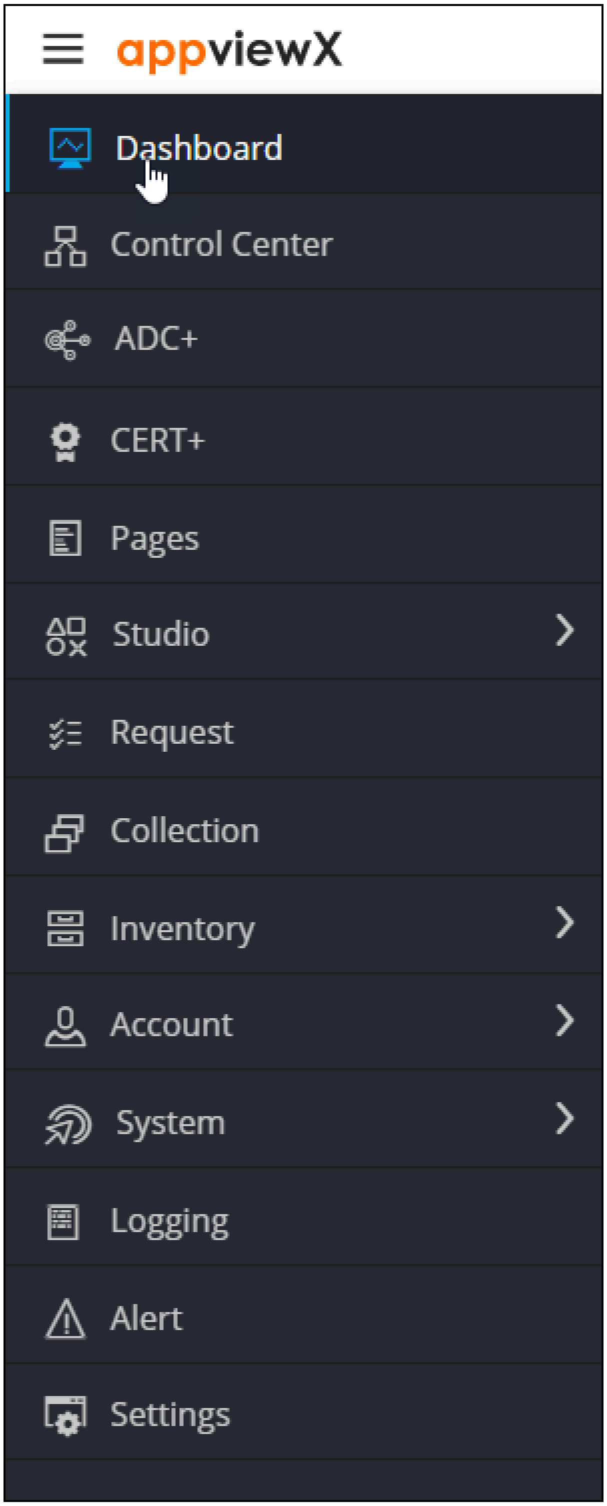


- The **API_vs_Manual:Automation** pie chart displays a list of automation requests triggered either manually or via API.

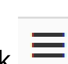


How to Search for a Dashboard

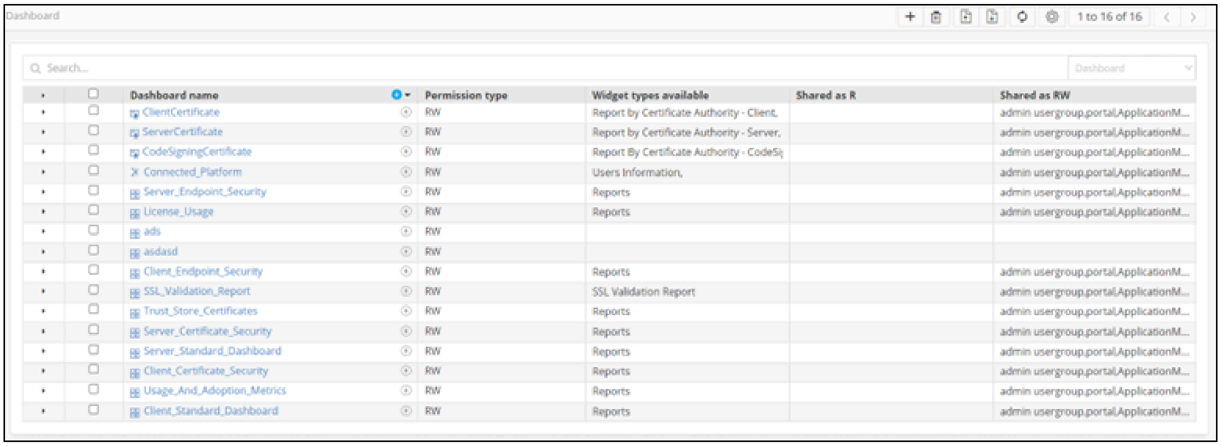
1. From the top left corner of the screen, click ☰.
2. From the menu displayed, select **Dashboard**.



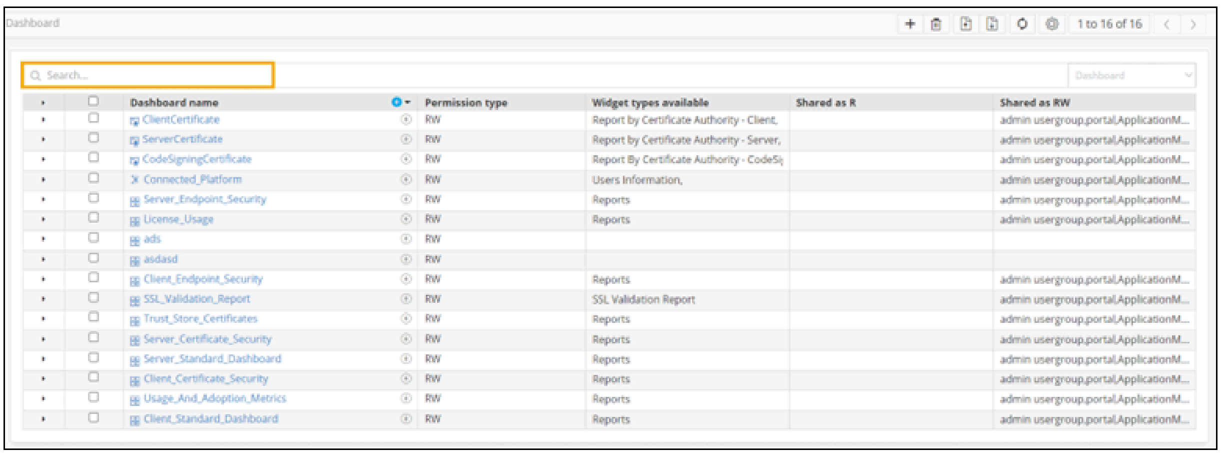
The last opened or pinned dashboard is displayed.

3. To view the **Dashboard** inventory, form the top right corner of the screen, click .

The **Dashboard** inventory page is displayed.



4. To search for a dashboard, on the **Dashboard** inventory page, enter the search keyword(s) in the **Search** field.



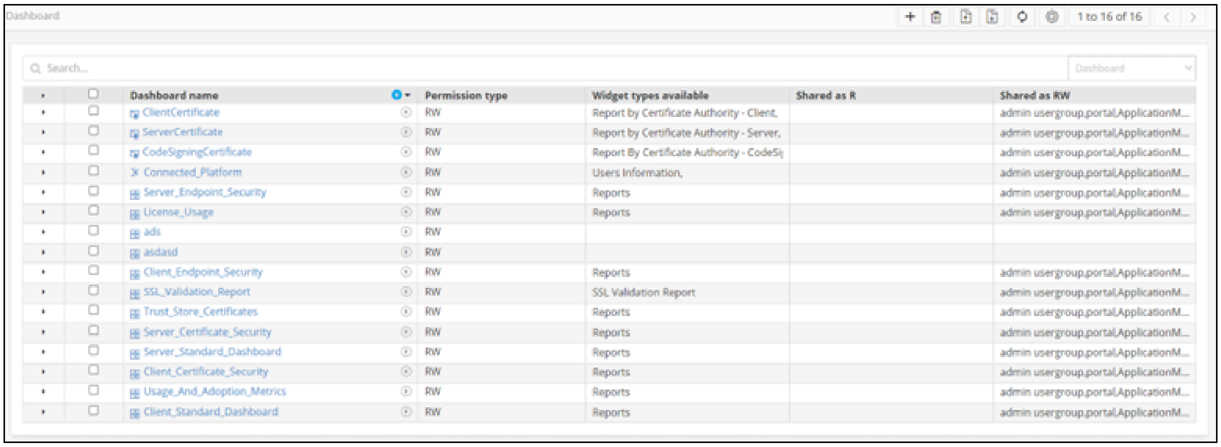
The dashboards, objects, or widgets that match the keyword(s) are displayed.

How to View a Dashboard

1. From the top left corner of the screen, click ☰.
2. From the menu displayed, click **Dashboard**.

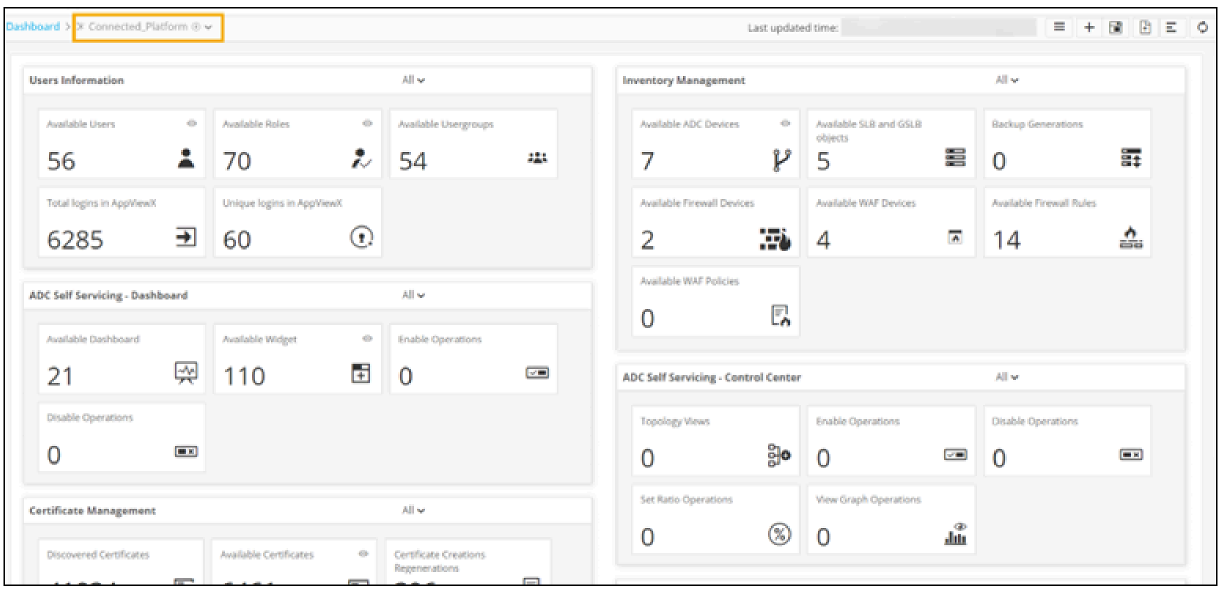
   The last opened or pinned **Dashboard** is displayed.
3. To view the **Dashboard** inventory, form the top right corner of the screen, click ☰.

   The **Dashboard** inventory page is displayed.



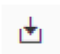
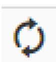
4. Click on any Dashboard name. For example: Connected Platform.

   The selected dashboard is displayed on the screen.



The following table describes the options available on the **Dashboard** page:

Options	Description
Dashboard name	Displays the name of the current dashboard.
≡	Allows you to navigate to the Dashboard inventory.
+	Allows you to create a dashboard/widget.

Options	Description
	Allows you to save the changes to the widget.
	Allows you to download the entire dashboard as a PDF.
	Allows you to schedule and email reports from the dashboard.
	Allows you to align the widgets on the dashboard.
	Refreshes the dashboard.

How to Pin Reports to a Dashboard

You can pin customized reports to an existing dashboard or a new dashboard. A maximum of 20 reports can be pinned to a dashboard. Pinning a report to the dashboard allows users to visualize different reports in the same place.

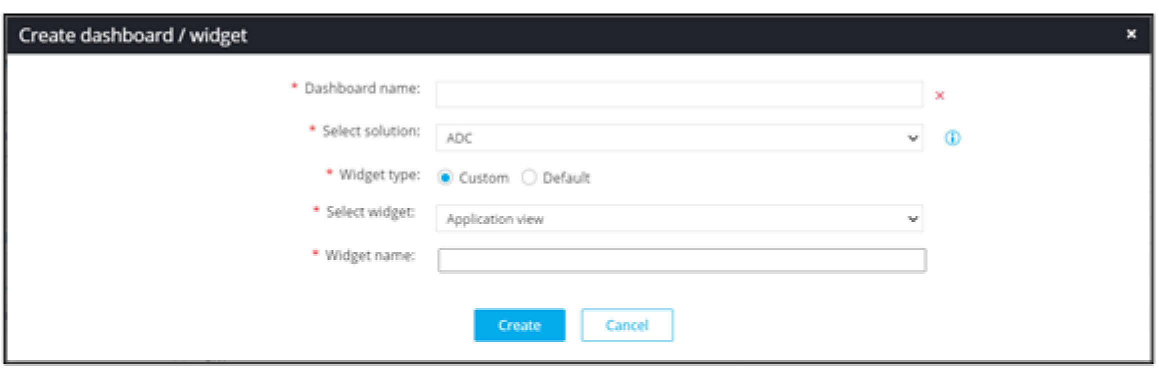
> **Note:** For more information on how to pin a report to the dashboard, click here.

How to Build a Custom Dashboard

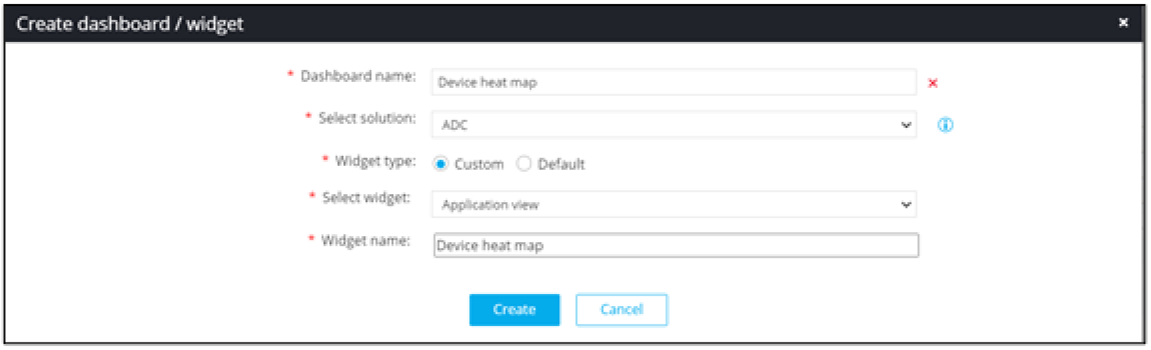
You can build a custom dashboard to display a specific set of reports.

1. On the **Dashboard** inventory page, from the top right corner of the screen, click  in the command bar.

   The **Create dashboard/widget** popup window is displayed.



2. Enter or select the field information.



The following table describes the field description to create a custom dashboard:

Field	Description
***Dashboard name**	Enter the name of the dashboard.
***Select solution**	ADC is the default selection.
***Widget type**	Select the type of widget. The possible widget types are: • **Custom**: Choose this option to build a customized widget. • **Default**: Choose this option to select the default widget.
***Select widget**	Select an appropriate widget from the customized widgets in the dropdown list.
***Widget name**	Enter the name of the widget.
The asterisk (*) symbol indicates mandatory fields.	

3. Click **Create**.

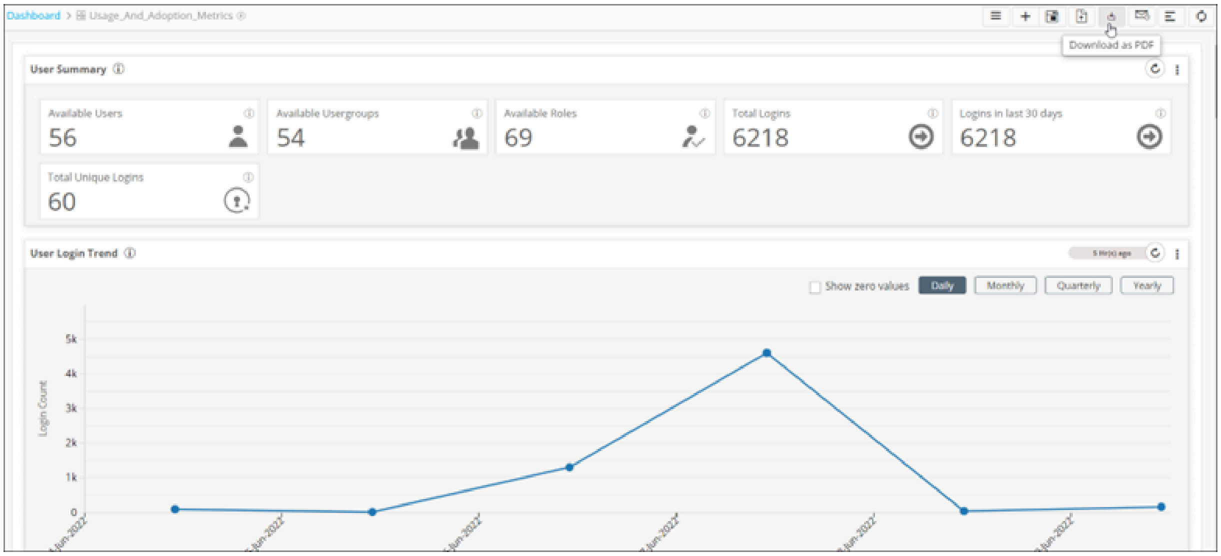
How to Download a Dashboard

You can also download entire dashboards as a PDF to your device.

1. From the top left corner of the screen, click ☰.
2. From the menu displayed, select **Dashboard**.
3. On the **Dashboard** inventory page, click on a dashboard name.

   The selected dashboard is displayed on the screen.

4. To download the dashboard as a PDF file, from the top right corner of the screen, click  .



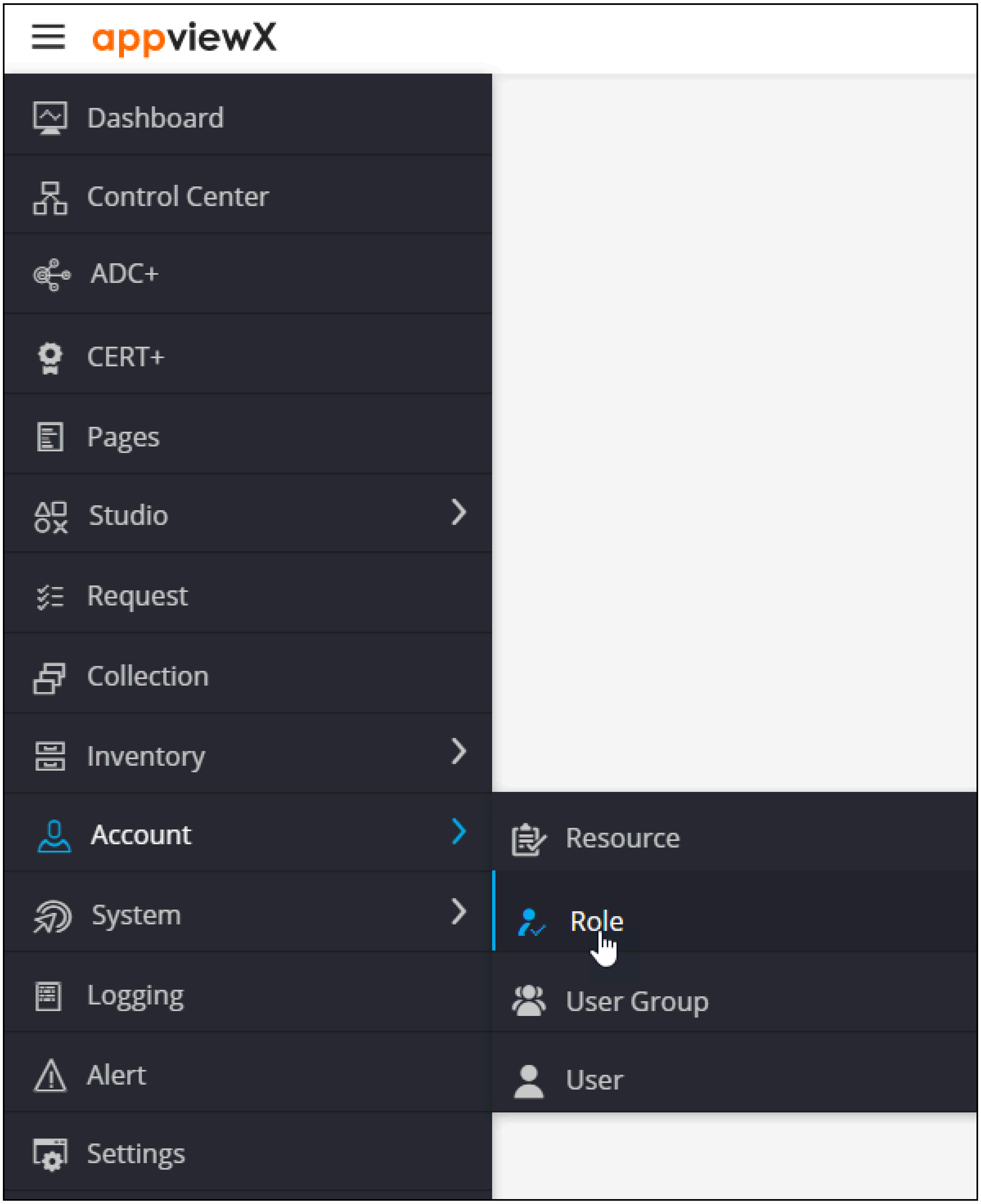
The dashboard is downloaded to your device as a PDF.

Chapter 5: Role Based Access Control

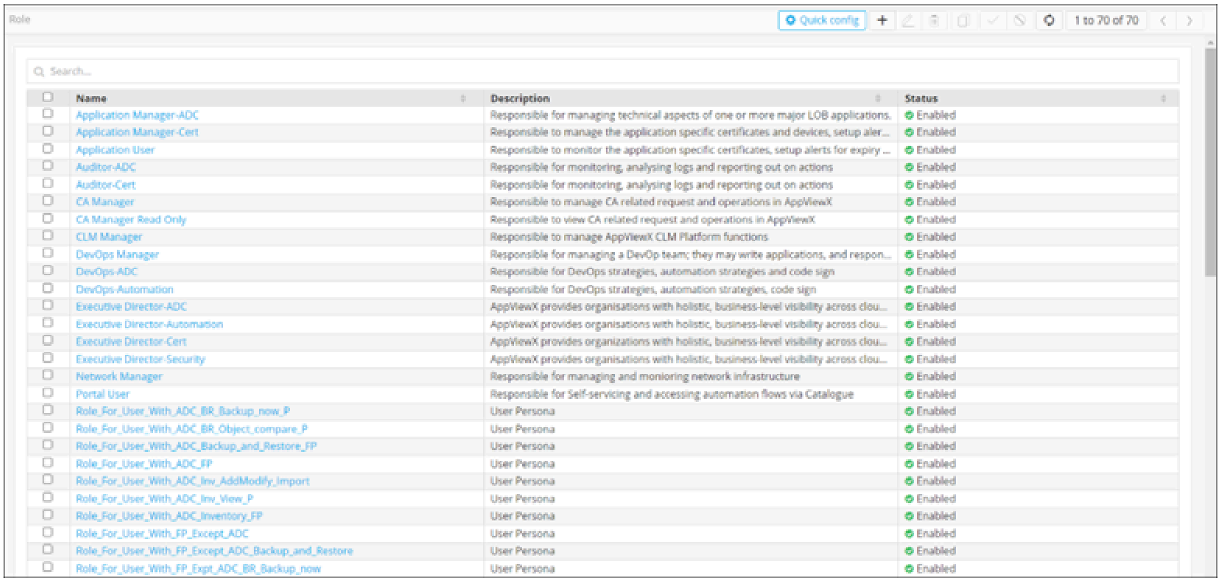
Role based access control (RBAC) implies restricting authorized users to access certain aspects of the system. With RBAC, users can be granted access to only certain aspects of a system or platform and prevent them from accessing other information or systems.

To get an overview of the actions authorized for a particular user:

1. From the top left corner of the screen, click ☰.
2. From the menu displayed, select **Account** > **Role**.

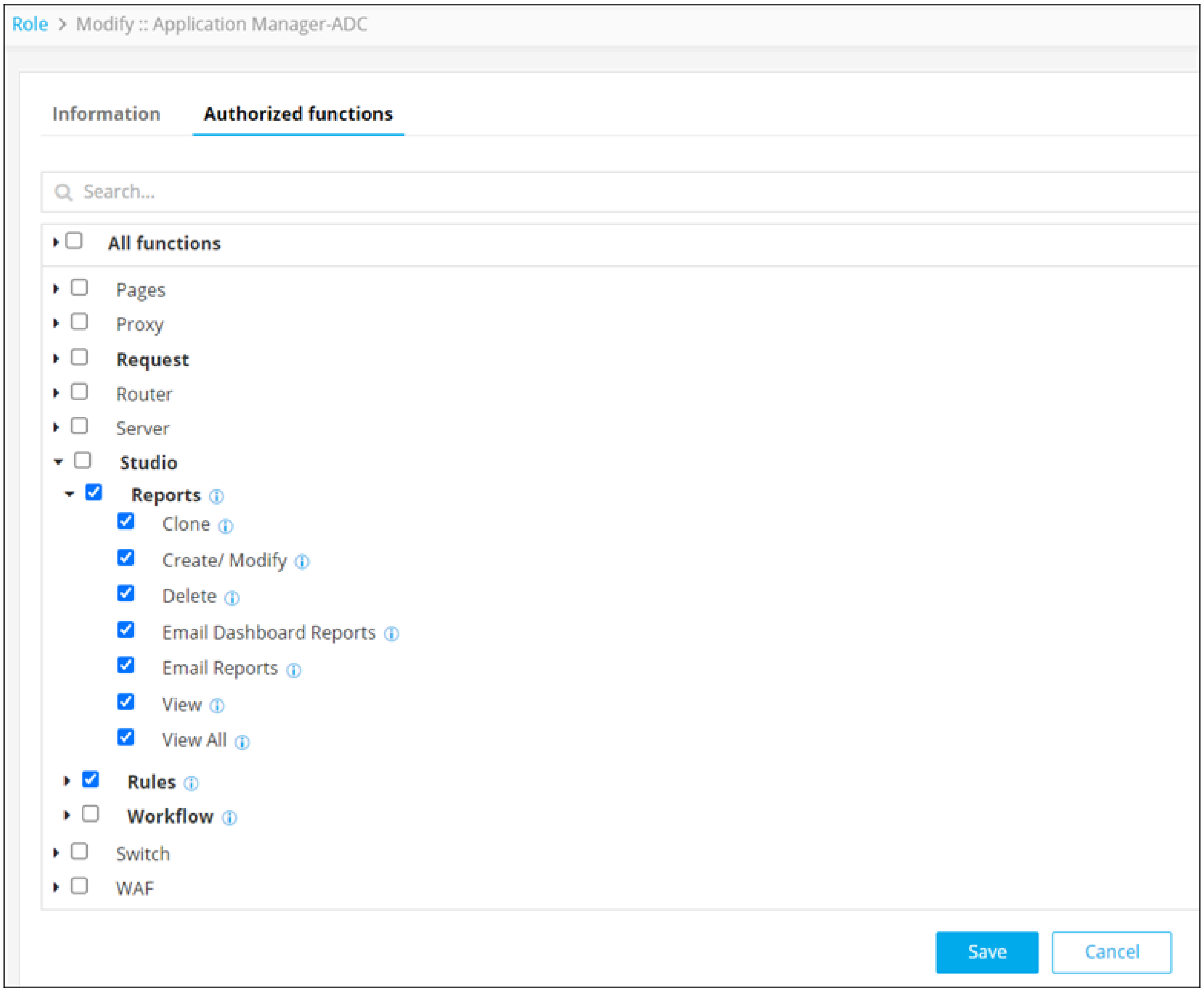


The **Role** page is displayed.



Name	Description	Status
Application Manager-ADC	Responsible for managing technical aspects of one or more major LOB applications.	Enabled
Application Manager-Cert	Responsible to manage the application specific certificates and devices, setup aler...	Enabled
Application User	Responsible to monitor the application specific certificates, setup alerts for expiry ...	Enabled
Auditor-ADC	Responsible for monitoring, analysing logs and reporting out on actions	Enabled
Auditor-Cert	Responsible for monitoring, analysing logs and reporting out on actions	Enabled
CA Manager	Responsible to manage CA related request and operations in AppViewX	Enabled
CA Manager Read Only	Responsible to view CA related request and operations in AppViewX	Enabled
CLM Manager	Responsible to manage AppViewX CLM Platform functions	Enabled
DevOps Manager	Responsible for managing a DevOp team; they may write applications, and respon...	Enabled
DevOps-ADC	Responsible for DevOps strategies, automation strategies and code sign	Enabled
DevOps-Automation	Responsible for DevOps strategies, automation strategies, code sign	Enabled
Executive Director-ADC	AppViewX provides organisations with holistic, business-level visibility across clou...	Enabled
Executive Director-Automation	AppViewX provides organisations with holistic, business-level visibility across clou...	Enabled
Executive Director-Cert	AppViewX provides organizations with holistic, business-level visibility across clou...	Enabled
Executive Director-Security	AppViewX provides organisations with holistic, business-level visibility across clou...	Enabled
Network Manager	Responsible for managing and monioring network infrastructure	Enabled
Portal User	Responsible for Self-servicing and accessing automation flows via Catalogue	Enabled
Role_For_User_With_ADC_BR_Backup_now_P	User Persona	Enabled
Role_For_User_With_ADC_BR_Object_compare_P	User Persona	Enabled
Role_For_User_With_ADC_Backup_and_Restore_FP	User Persona	Enabled
Role_For_User_With_ADC_FP	User Persona	Enabled
Role_For_User_With_ADC_Inv_AddModify_Import	User Persona	Enabled
Role_For_User_With_ADC_Inv_View_P	User Persona	Enabled
Role_For_User_With_ADC_Inventory_FP	User Persona	Enabled
Role_For_User_With_FP_Except_ADC	User Persona	Enabled
Role_For_User_With_FP_Except_ADC_Backup_and_Restore	User Persona	Enabled
Role_For_User_With_FP_Expt_ADC_BR_Backup_now	User Persona	Enabled

3. On the **Role** page, under the **Name** column, click on the name for which you want to see the permissions.
4. To see the list of actions defined for the selected user, click **Authorized functions**.
5. Under the **Authorized functions** tab, expand**Studio** and click **Reports**. A selected checkbox indicates that the corresponding action has been authorized for the user.



The following table describes the various actions that can be authorized or restricted for a user in the **Reports** module:

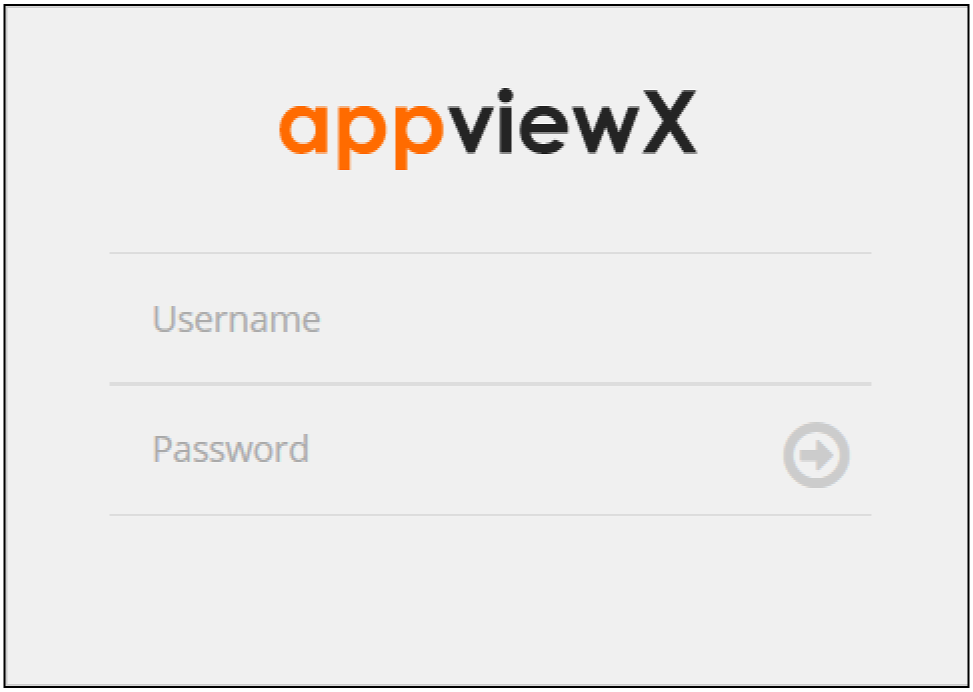
Action	Description
Clone	Provision to allow or restrict a user to clone a report.
Create/Modify	Provision to allow or restrict a user to create or modify a report.
Delete	Provision to allow or restrict a user to delete an existing report.
Email Dashboard Reports	Provision to allow or restrict user access to email dashboards in PDF format.
Email Reports	Provision to allow or restrict user access to email reports in My Reports, Store, Widget in PDF format and manage scheduling.

Action	Description
View	Provision to allow or restrict a user to view detailed information on existing reports created by the user who is logged in.
View All	Provision to allow or restrict a user to view detailed information on existing reports created for all the users.

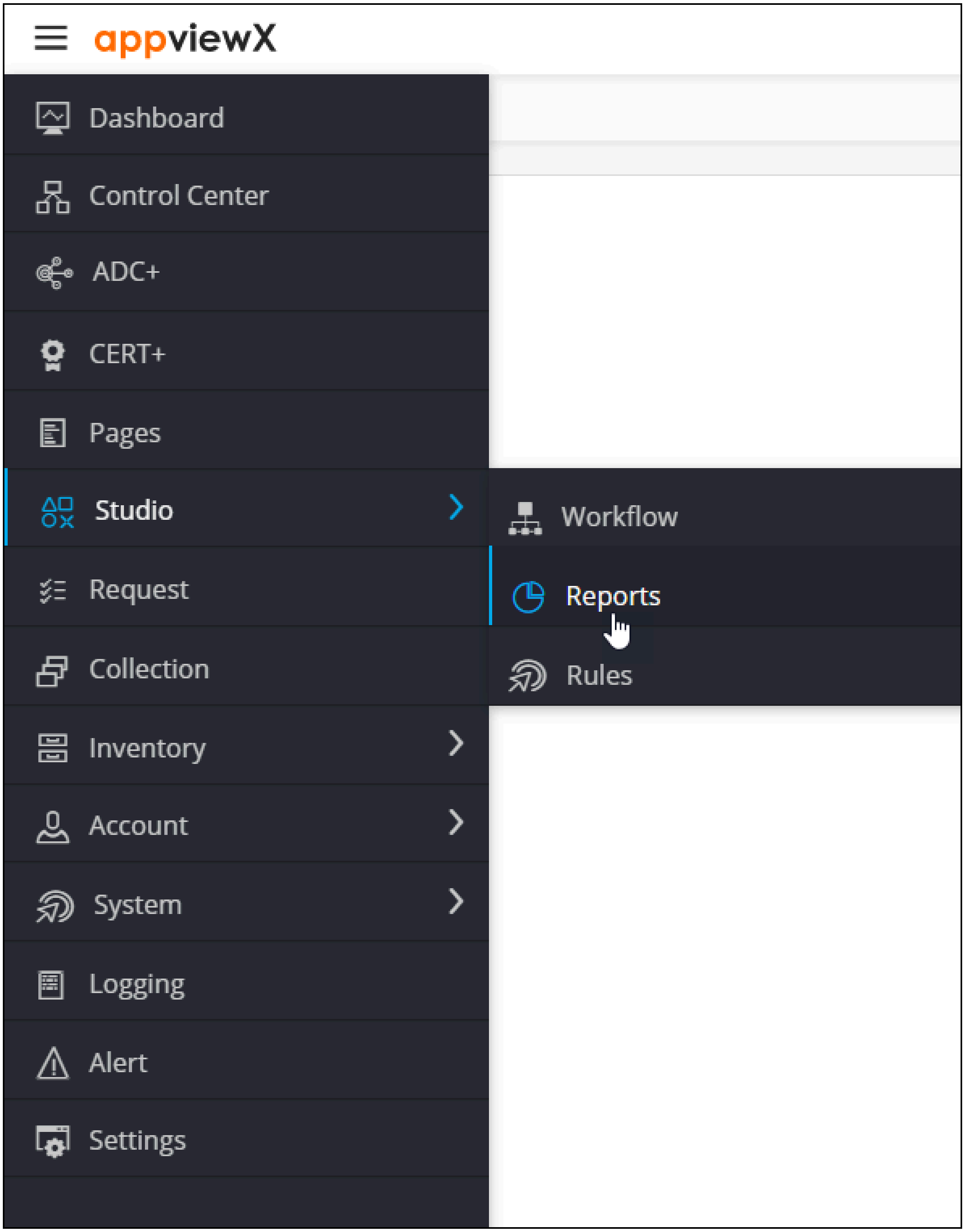
Chapter 6: Accessing the Report Builder

To access the **Report Builder** tool:

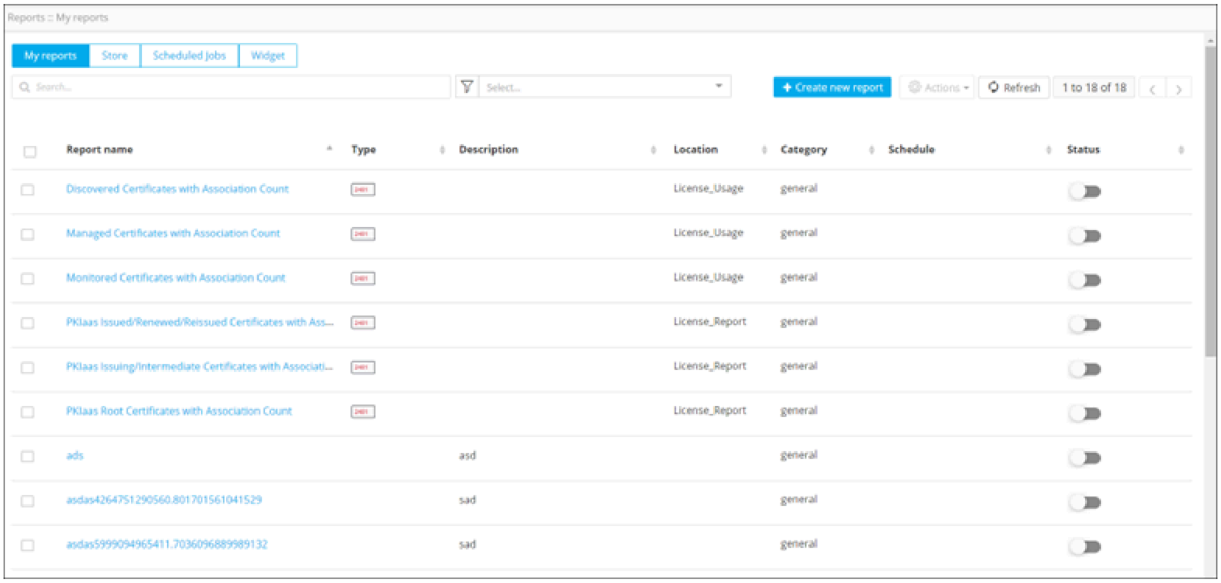
1. Log into **AppViewX**.



2. From the top left corner of the screen, click .
3. From the menu displayed, select **Studio** > **Reports**.



The **Reports : My Reports** page is displayed, with the **My Reports** tab open by default. This page is the Reports inventory page.

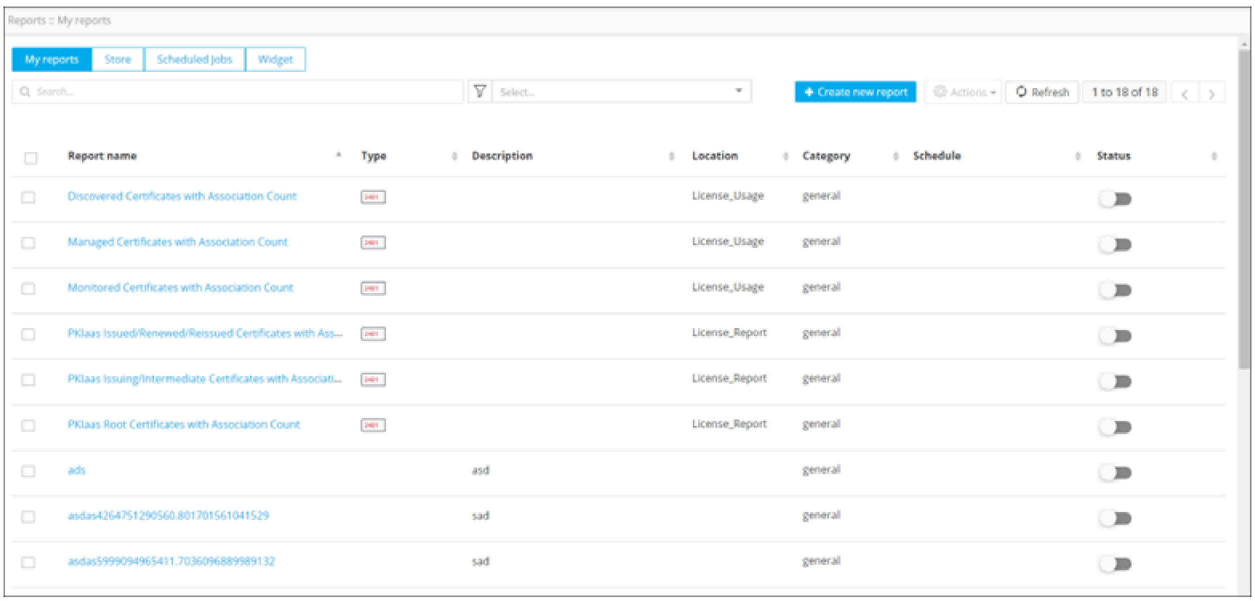

Reports :: My reports
My reports
Store
Scheduled Jobs
Widget
Create new report
Actions
Refresh
1 to 18 of 18
Report name
Type
Description
Location
Category
Schedule
Status
Discovered Certificates with Association Count
License_Usage
general
Managed Certificates with Association Count
License_Usage
general
Monitored Certificates with Association Count
License_Usage
general
PKIaas Issued/Renewed/Reissued Certificates with Ass...
License_Report
general
PKIaas Issuing/Intermediate Certificates with Associati...
License_Report
general
PKIaas Root Certificates with Association Count
License_Report
general
ads
asd
general
asdas4264751290560.801701561041529
sad
general
asdas5999094965411.7036096889989132
sad
general

Chapter 7: Reports Inventory

- Overview
- My Reports
- Store
- Scheduled jobs
- Widget

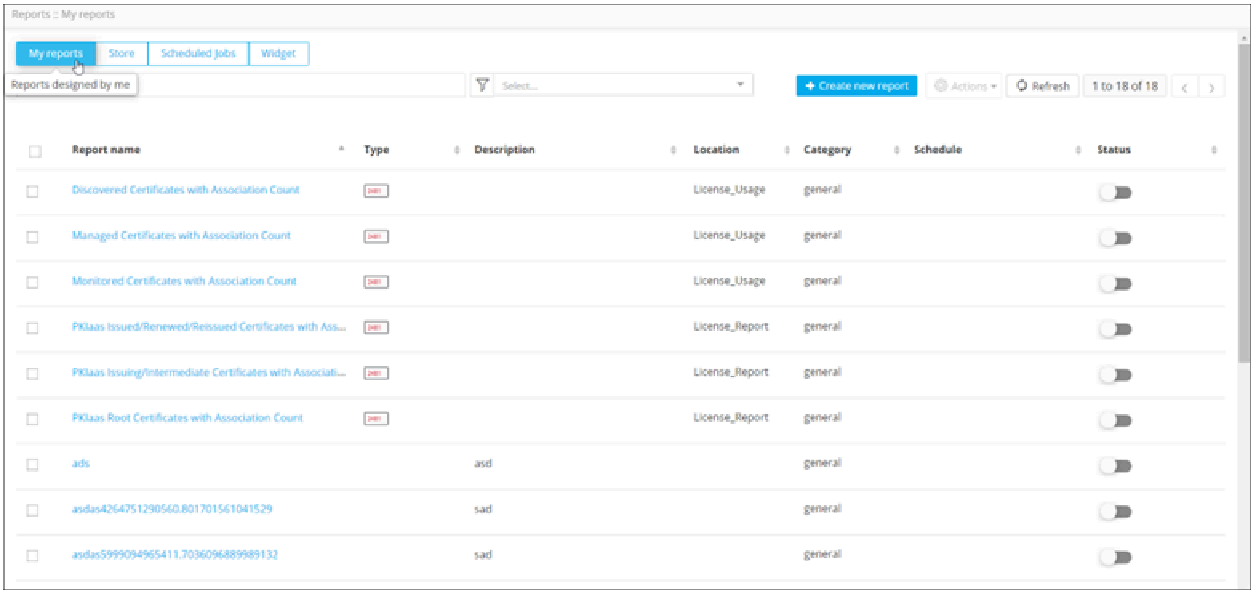
Overview

The **Reports :: My Reports** page gives a consolidated view of all the aspects of the Report builder. The **My Reports** tab is open on this page by default.



My Reports

The **Reports :: My reports** page shows the list of reports created by the user using the report builder.



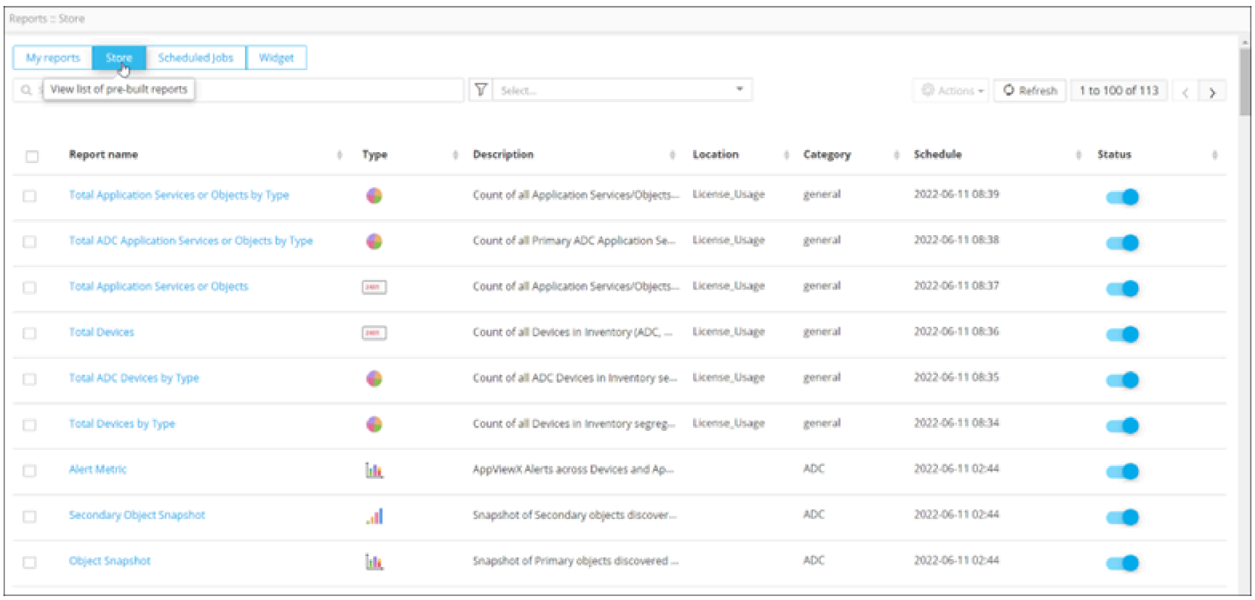
The following table describes the options available under the **My reports** page:

Options	Description
Search bar	Searches for the given keyword(s) in the field and produces results featuring the searched keyword(s).
	Allows you to filter reports according to different categories.
Create new report	Allows you to create a new custom report.
Actions	Allows you to perform actions (pin, bulk, clone, delete) on the reports. **Note:** This option is enabled only when a report(s) is selected.
Refresh	Refreshes the page.
Report name	Displays the names of the reports in alphabetical order (A to Z and Z to A).
Type	Displays reports according to the type - pie, donut, bar, stacked bar, grid, line metric.
Description	Displays a brief description of the report.
Location	Displays the location of the report on the dashboard.
Category	Displays the category of the report -

Options	Description
	• **General**: This is a default category. • **Certificate**: This relates to Certificate reports specifically. • **ADC**: This relates specifically to ADC reports.
Schedule	Displays the date and time of a scheduled report.
Status	Displays whether a report has been enabled or is disabled.

Store

The **Reports :: Store** page shows a list of ready-to-use reports made available to users.



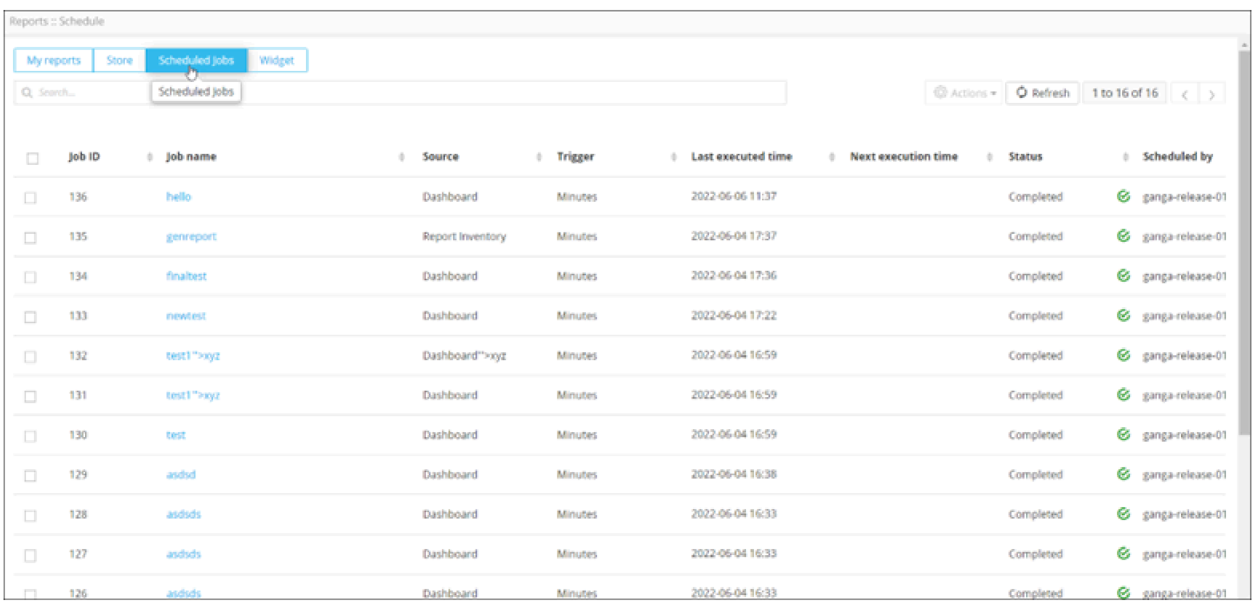
The following table describes the options available under the **Store** page:

Options	Description
Search bar	Searches for the given keyword(s) in the field and produces results featuring the searched keyword(s).
	Allows you to filter reports according to different categories.
Actions	Allows you to perform actions (pin, bulk, clone, delete) on the reports. **Note:** This option is enabled only when a report(s) is selected.

Options	Description
Refresh	Refreshes the page.
Report name	Displays the names of the reports in alphabetical order (A to Z and Z to A).
Type	Displays reports according to the type - pie, donut, bar, stacked bar, grid, line metric.
Description	Displays a brief description of the report.
Location	Displays the location of the report on the dashboard.
Category	Displays the category of the report - • **General**: This is a default category. • **Certificate**: This relates to Certificate reports specifically. • **ADC**: This relates specifically to ADC reports.
Schedule	Displays the date and time of a scheduled report.
Status	Displays whether a report has been enabled or is disabled.

Scheduled jobs

The **Reports :: Schedule** page shows a list of all the scheduled jobs or the emails that have been scheduled by a user to trigger at pre-set time intervals.



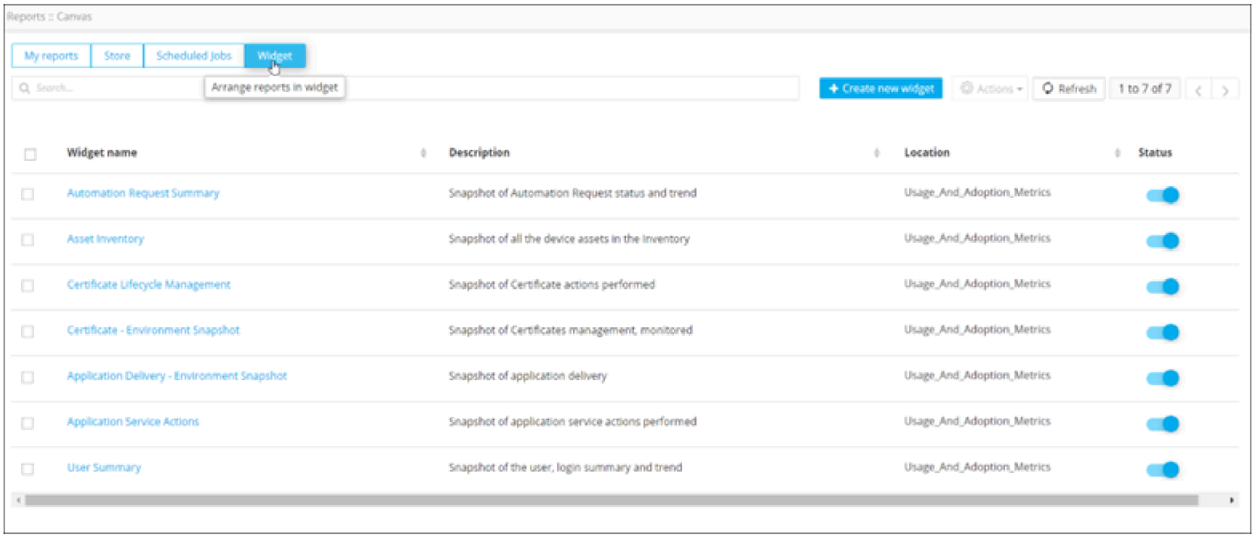
The following table describes the options available under the **Scheduled Jobs** tab:

Options	Description
Search bar	Searches for the given keyword(s) in the field and produces results featuring the searched keyword(s).
Refresh	Refreshes the page.
Job ID	Displays the Job ID.
Job name	Displays the Job name.
Source	Displays the source of the scheduled job.
Trigger	Displays the frequency at which the job is scheduled to be triggered.
Last executed time	Displays the time when the job was last executed.
Next execution time	Displays the time when the job will be executed next.
Status	Displays the status (pause/resume) of the job. You can click on the green arrow to change the status.
Scheduled by	Displays the name of the user who scheduled the job.

Note: For more information on scheduling reports, click here.

Widget

A widget allows you to arrange data in a visually striking display. Only metric charts can be used to create widgets. The **Reports :: Canvas** page shows the list of pre-built widgets available for the user.



This table describes the options available under the **Widget** page:

Options	Description
Search bar	Searches for the given keyword(s) in the field and produces results featuring the searched keyword(s).
Create new widget	Allows you to create a new widget.
Actions	Allows you to perform actions (pin, bulk, clone, delete) on the reports. **Note:** This option is enabled only when a report(s) is selected.
Refresh	Refreshes the page.
Widget name	Displays the names of the widget.
Description	Displays a brief description of the widget.
Location	Displays the location of the widget on the dashboard.
Status	Displays whether a widget has been enabled or is disabled.

Chapter 8: Creating a Report/BYOR

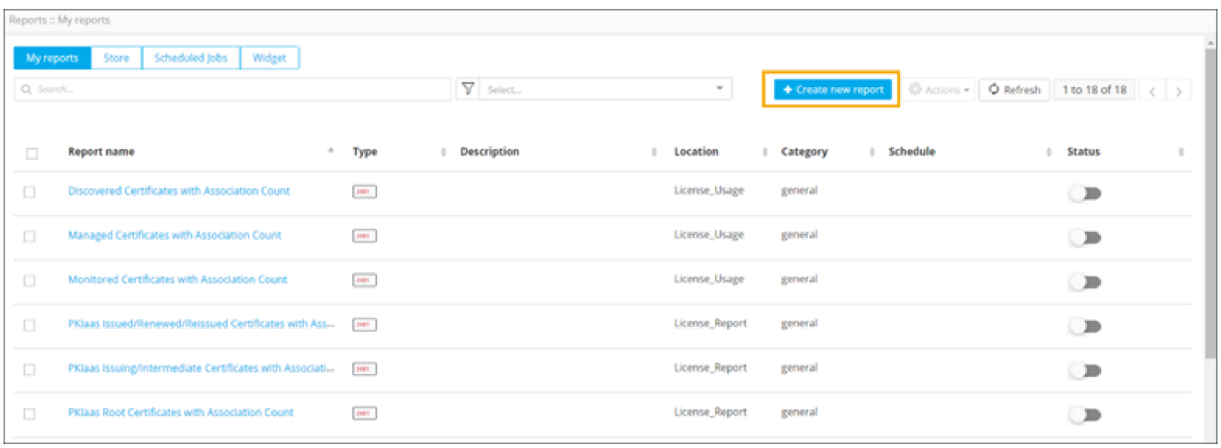
Overview

There are three steps involved in creating a report using AppViewX's report builder tool.

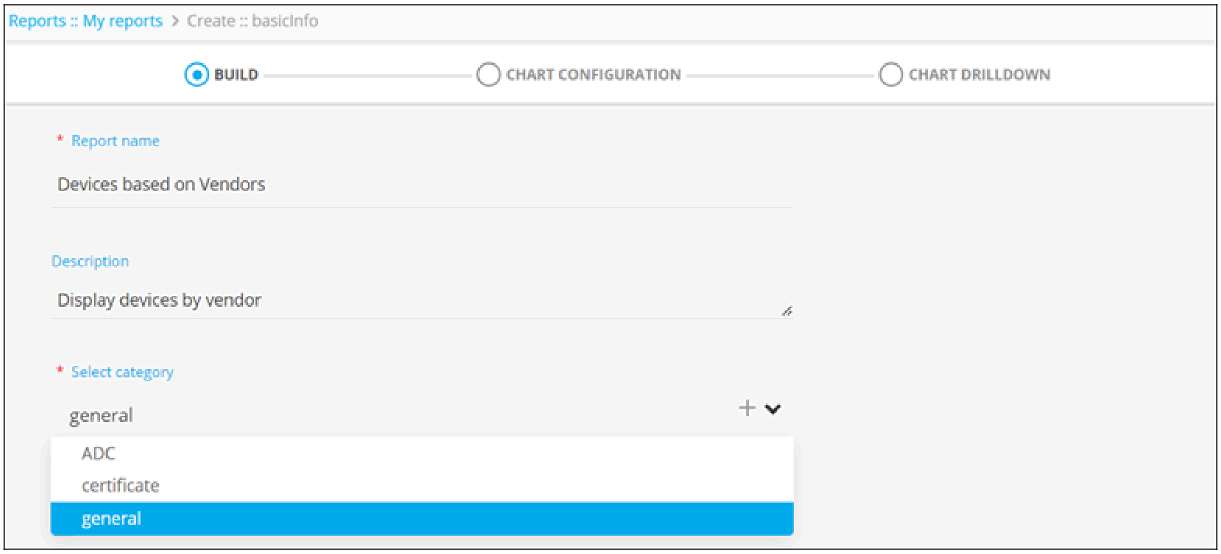
- Build
- Chart Configuration
- Chart Drilldown

Build

1. To create a customized report, on the **My Reports** page, click **Create New Report**.



2. On the **Reports :: My reports > Create :: basicinfo** page, under the **BUILD** section, enter or select the required field information.



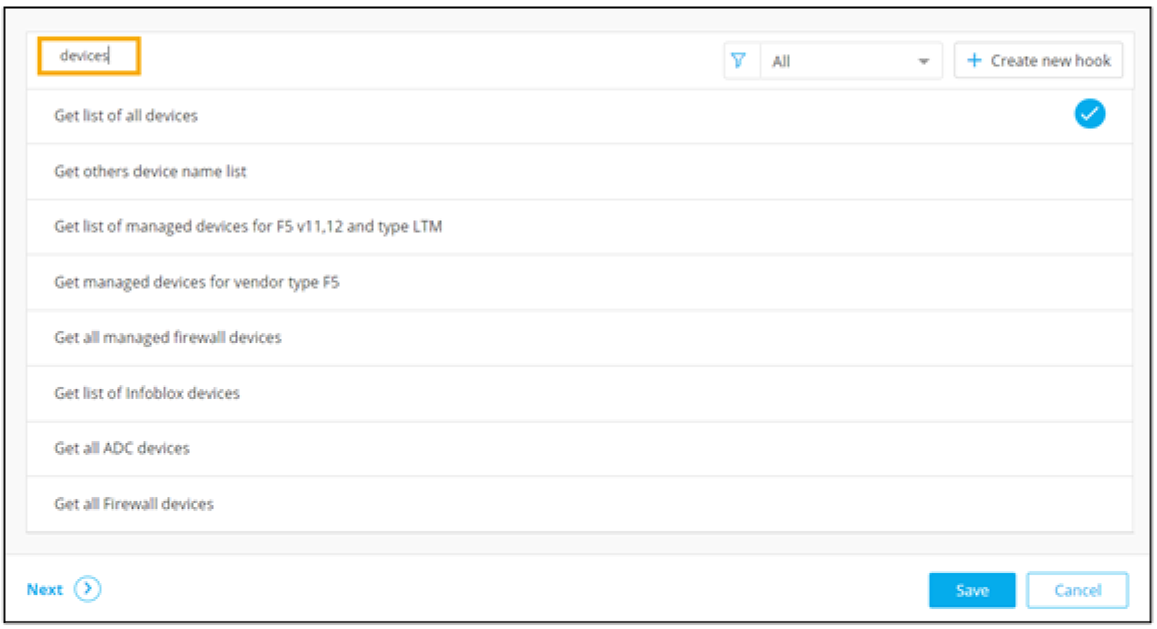
The following table describes the field information in this section:

Field	Description
***Report name**	Enter a valid report name. For example: **Devices based on vendors**.
Description	Enter a valid description of the report. For example: **Display devices by vendor**.
***Select category**	Select category from the options available in the drop down menu or click + to add a new category. • **Certificate** - Select category as certificate for creating certificate related reports specifically. • **ADC** - Select category as ADC for building ADC related reports specifically. • **General** - Select category as general for all reports.
The asterisk (*) symbol indicates mandatory fields.	

3. To query certificates based on role permissions, select the **ACL Restricted** check box.

Note: Check this box specifically for creating certificate related reports.

4. To query report data, either select a preexisting hook or click **Create new Hook**.



Note: For more information on creating hooks, click here.

5. To save this basic information on the report, click **Save**.
6. To go to the next stage of report building, click **Next**.

   The CHART CONFIGURATION section is displayed.

Chart Configuration

Overview

The chart configuration page lists seven types of chart options that can be selected for creating reports. These options are:

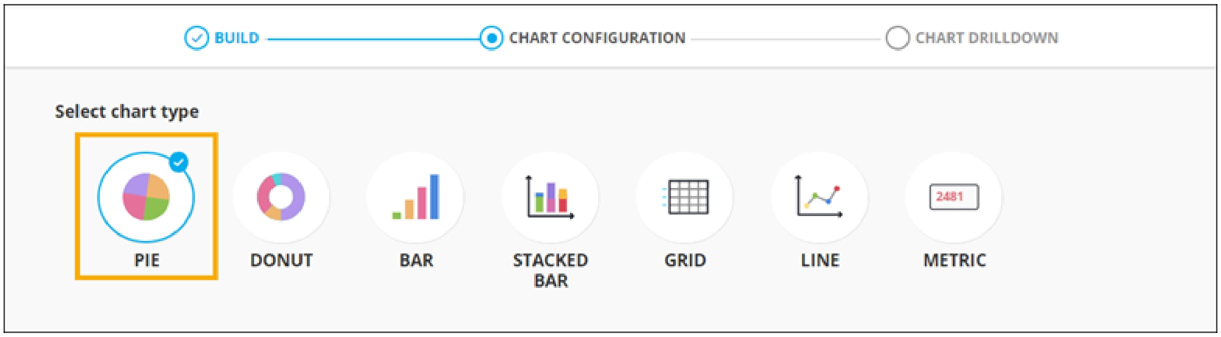
- Pie Chart
- Donut
- Bar
- Stacked Bar
- Grid
- Line
- Metric

How to Design a Custom Pie Chart

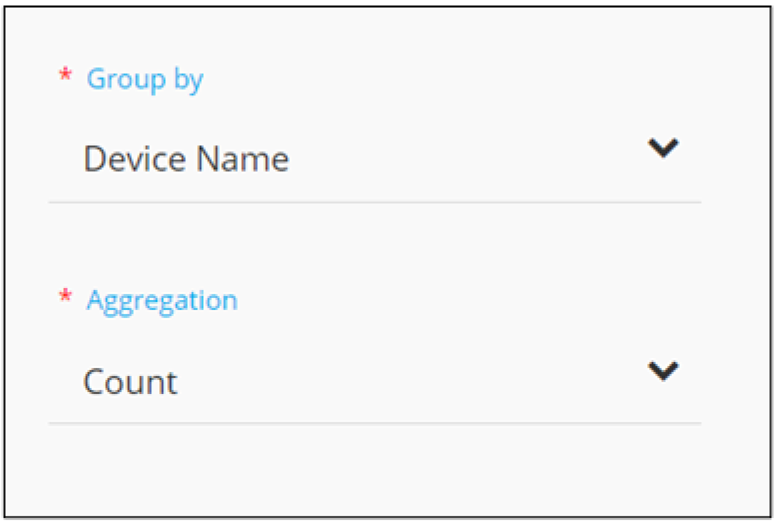
Creating a report using a pie chart allows you to display multiple classes of data and their proportions. It helps to summarize a large data set visually. It is easy to understand and requires minimal explanation.

To design a custom pie chart:

1. Build a report.
2. Under the **CHART CONFIGURATION** section, **Select chart type** as **PIE**.



3. Enter or select the information required in each of the fields.

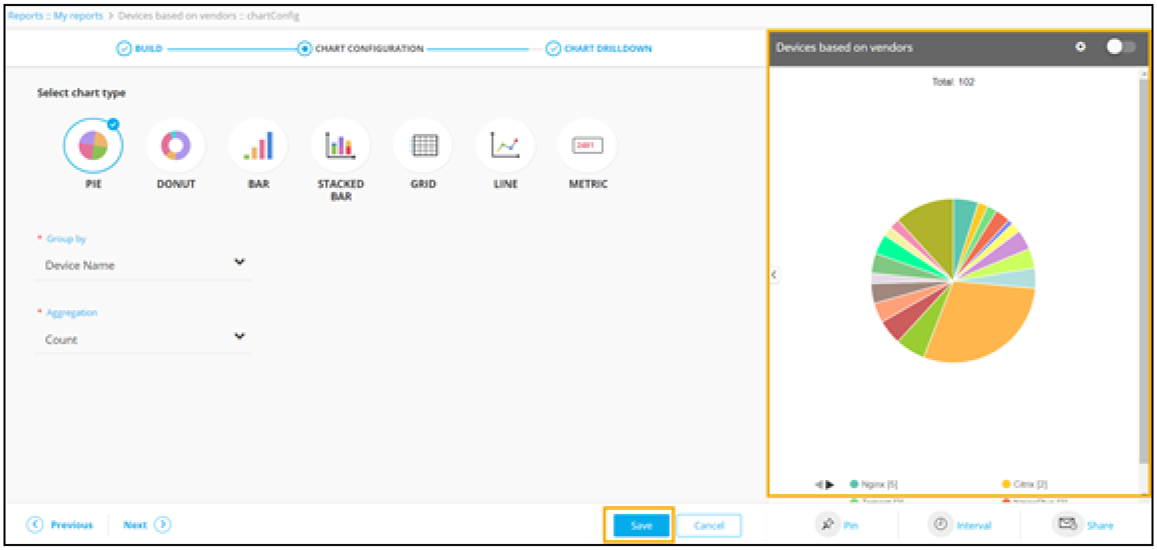


The following table describes the field information in this section:

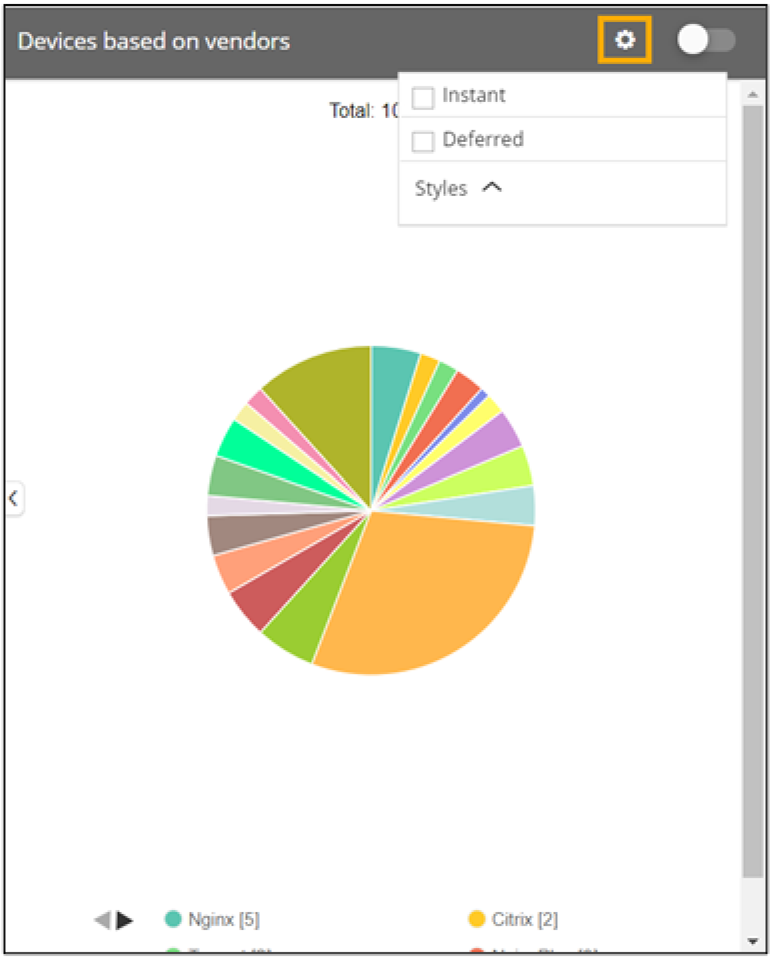
Field	Description
***Group by**	Select a value from the dropdown menu on the basis of which report data will be grouped. For example: **Device Name**.
***Aggregation**	Select the calculation to be done on the report data for the dropdown. The following options are available: • **Average**: Calculates the average value of a given set of data. • **Sum**: Calculates the sum of all values in a given set of data. • **Count**: Calculates the total number of items in a given numeric field. • **Maximum**: Displays the maximum value in a given set of data. • **Minimum**: Displays the minimum value in a given set of data.
The asterisk (*) symbol indicates mandatory fields.	

4. Click **Save**.

   A preview of the pie chart is generated on the right side of the screen.

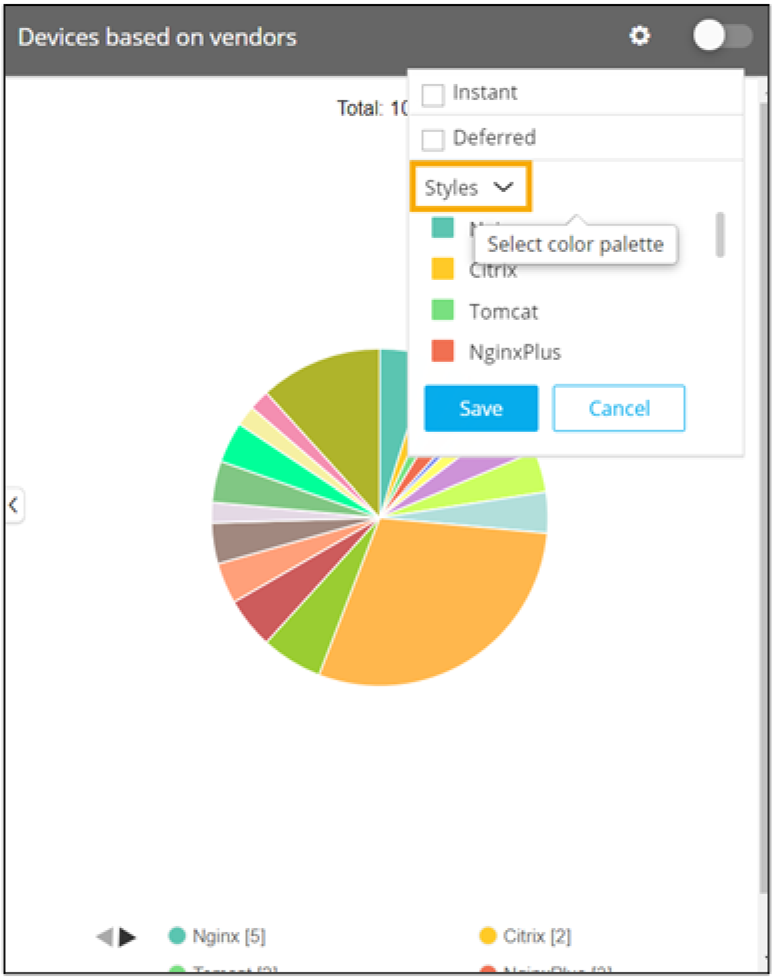


5. To select the data loading pattern, click .

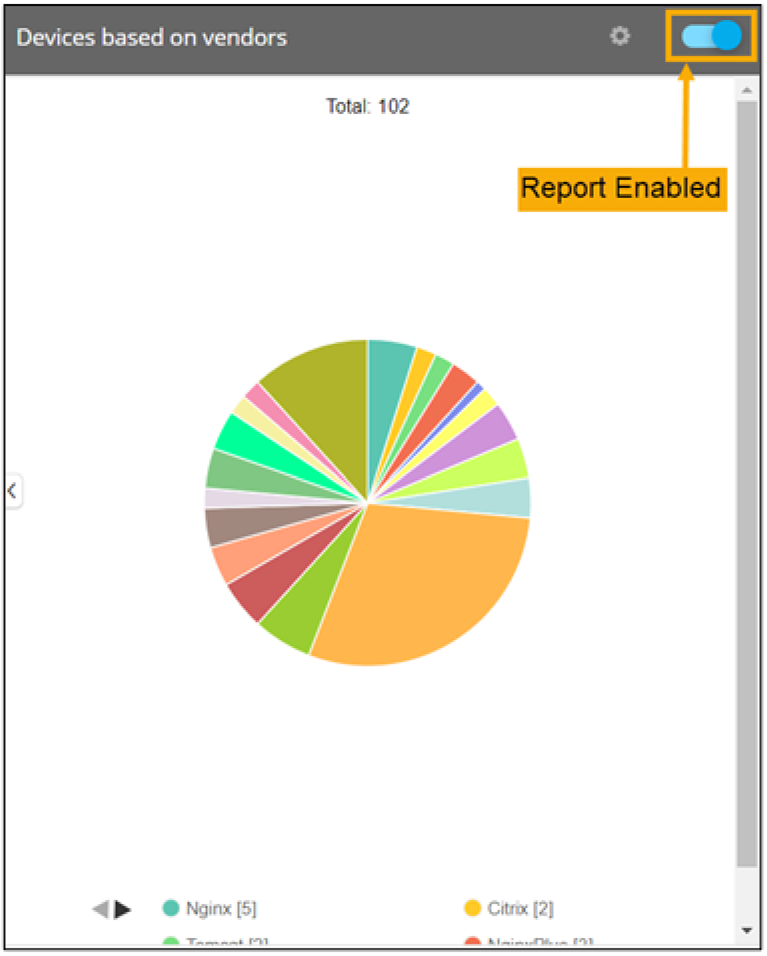


- **Instant**: This option allows you to enable live data loading and see changes in data immediately. This can be used in the case of small databases.
- **Deferred**: This option allows you to enable lazy data loading and is useful in the case of larger databases. The default time interval for this is set at 30 minutes.

6. To change the style/font color of their pie chart, click **Styles**.



7. To enable the report, turn on the toggle.



8. Click **Next**.

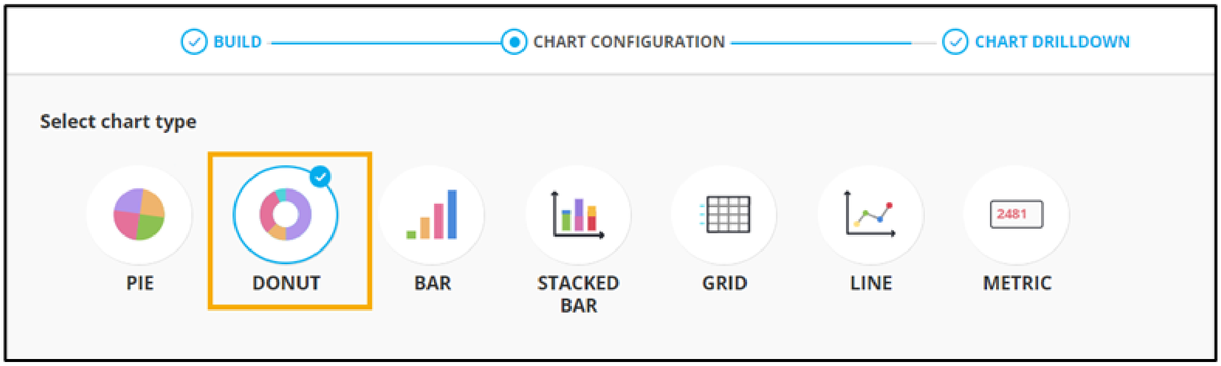
   The CHART DRILLDOWN section is displayed.

How to Design a Custom Donut Chart

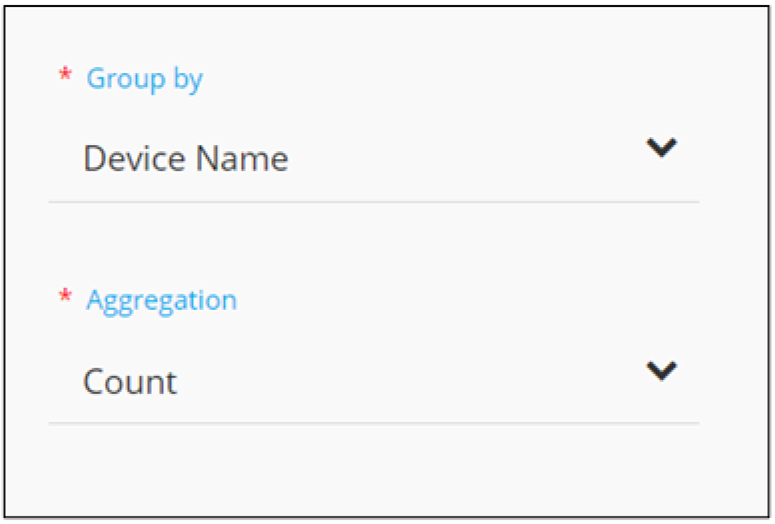
A donut chart, similar to a pie chart, allows you to compare between categories and visualize part to whole relationships. A donut chart has the added advantage of having a blank space in the middle where extra information can be supplemented.

To design a custom donut chart:

1. Build a report.
2. Under the **CHART CONFIGURATION** section, select the **DONUT** chart.



3. Enter or select the information required in each of the fields.

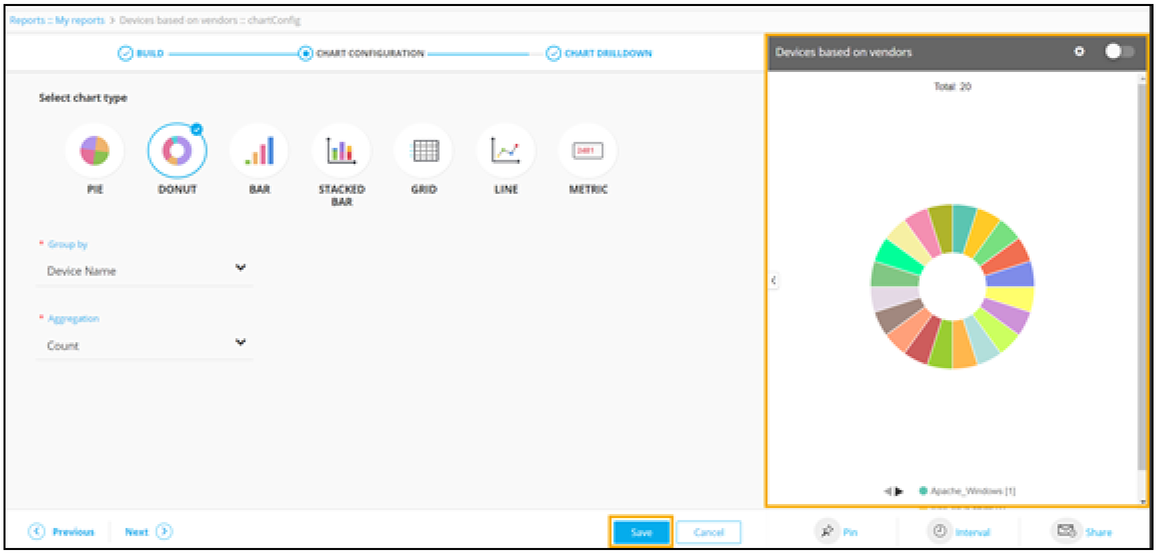


The following table describes the field information in this section:

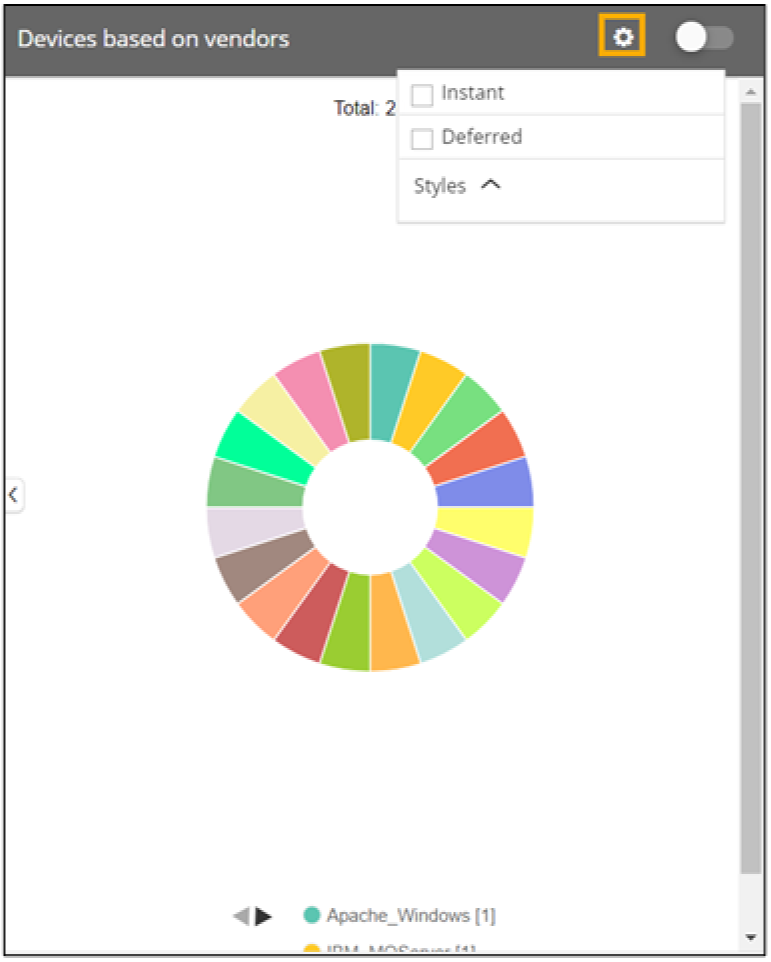
Field	Description
***Group by**	Select a value from the dropdown menu on the basis of which report data will be grouped. For example: **Device Name**.
***Aggregation**	Select the calculation to be done on the report data for the dropdown. The following options are available: • **Average**: Calculates the average value of a given set of data. • **Sum**: Calculates the sum of all values in a given set of data. • **Count**: Calculates the total number of items in a given numeric field. • **Maximum**: Displays the maximum value in a given set of data. • **Minimum**: Displays the minimum value in a given set of data.
The asterisk (*) symbol indicates mandatory fields.	

4. Click **Save**.

   A preview of the donut is generated on the right side of the screen.

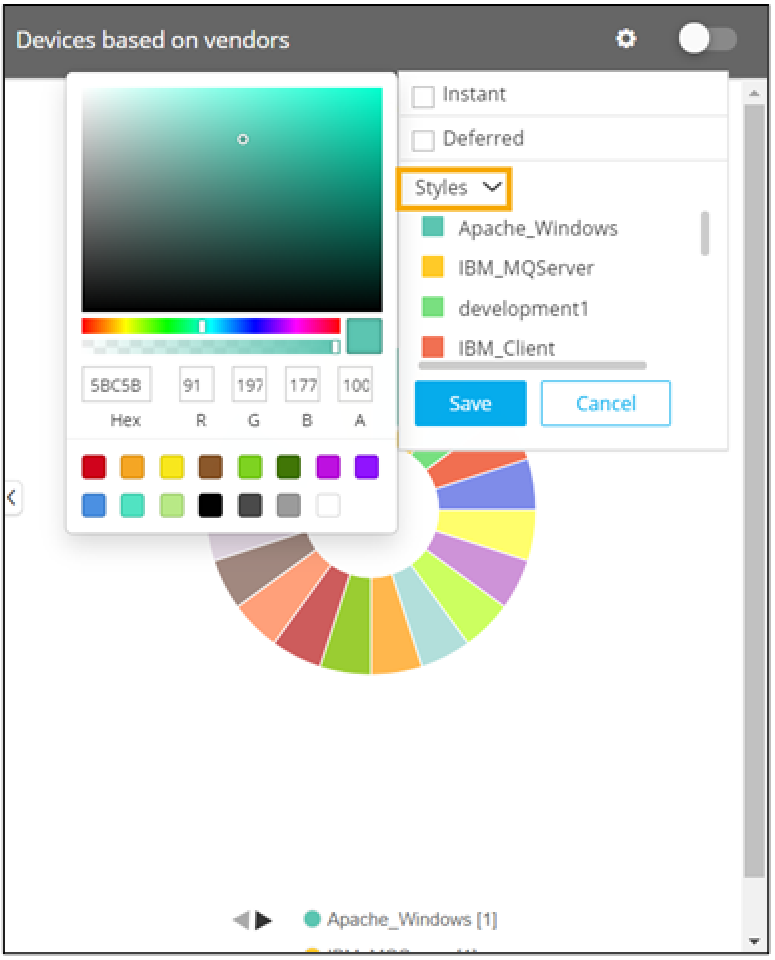


5. To select the data loading pattern, click .

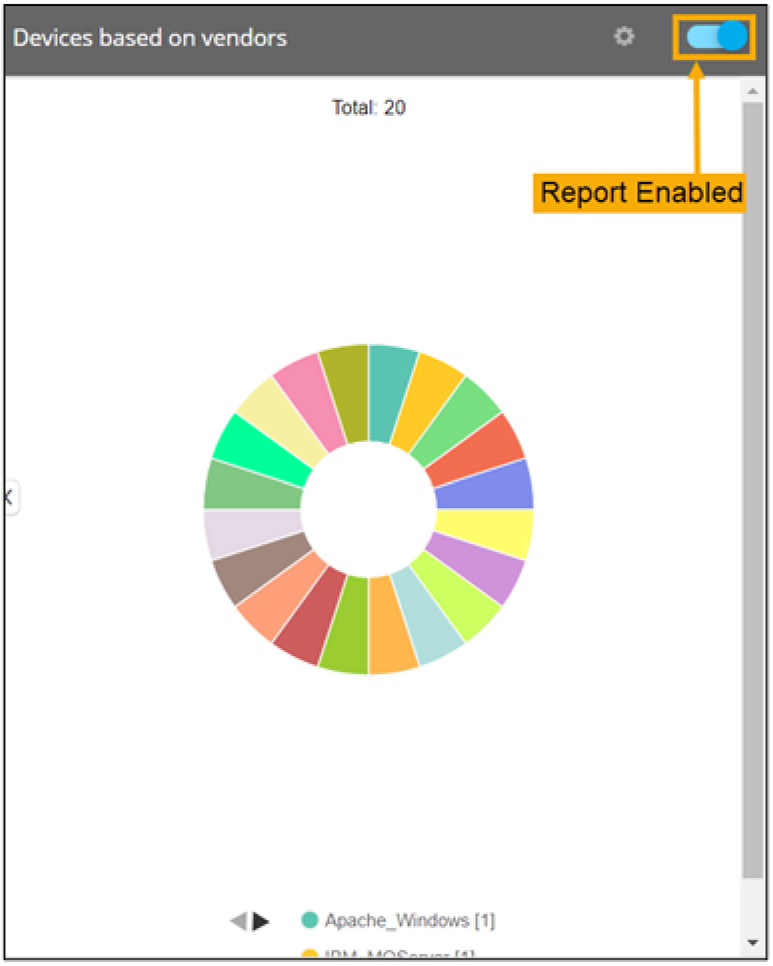


- **Instant**: This option allows you to enable live data loading and see changes in data immediately. This can be used in the case of small databases.
- **Deferred**: This option allows you to enable lazy data loading and is useful in the case of larger databases. The default time interval for this is set at 30 minutes.

6. To change the style/font color of the donut, click **Styles**.



7. To enable the report, turn on the toggle.



8. Click **Next**.

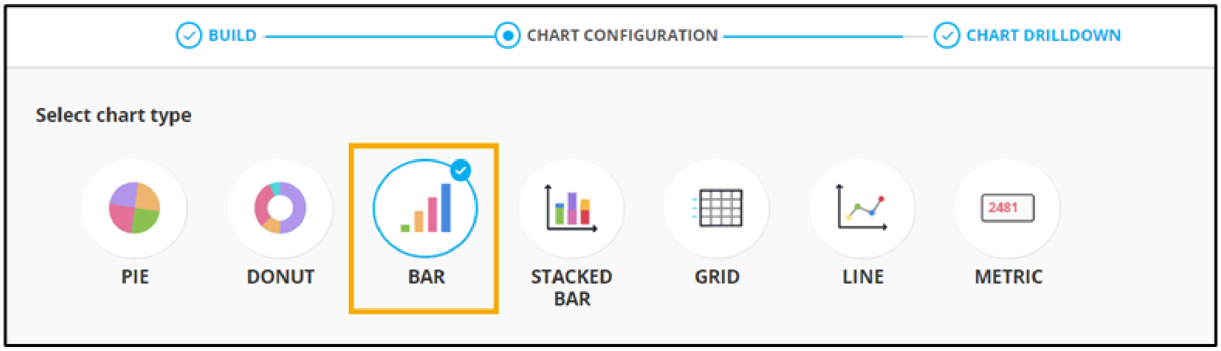
   The CHART DRILLDOWN section is displayed.

How to Design a Custom Bar Chart

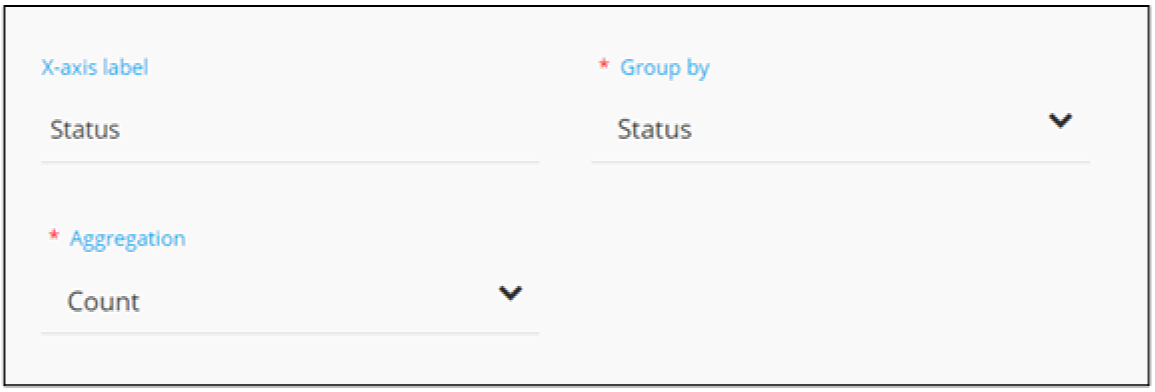
A bar chart allows you to compare data across different categories. It is especially useful for measuring changes in data over longer periods of time or measuring larger changes in data.

To design a custom bar Chart:

1. Build a report.
2. Under the **CHART CONFIGURATION** section, select the **BAR** chart.



3. Enter or select the information required in each of the fields.

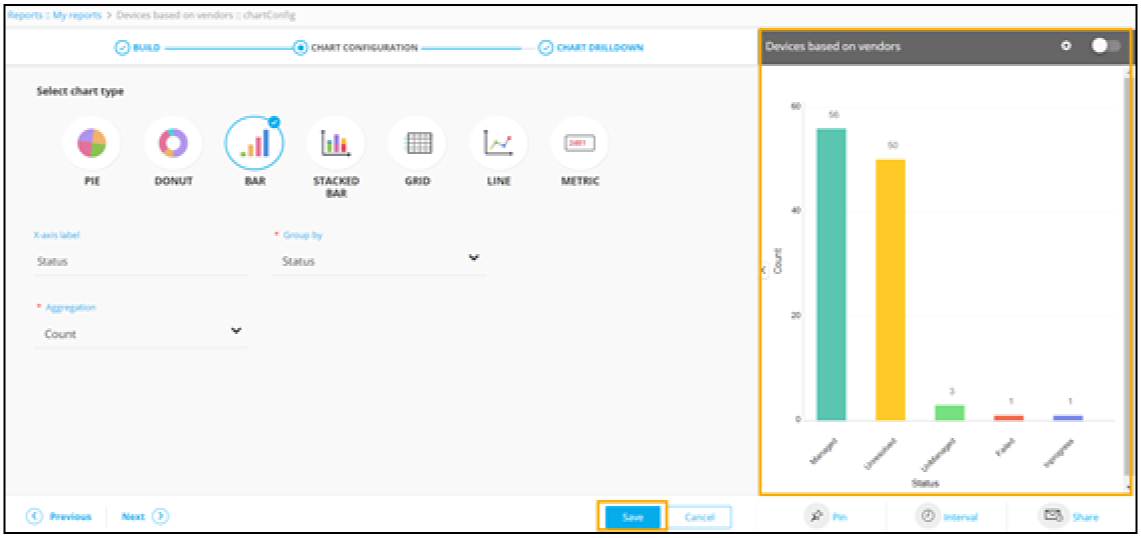


The following table describes the field information in this section:

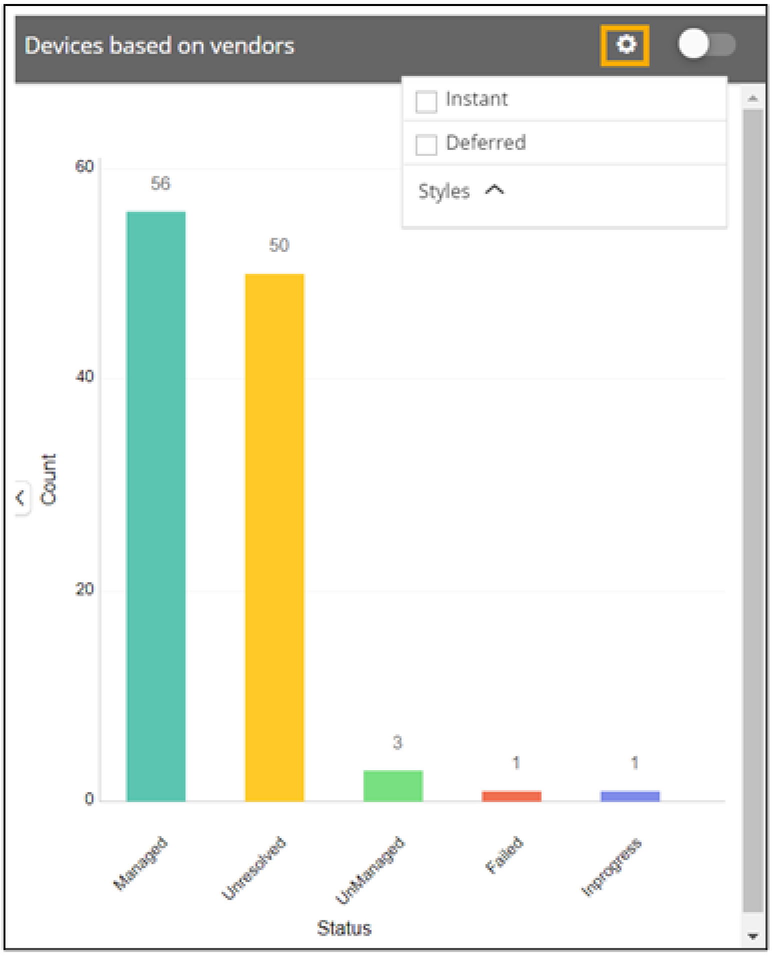
Field	Description
X-axis label	Enter the criteria for the X-axis label. For example: **Status**.
***Group by**	Select a value from the drop down menu on the basis of which data will be grouped. For example: **Status.** This will generate a report that shows the status of devices as managed, unmanaged and so on.
***Aggregation**	Select the calculation to be done on the report data for the dropdown. The following options are available: • **Average**: Calculates the average value of a given set of data. • **Sum**: Calculates the sum of all values in a given set of data. • **Count**: Calculates the total number of items in a given numeric field. • **Maximum**: Displays the maximum value in a given set of data. • **Minimum**: Displays the minimum value in a given set of data.
The asterisk (*) symbol indicates mandatory fields.	

4. Click **Save**.

   A preview of the bar chart is generated on the right side of the screen.

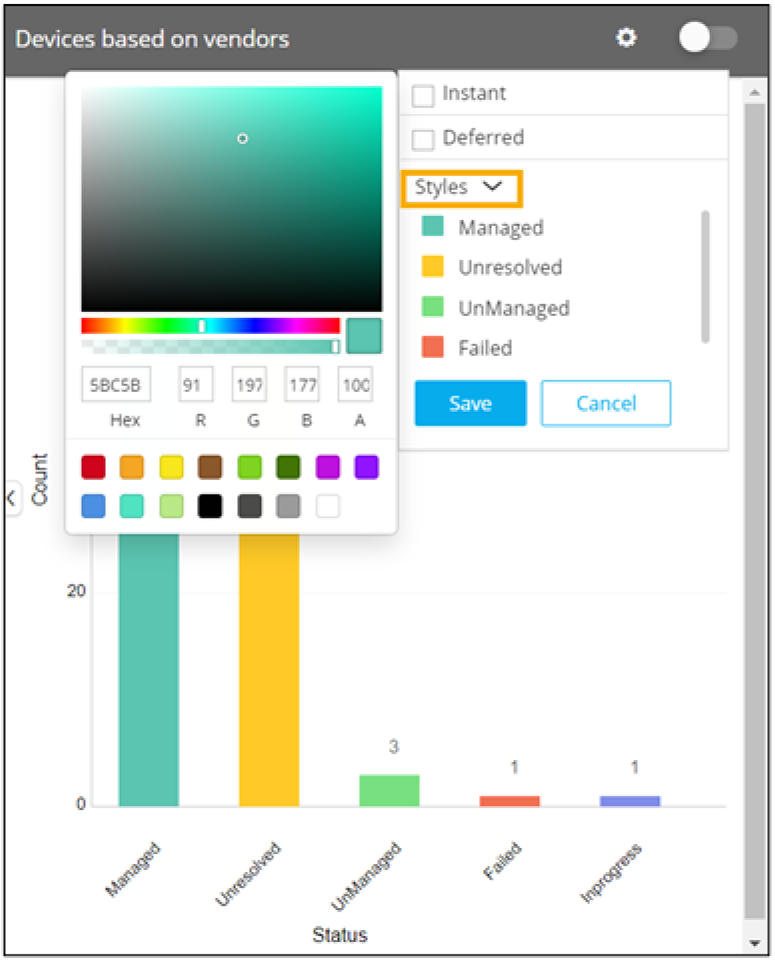


5. To select the data loading pattern, click .

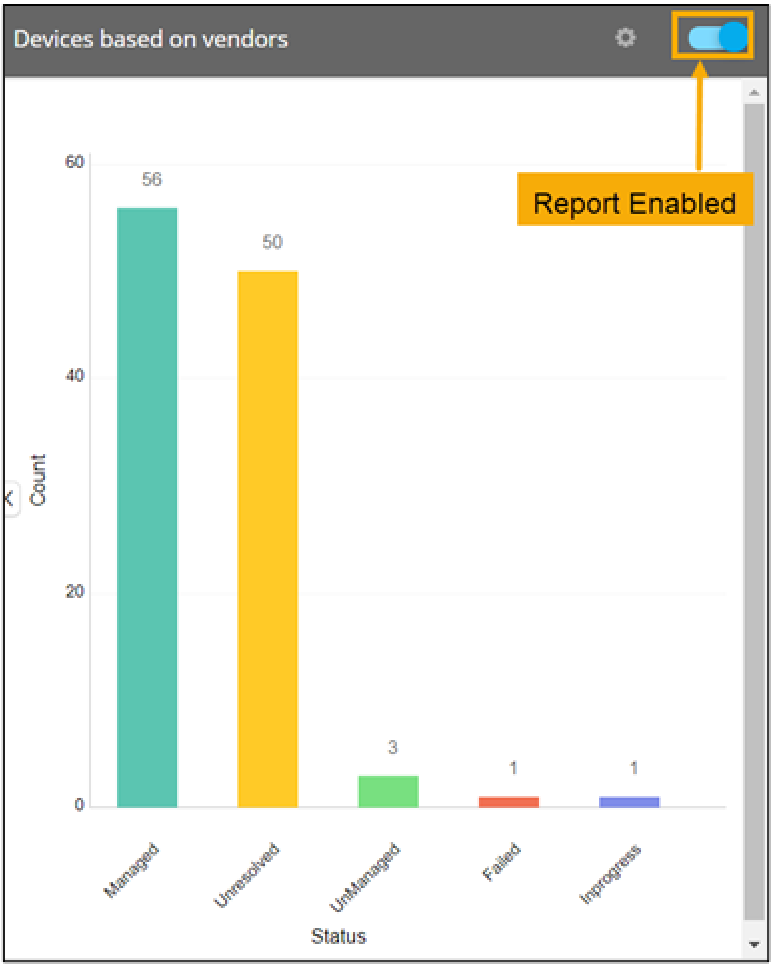


- **Instant**: This option allows you to enable live data loading and see changes in data immediately. This can be used in the case of small databases.
- **Deferred**: This option allows you to enable lazy data loading and is useful in the case of larger databases. The default time interval for this is set at 30 minutes.

6. To change the style/font color of the bar chart, click **Styles**.



7. To enable the report, turn on the toggle.



8. Click **Next**.

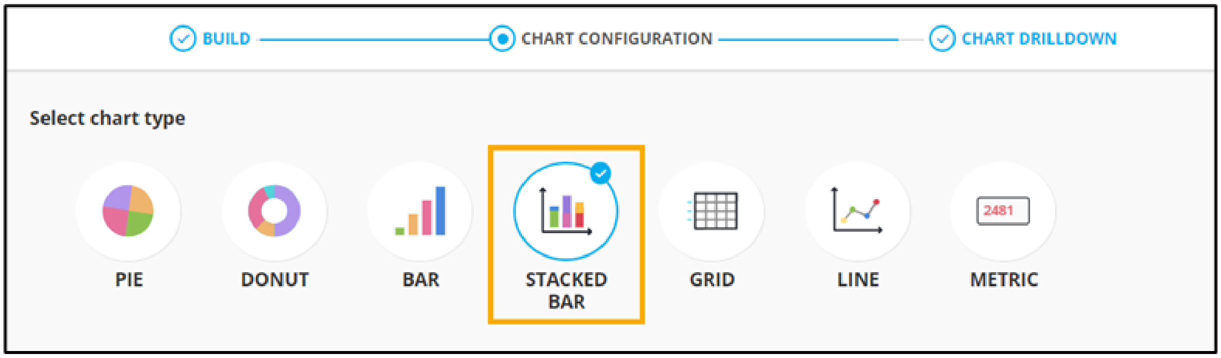
   The CHART DRILLDOWN section is displayed.

How to Design a Custom Stacked Bar Chart

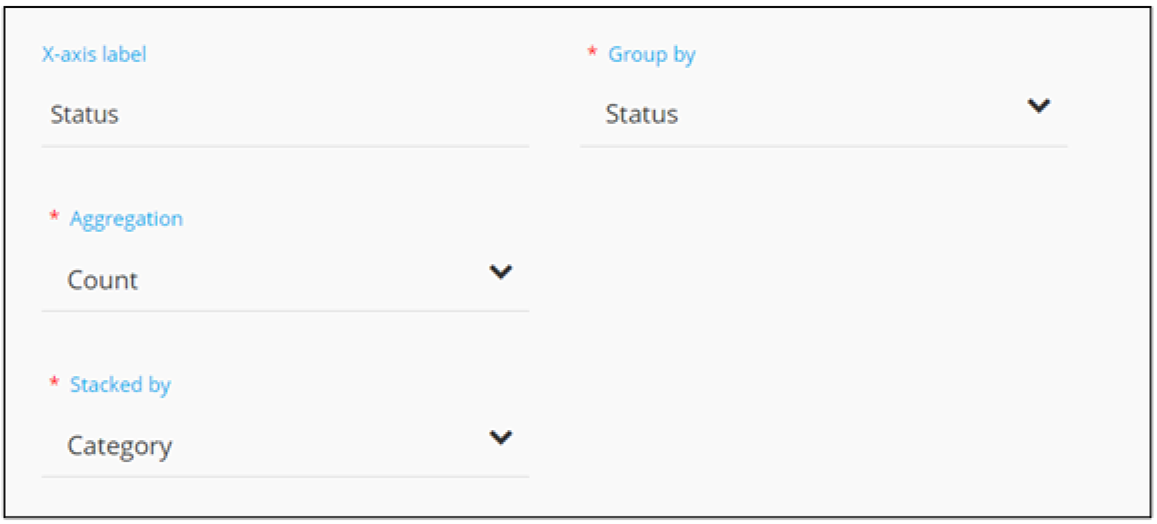
A stacked bar chart is useful for comparing data across several categories as well as analysing the relation between sub-categories. In a stacked bar, each bar is divided into segments which represent different categories within that single bar category.

To design a custom stacked bar chart:

1. Build a report.
2. Under the **CHART CONFIGURATION** section, select the **STACKED BAR** chart.



3. Enter or select the information required in each of the fields.



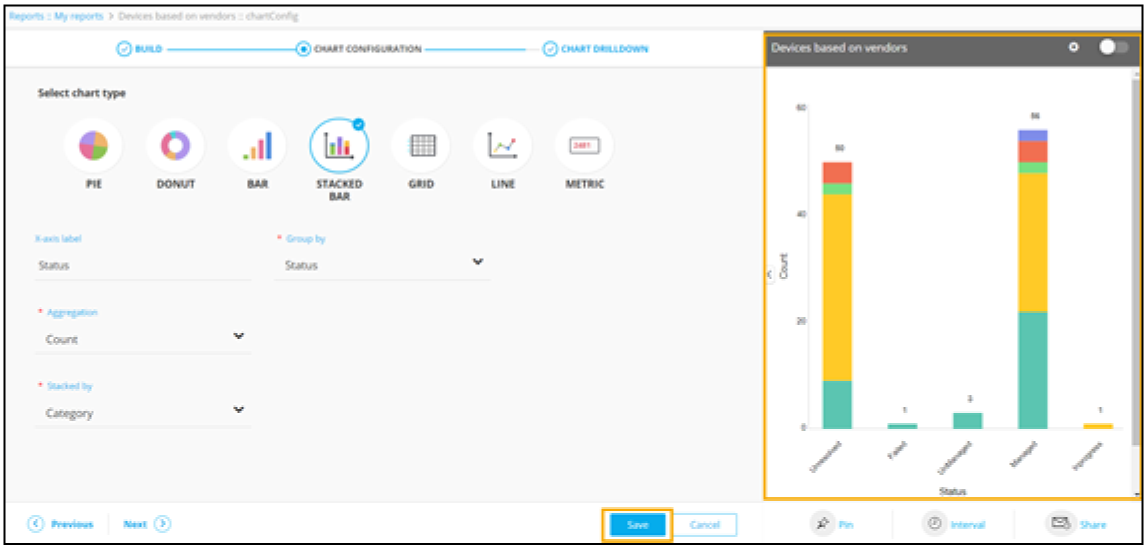
The following table describes the field information in this section:

Field	Description
X-axis label	Enter the criteria for the X-axis label. For example: **Status**.
***Group by**	Select a value from the drop down menu on the basis of which report data will be grouped. For example: **Status**.
***Aggregation**	Select the calculation to be done on the report data for the dropdown. The following options are available: • **Average**: Calculates the average value of a given set of data. • **Sum**: Calculates the sum of all values in a given set of data. • **Count**: Calculates the total number of items in a given numeric field. • **Maximum**: Displays the maximum value in a given set of data. • **Minimum**: Displays the minimum value in a given set of data.

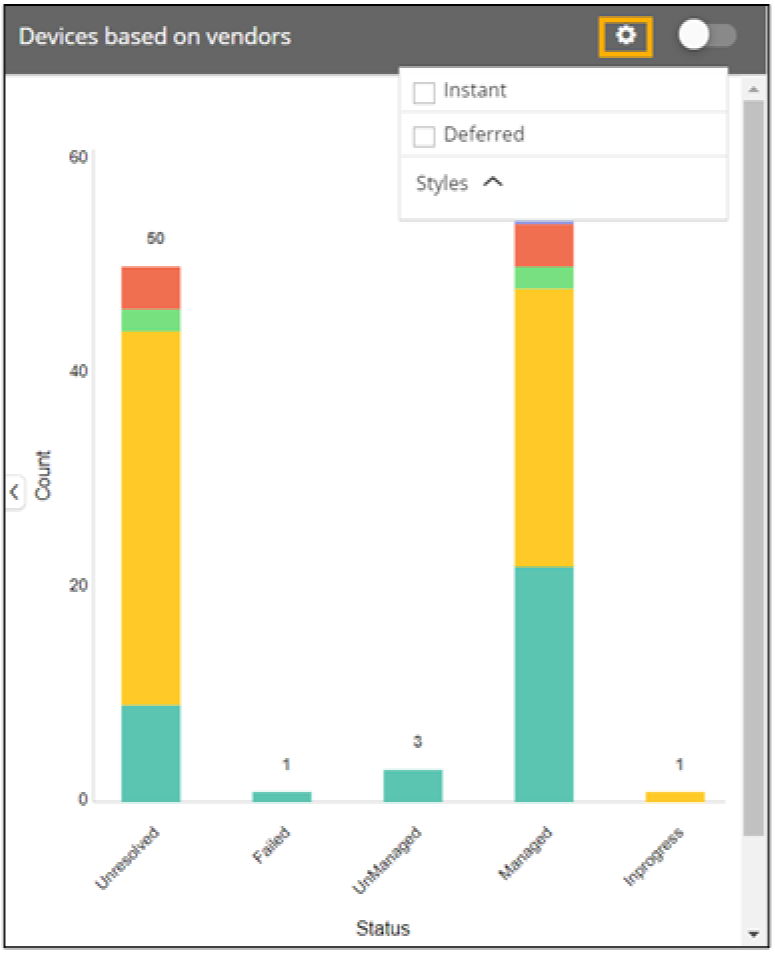
Field	Description
***Stacked by**	Select the parameter from the drop down menu on the basis of which the data will be stacked in the chart. For example: **Category** of device.
The asterisk (*) symbol indicates mandatory fields.	

4. Click **Save**.

   A preview of the stacked bar chart is generated on the right side of the screen.

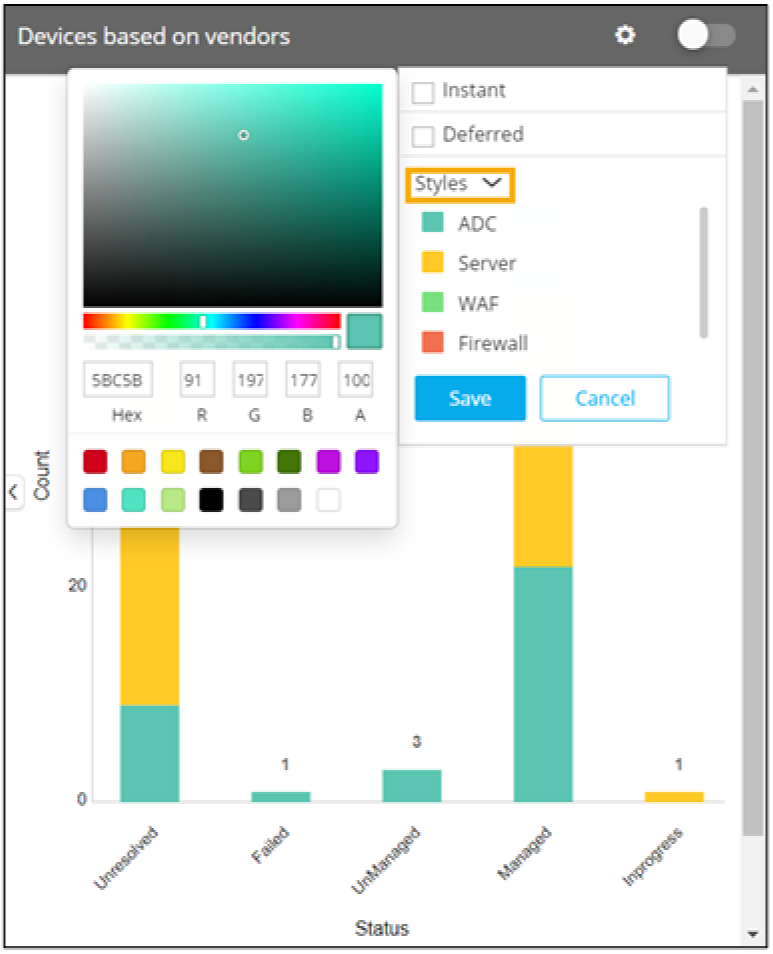


5. To select the data loading pattern, click .

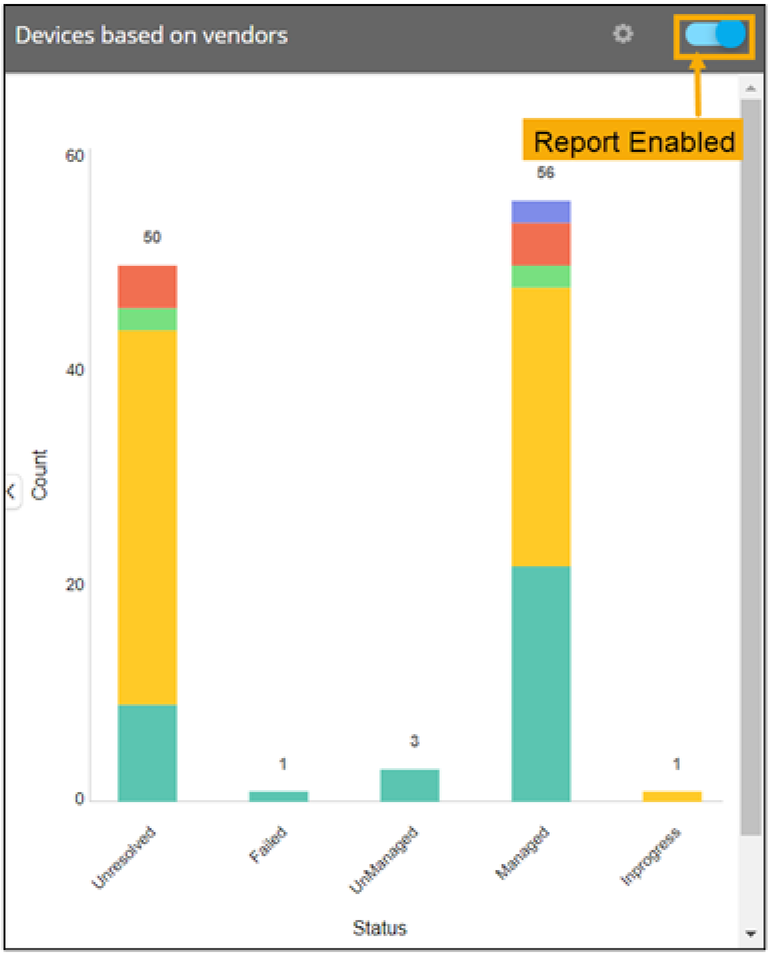


- **Instant**: This option allows you to enable live data loading and see changes in data immediately. This can be used in the case of small databases.
- **Deferred**: This option allows you to enable lazy data loading and is useful in the case of larger databases. The default time interval for this is set at 30 minutes.

6. To change the style/font color of the stacked bar chart, click **Styles**.



7. To enable the report, turn on the toggle.



8. Click **Next**.

   The CHART DRILLDOWN section is displayed.

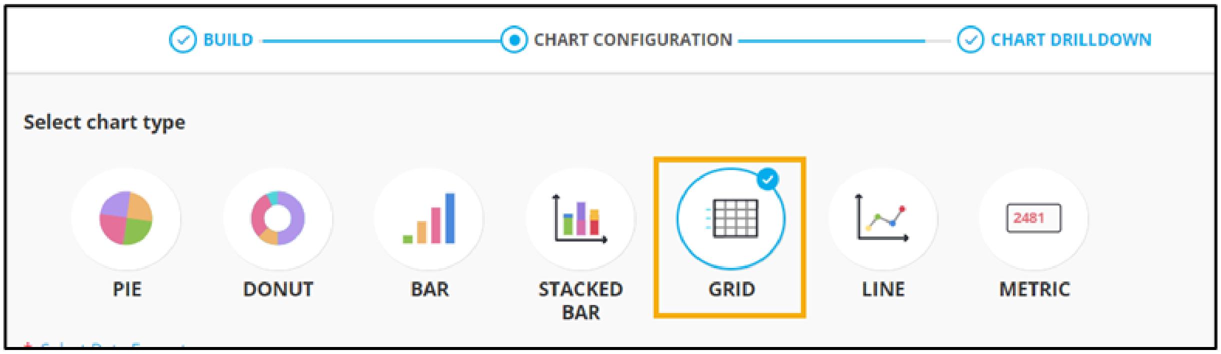
How to Design a Custom Grid Chart

A grid is a tabular representation of data with each row displaying specific information pertaining to selected fields in the columns.

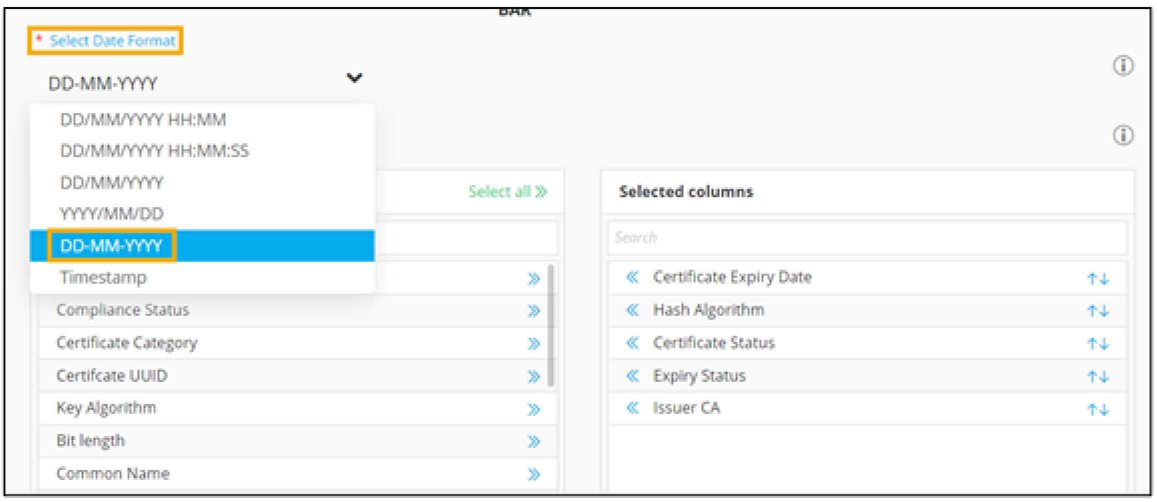
- The grid chart supports server side search functionality.
- It also supports server side sorting, where you can sort the report data in ascending or descending order.
- Grid chart also has provision for downloading high volumes of data in Excel or CSV formats.
- Date formats are customizable for grid charts as per user needs. You can select the specific date format from the dropdown.

To design a custom grid chart:

1. Build a report.
2. Under the **CHART CONFIGURATION** section, select the **GRID** chart.



3. **Select Date Format** from the dropdown.

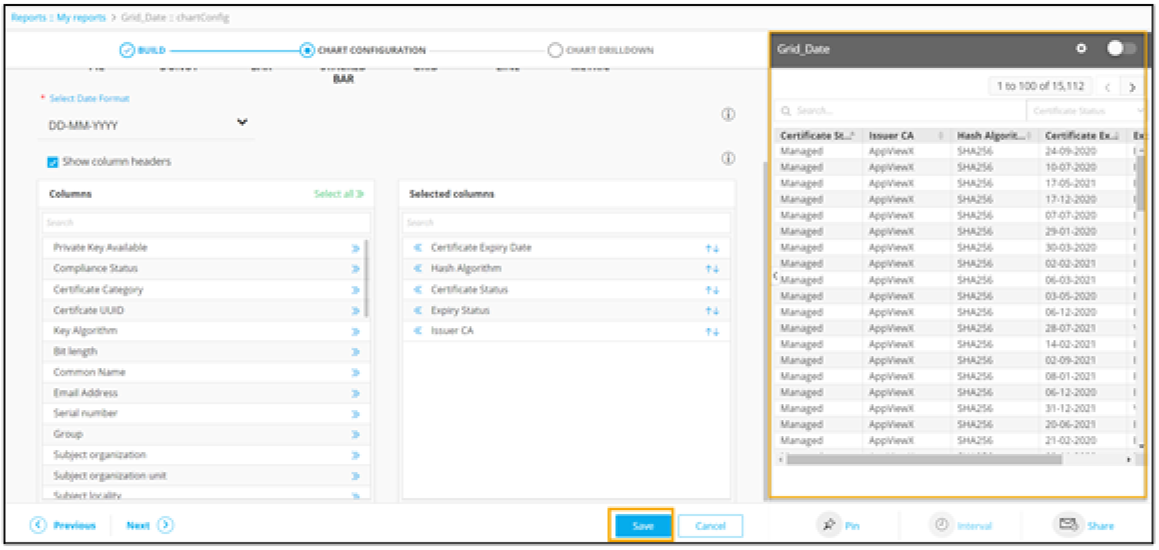


4. To configure the column headers to be displayed within the grid, click ».

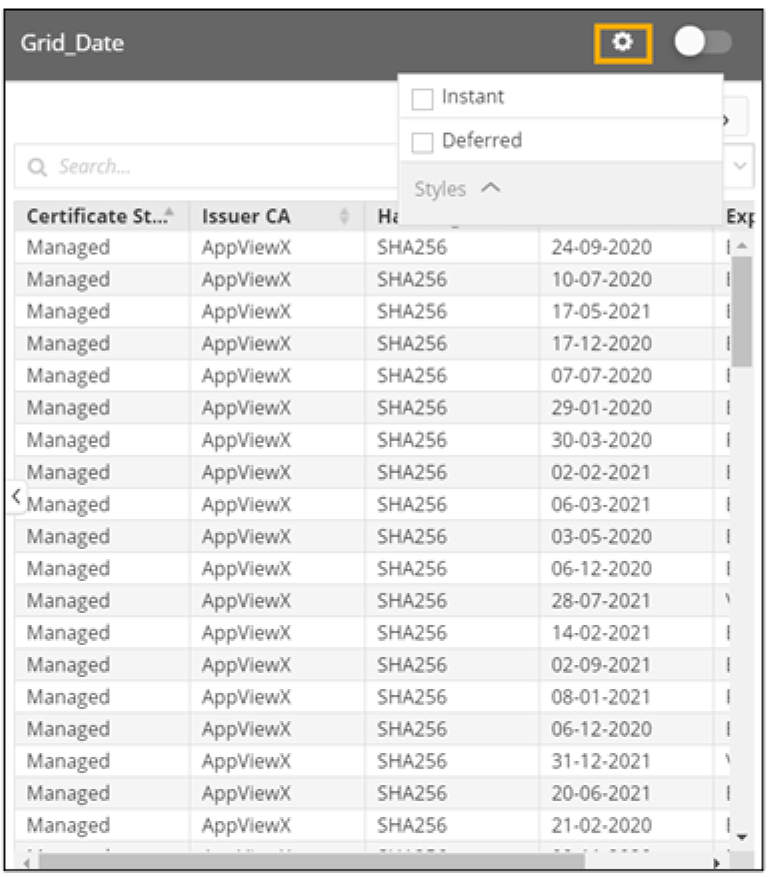
Tip: To arrange the order in which **Selected columns** are displayed in the grid, click ↑↓.

5. Click **Save**.

   A preview of the grid chart is generated on the right side of the screen.

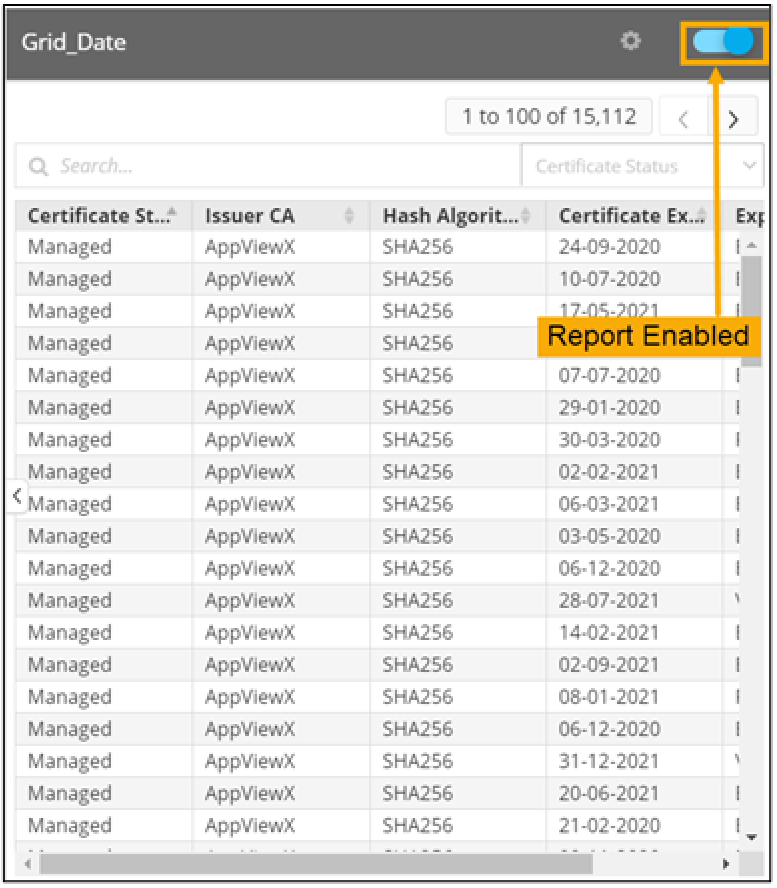


6. To select the data loading pattern, click .



- **Instant**: This option allows you to enable live data loading and see changes in data immediately. This can be used in the case of small databases.
- **Deferred**: This option allows you to enable lazy data loading and is useful in the case of larger databases. The default time interval for this is set at 30 minutes.

7. To enable the report, turn on the toggle.



> **Note:** Color code mapping is not applicable to the grid chart.

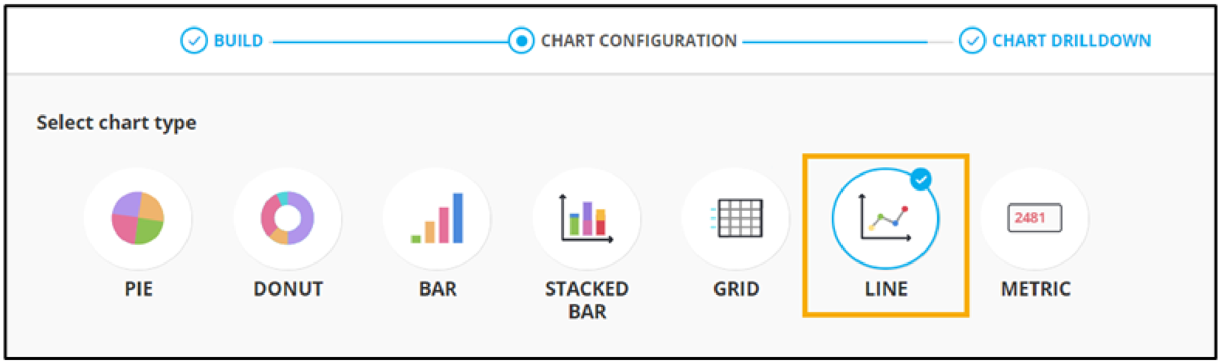
8. Click **Next**.
   The CHART DRILLDOWN section is displayed.

How to Design a Custom Line Chart

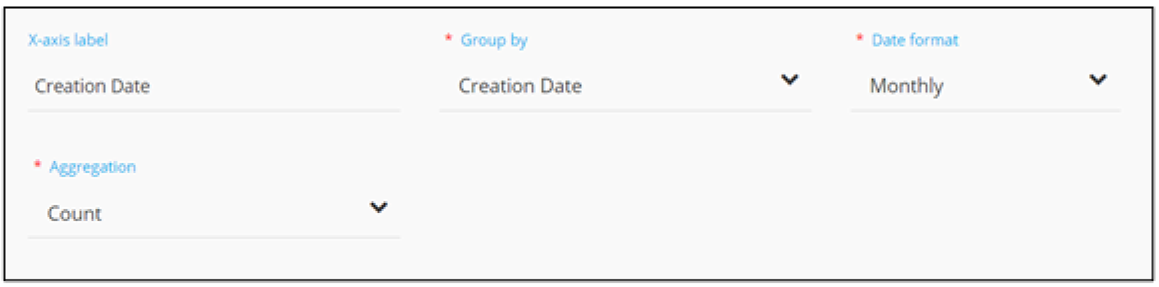
Line charts are a simple and quick way of tracking changes over a period of time. They are a better choice for tracking changes over a short period of time. A line chart can also be used to compare changes for multiple groups over the same period of time.

To design a custom line chart:

1. Build a report.
2. Under the **CHART CONFIGURATION** section, select the **LINE** chart.



3. Enter or select the information required in each of the fields.



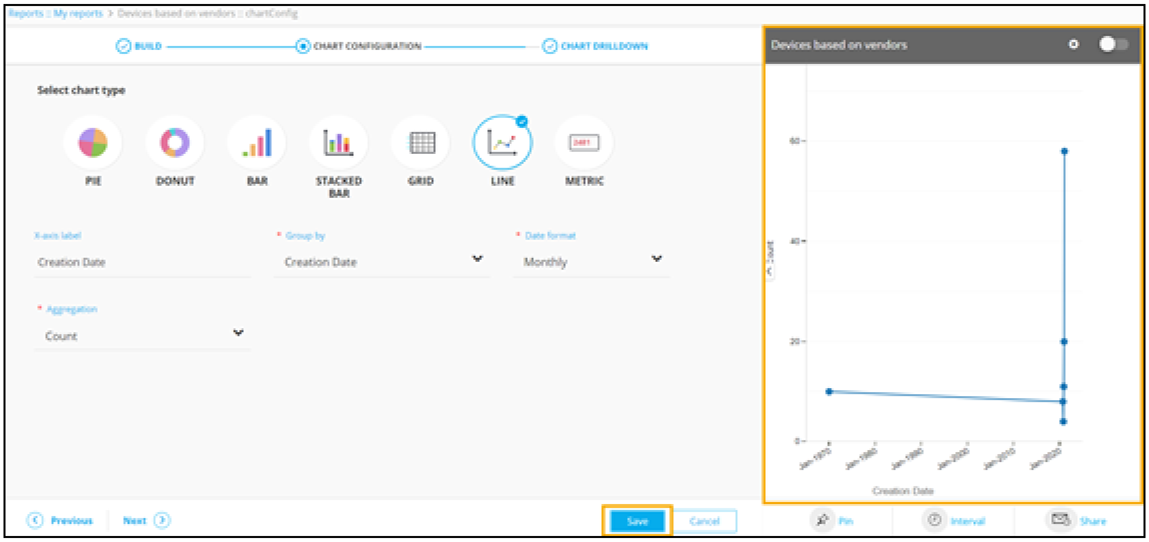
The following table describes the field information in this section:

Field	Description
X-axis label	Enter the criteria for the X-axis label. For example: **Creation Date**.
***Group by**	Select a value from the dropdown on the basis of which report data will be grouped. For example: **Creation Date**.
***Date format**	Select a valid date format from the dropdown menu. For example: **Monthly**.
***Aggregation**	Select the calculation to be done on the report data for the dropdown. The following options are available: • **Average**: Calculates the average value of a given set of data. • **Sum**: Calculates the sum of all values in a given set of data. • **Count**: Calculates the total number of items in a given numeric field. • **Maximum**: Displays the maximum value in a given set of data. • **Minimum**: Displays the minimum value in a given set of data.

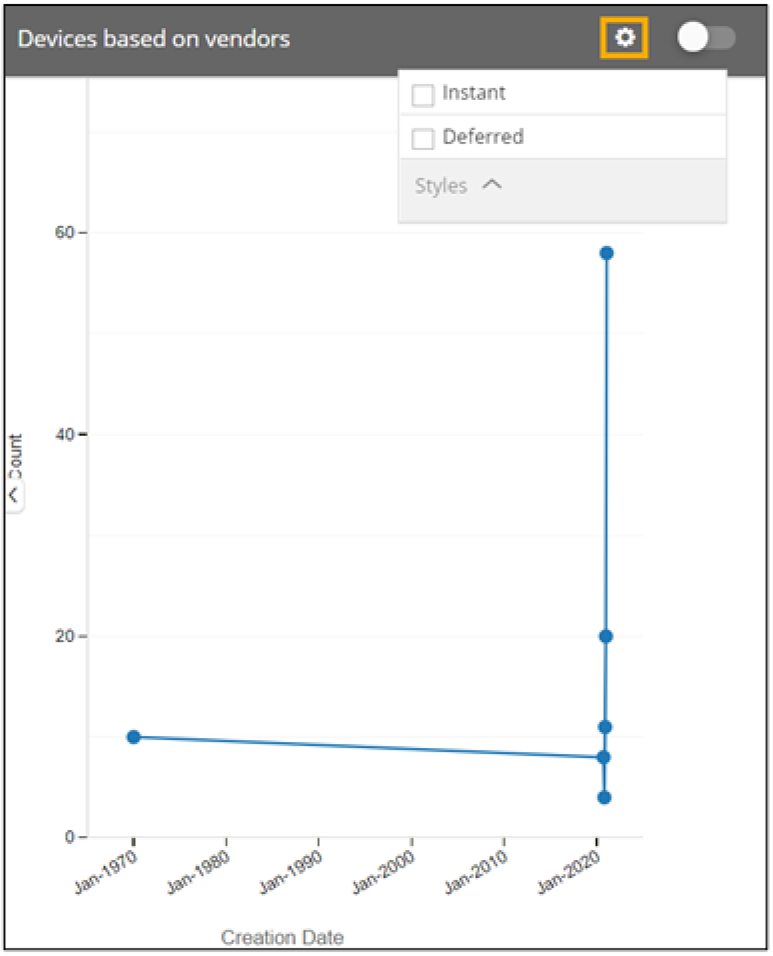
Field	Description
The asterisk (*) symbol indicates mandatory fields.	

4. Click **Save**.

   A preview of the line chart is generated on the right side of the screen.

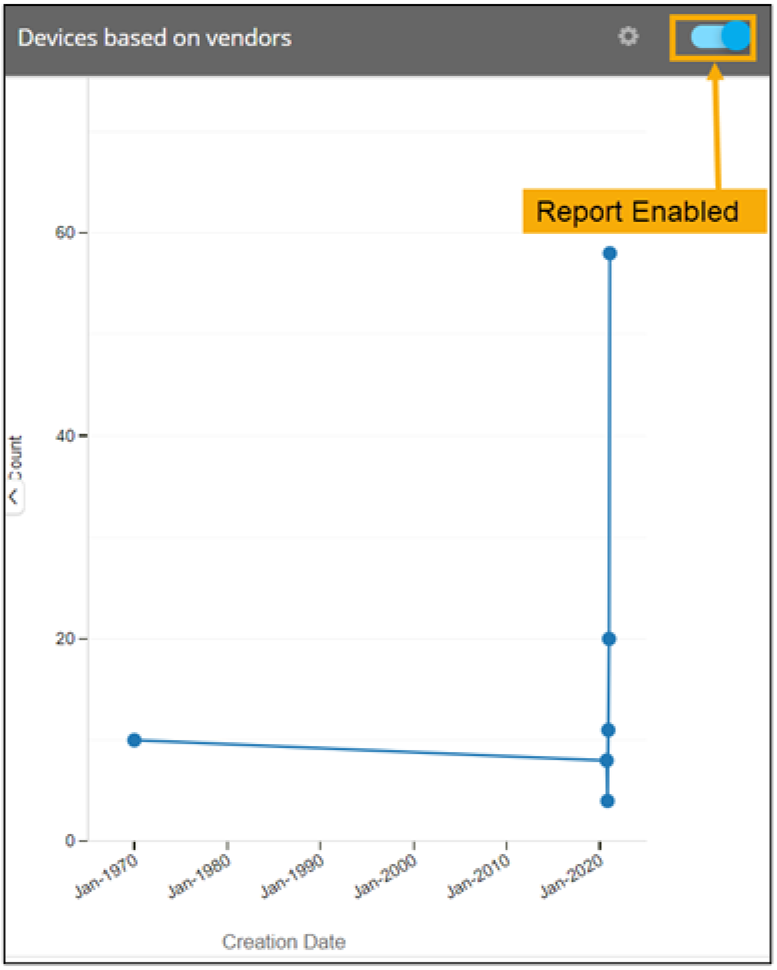


5. To select the data loading pattern, click .



- **Instant**: This option allows you to enable live data loading and see changes in data immediately. This can be used in the case of small databases.
- **Deferred**: This option allows you to enable lazy data loading and is useful in the case of larger databases. The default time interval for this is set at 30 minutes.

6. To enable the report, turn on the toggle.



Note: Color code mapping is not applicable to the line chart.

7. Click **Next**.

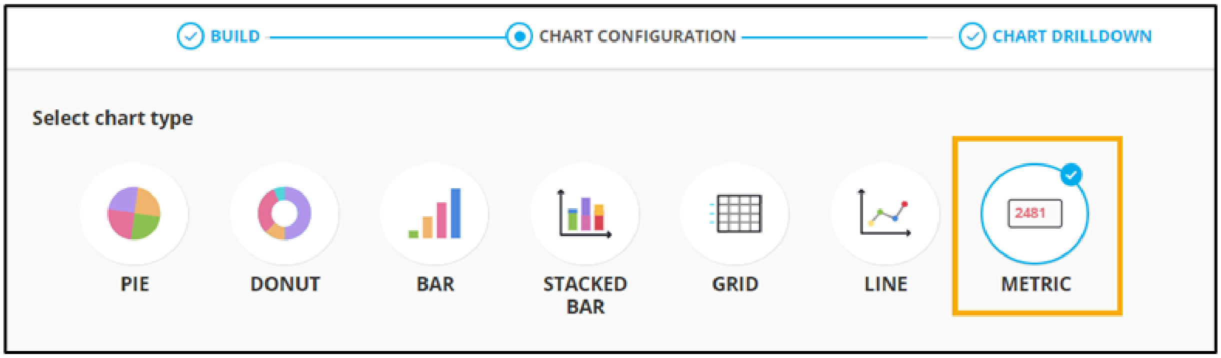
   The CHART DRILLDOWN section is displayed.

How to Design a Custom Metric Chart

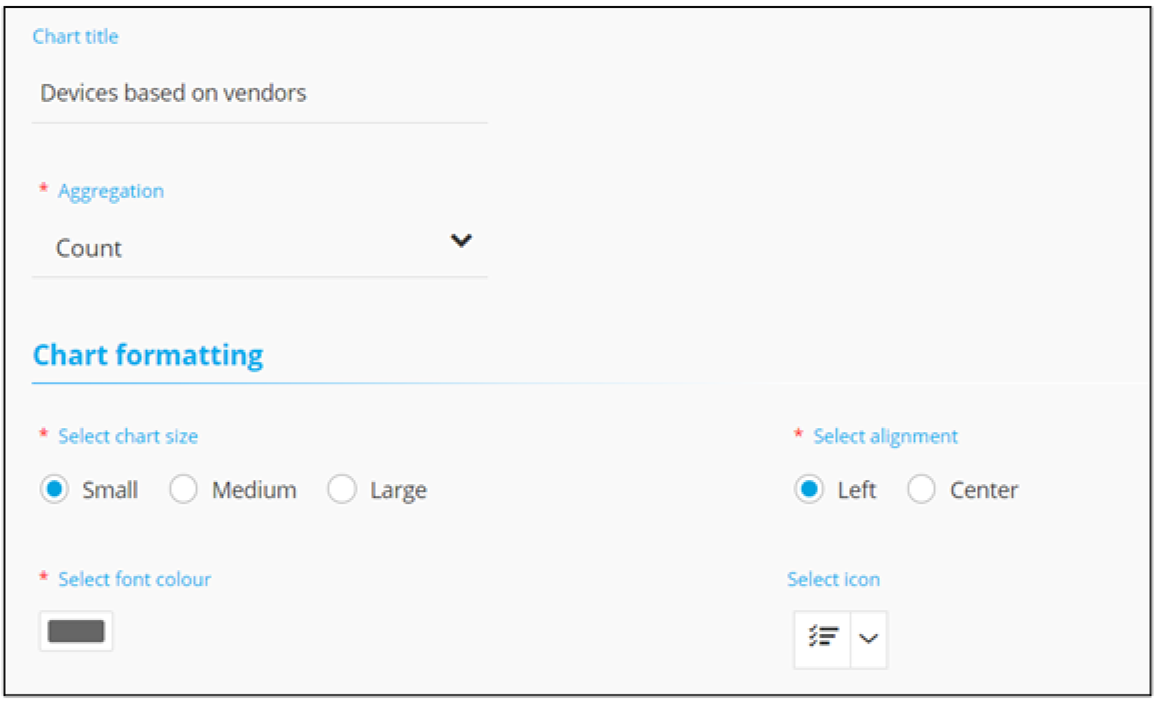
A metric chart displays specific information about a process and its functioning. It allows you to highlight a metric on the dashboard, giving instant information about the data and helps in tracking progress.

To design a custom metric chart:

1. Build a report.
2. Under the **CHART CONFIGURATION** section, select the **METRIC** chart.



3. Enter or select the information required in each of the fields.



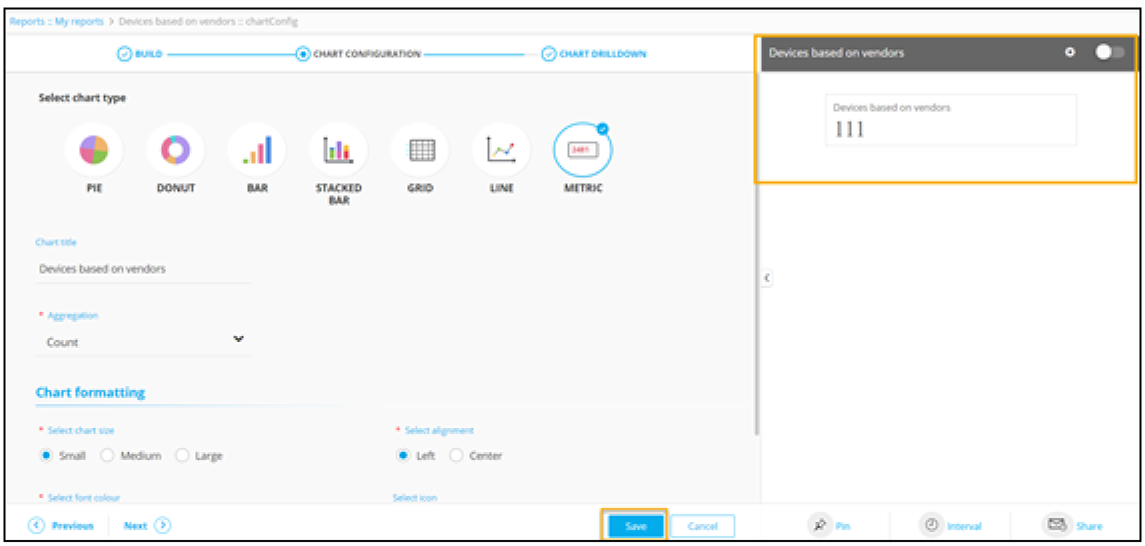
The following table describes the field information in this section:

Field	Description
Chart Title	Enter the chart title. For example: **Devices based on vendors**.
***Aggregation**	Select the calculation to be done on the report data for the dropdown. The following options are available: • **Average**: Calculates the average value of a given set of data. • **Sum**: Calculates the sum of all values in a given set of data. • **Count**: Calculates the total number of items in a given numeric field.

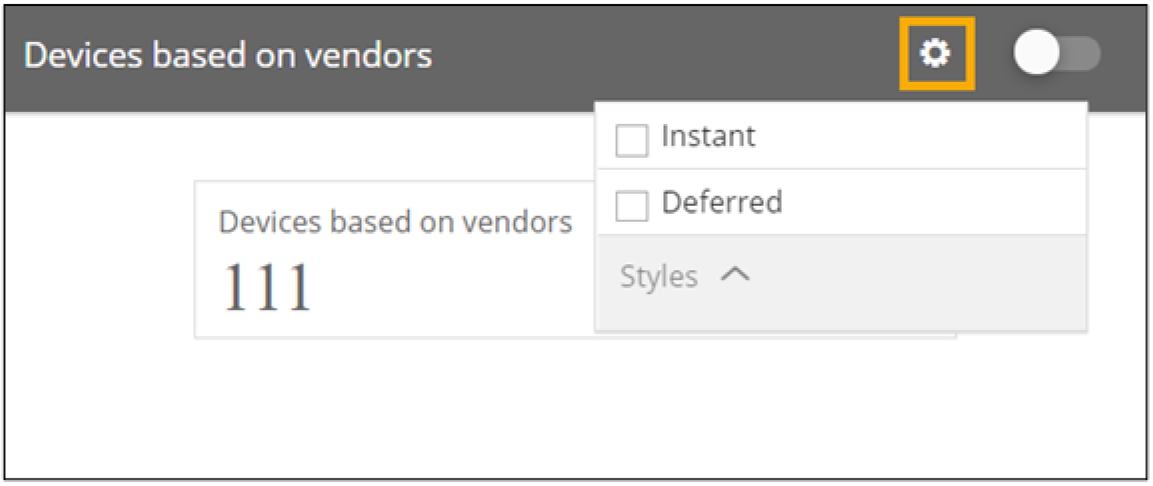
Field	Description
	• **Maximum**: Displays the maximum value in a given set of data. • **Minimum**: Displays the minimum value in a given set of data.
***Select chart size**	Select the metric size. For example, Small.
***Select alignment**	Select the placement of the metric on the screen. For example: **Left**.
***Select font color**	Select the color of the font on the metric.
Select icon	Select an icon for the metric chart from the dropdown menu.
The asterisk (*) symbol indicates mandatory fields.	

4. Click **Save**.

   A preview of the metric chart is generated on the right side of the screen.

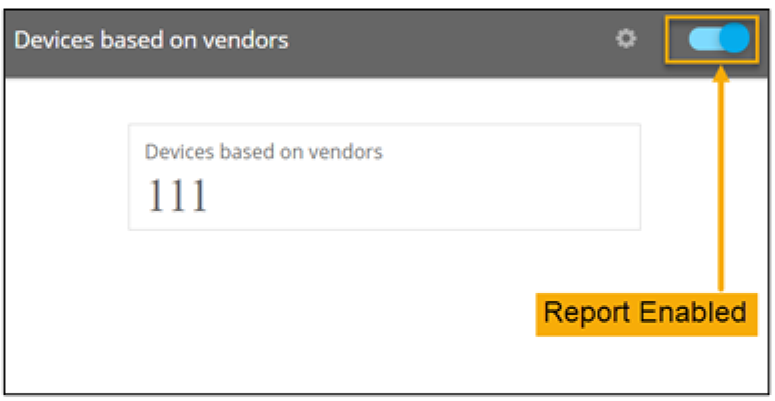


5. To select the data loading pattern, click .



- **Instant**: This option allows you to enable live data loading and see changes in data immediately. This can be used in the case of small databases.
- **Deferred**: This option allows you to enable lazy data loading and is useful in the case of larger databases. The default time interval for this is set at 30 minutes.

6. To enable the report, turn on the toggle.



Note: Color code mapping is not applicable to the metric chart.

7. Click **Next**.

   The CHART DRILLDOWN section is displayed.

Chart Drilldown

This section of the report builder allows you to make reporting more interactive and engaging by supplementing additional details within a chart. Adding a drilldown to your report helps in visualizing specific data pertaining to information displayed in the chart with a single click of the mouse. Drilldown also lightens the load on the server by presenting only a single layer of data at a time, which also significantly enhances the reporting performance.

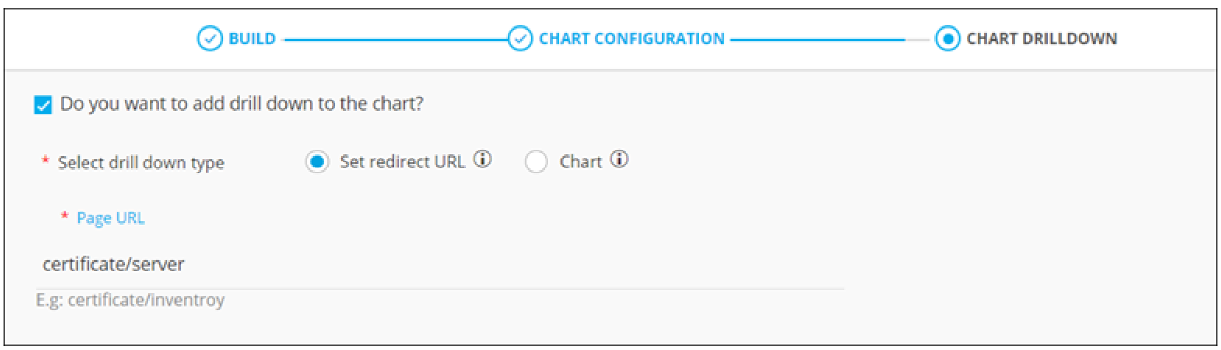
- How to Set a Redirect URL
- How to Add a Drilldown Chart

How to Set a Redirect URL

You can enter a URL to redirect to any web page or another existing report directly from the chart (within AppViewX pages).

To add a redirect URL:

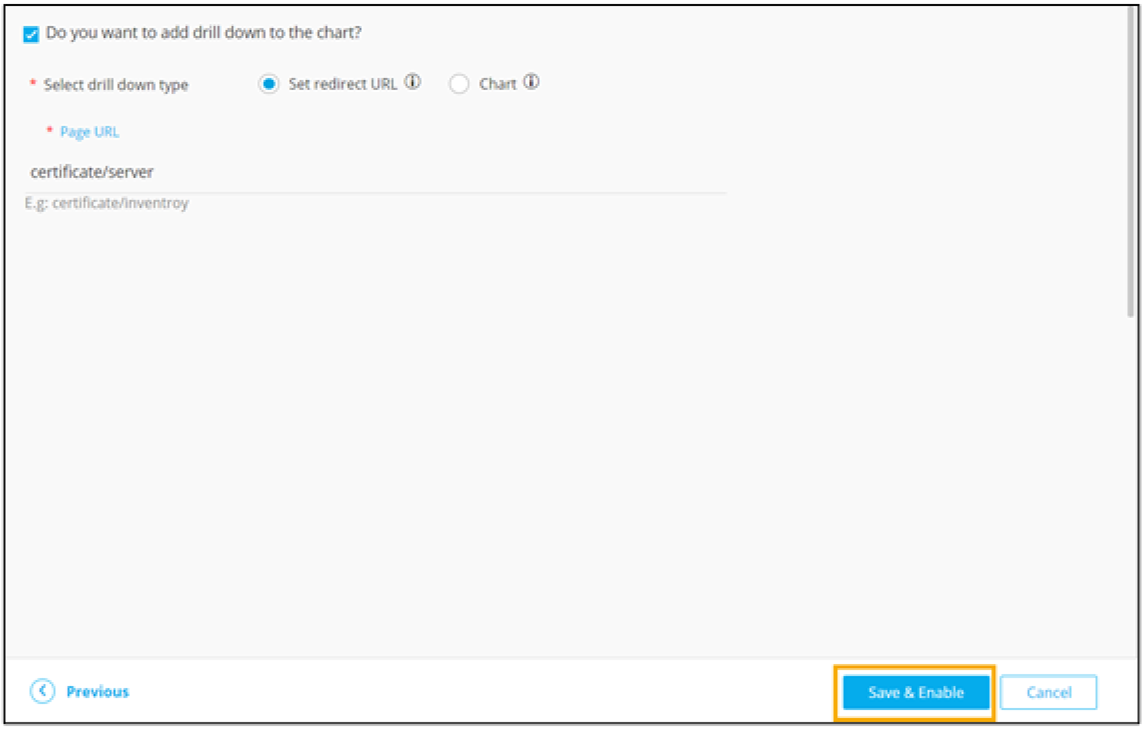
1. Build a report.
2. Design a custom chart.
3. Under the **CHART DRILLDOWN** section, enter or select the field information.



The following table describes the field information required in this section:

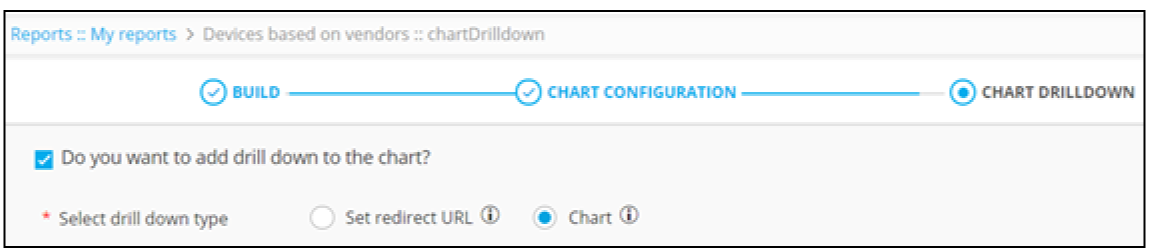
Field	Description
Do you want to add a drill down to the chart?	To add a drilldown to the chart, select this checkbox.
***Select drill down type**	Select **Set redirect URL**.
***Page URL**	Enter a valid URL.
The asterisk (*) symbol indicates mandatory fields.	

4. Click **Save & Enable**.



How to Add a Drilldown Chart

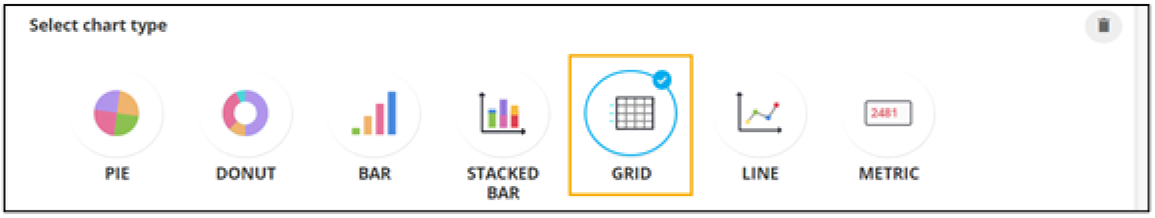
1. Under the **CHART DRILLDOWN** section, enter or select the field information.



The following table describes the field information required in this section:

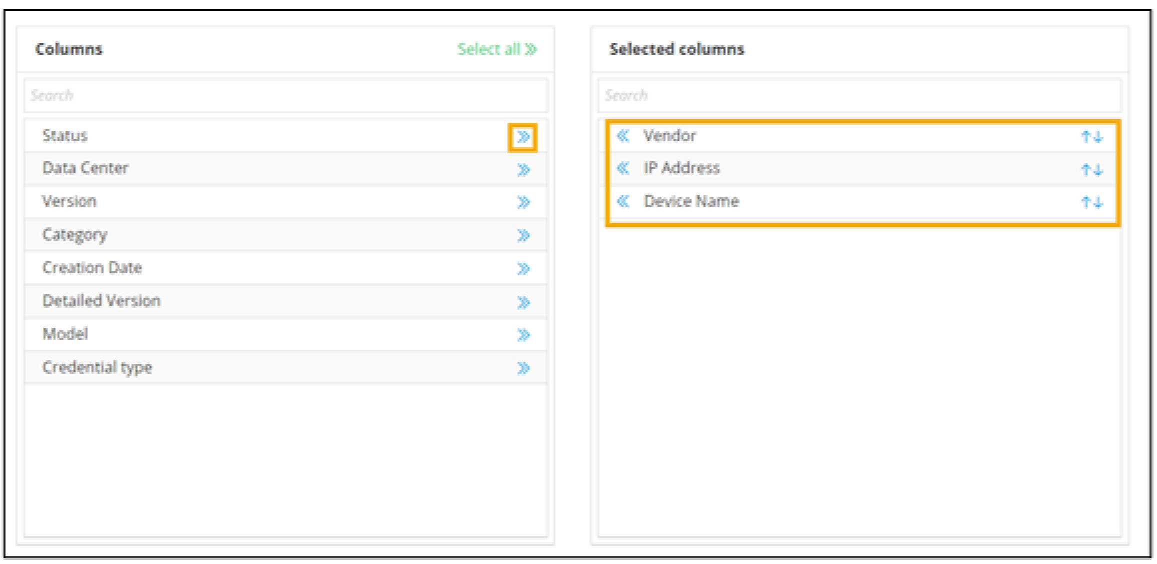
Field	Description
Do you want to add a drill down to the chart?	Check this box to add a drilldown to the chart.
***Select drill down type**	Select **Chart** as the drilldown type.
The asterisk (*) symbol indicates mandatory fields.	

2. Select the **GRID** chart.



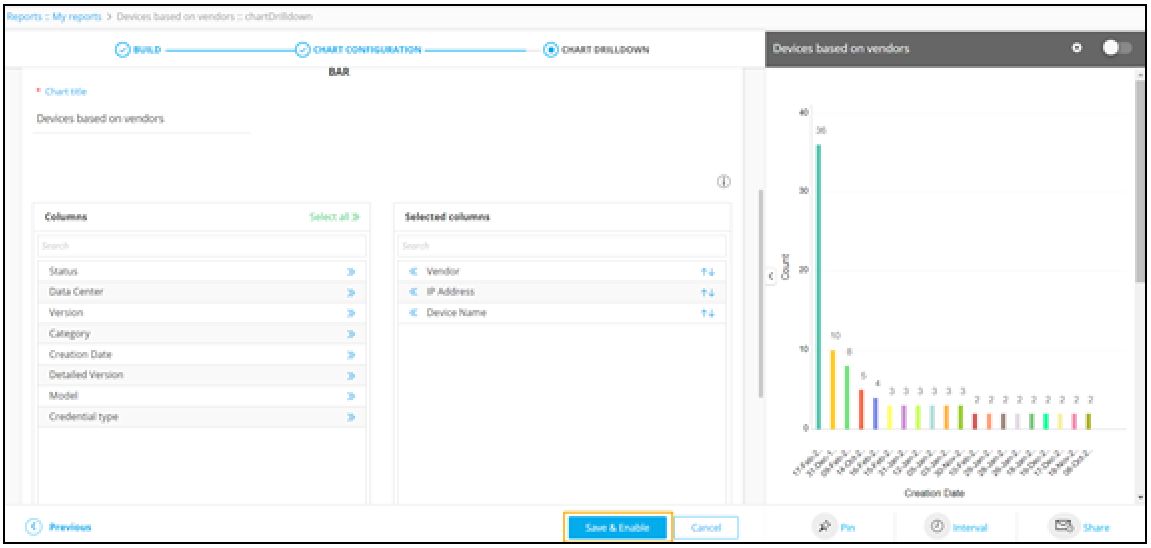
3. Enter a suitable **Chart title**.

4. To configure the column headers to be displayed within the grid, click .
   Selected columns are displayed on the right side.

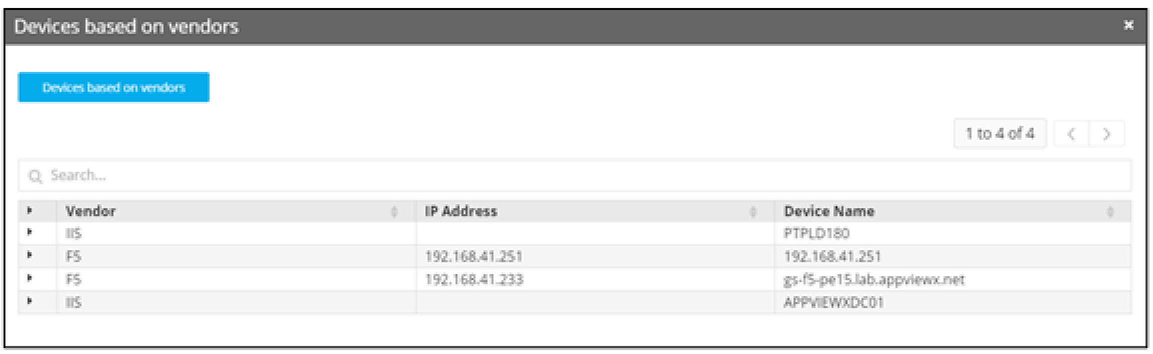


Note: To remove a column, click .

5. To enable the chart, click **Save & Enable**.



6. To get more information on the devices in the drilldown, click on any of the bars on the bar chart.



Note: You can add up to five levels of drilldown charts to a report.

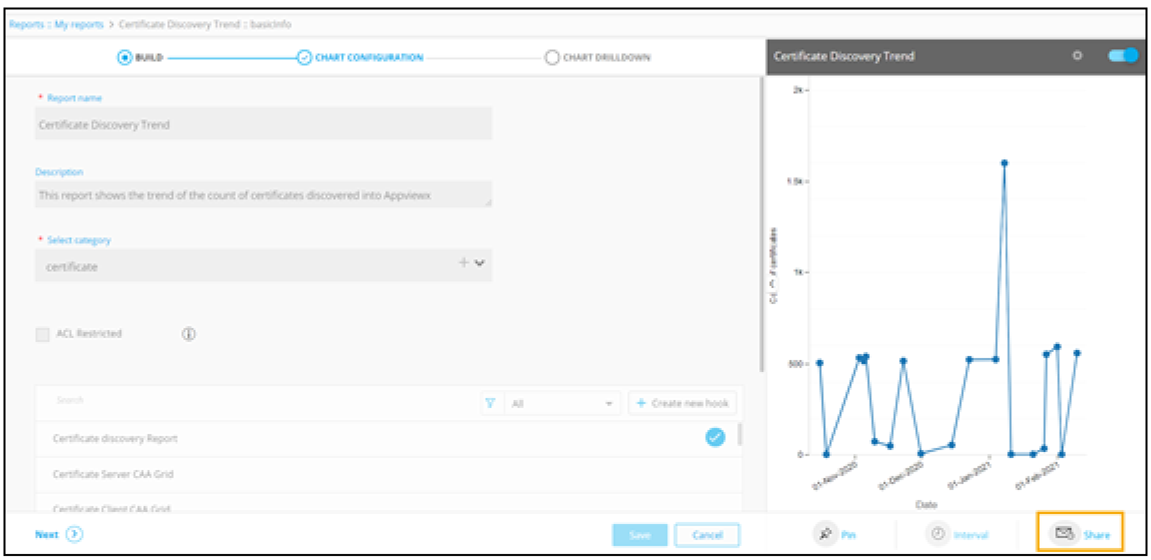
Chapter 9: Sharing your Reports

Overview

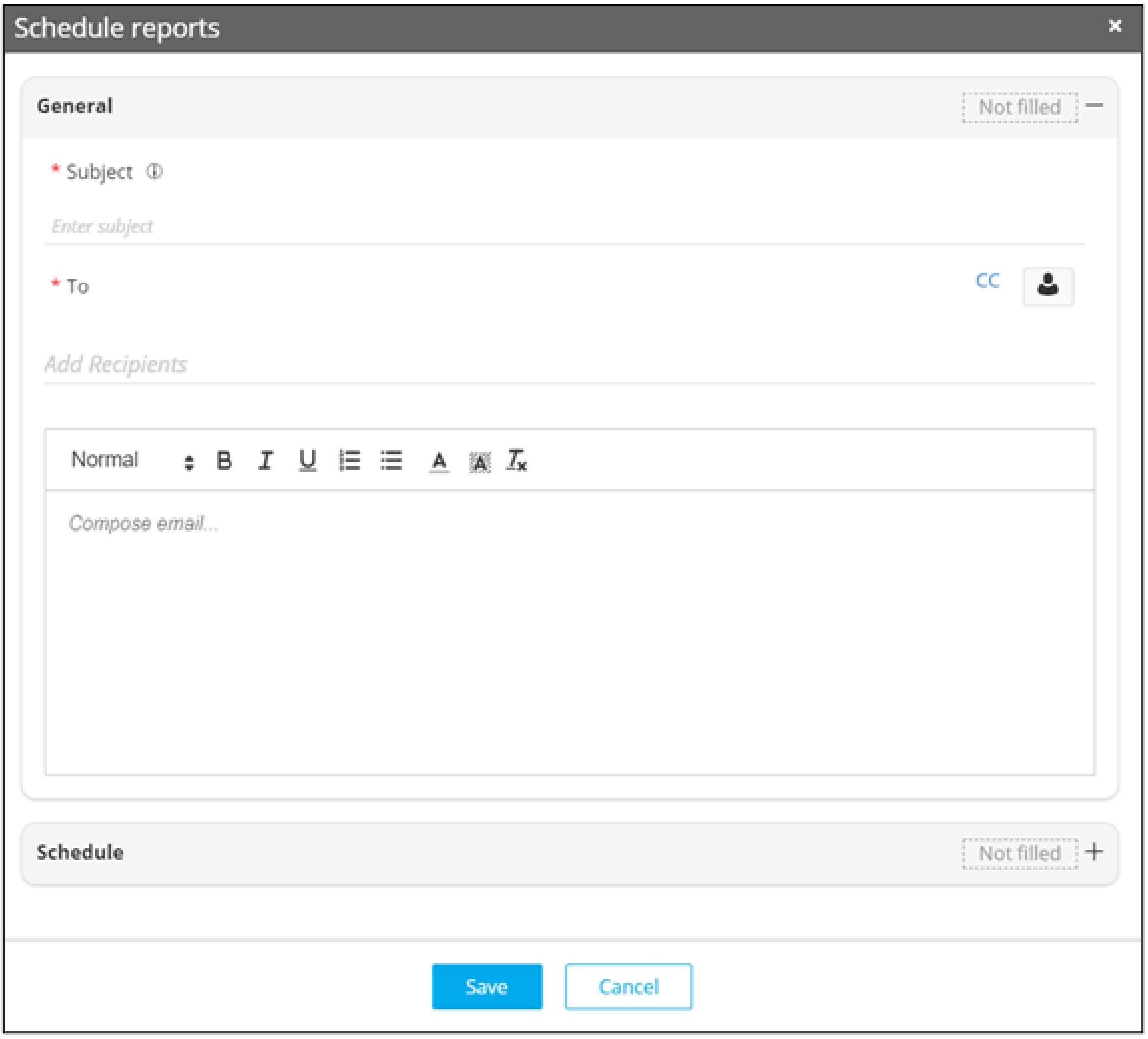
Once a report is generated, it can be emailed either as inline content or as a PDF attachment. You can also schedule reports to be generated on a recurring basis.

How to Email reports as PDF

1. Under the **BUILD** section, from the bottom right corner of the screen, click **Share**.



A popup window to **Schedule reports** is displayed.



2. In the **Schedule reports** window, under the **General** section, enter all the required field information.

   The following table describes all the fields in the **General** section:

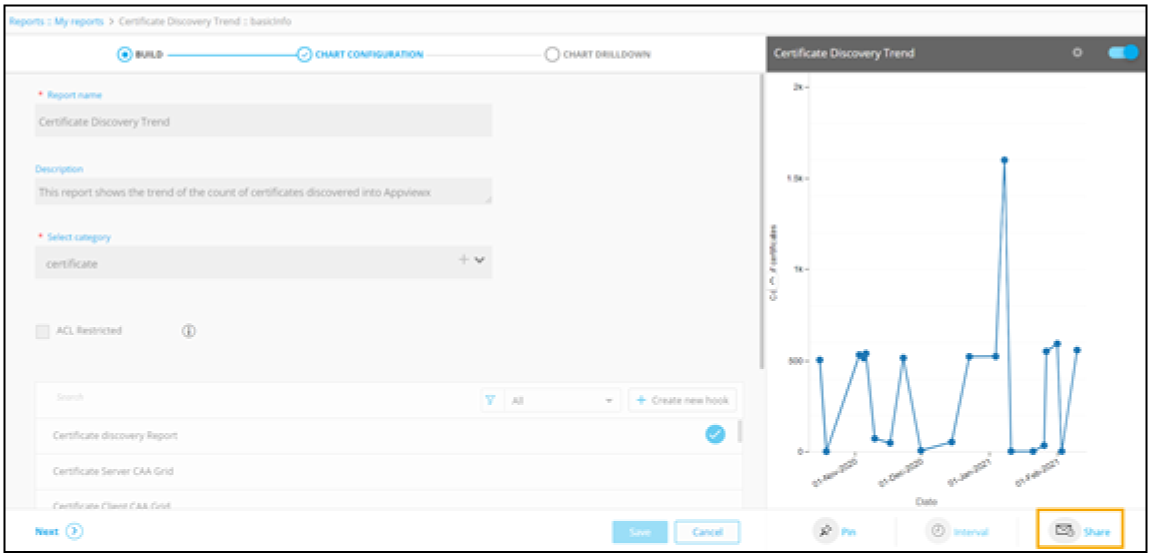
Field	Description
***Subject**	Enter a subject for the email which will also be populated under **Scheduled Jobs** on the **Reports :: Schedule** page.
***To**	Enter the names of the recipients of the email. Two options are available here: • Add single/multiple email addresses. • Add user groups(s).

Field	Description
Email body/text	Compose the email.
The asterisk (*) symbol indicates mandatory fields.	

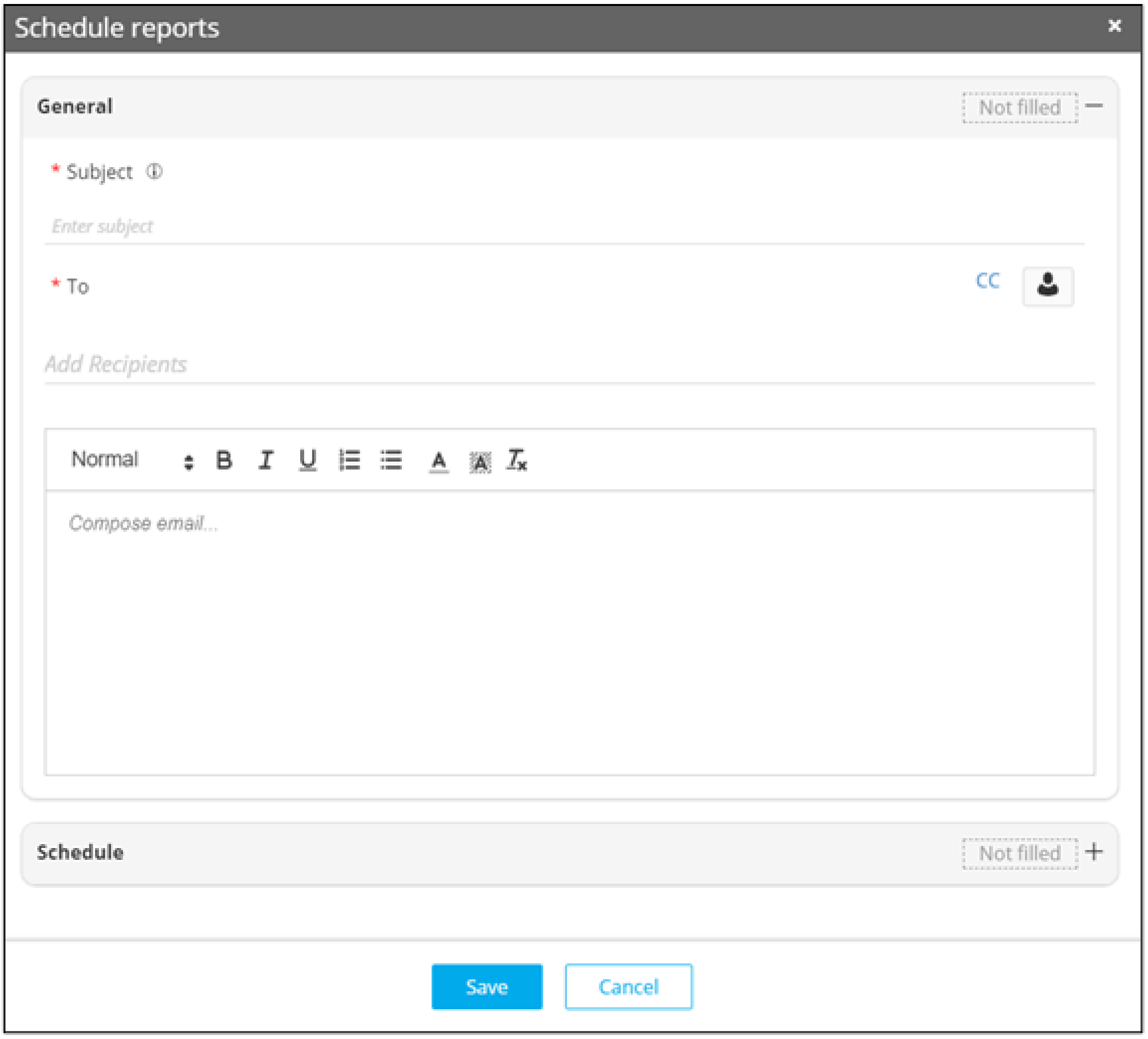
How to Schedule reports

Reports can be scheduled to be generated on a recurring basis.

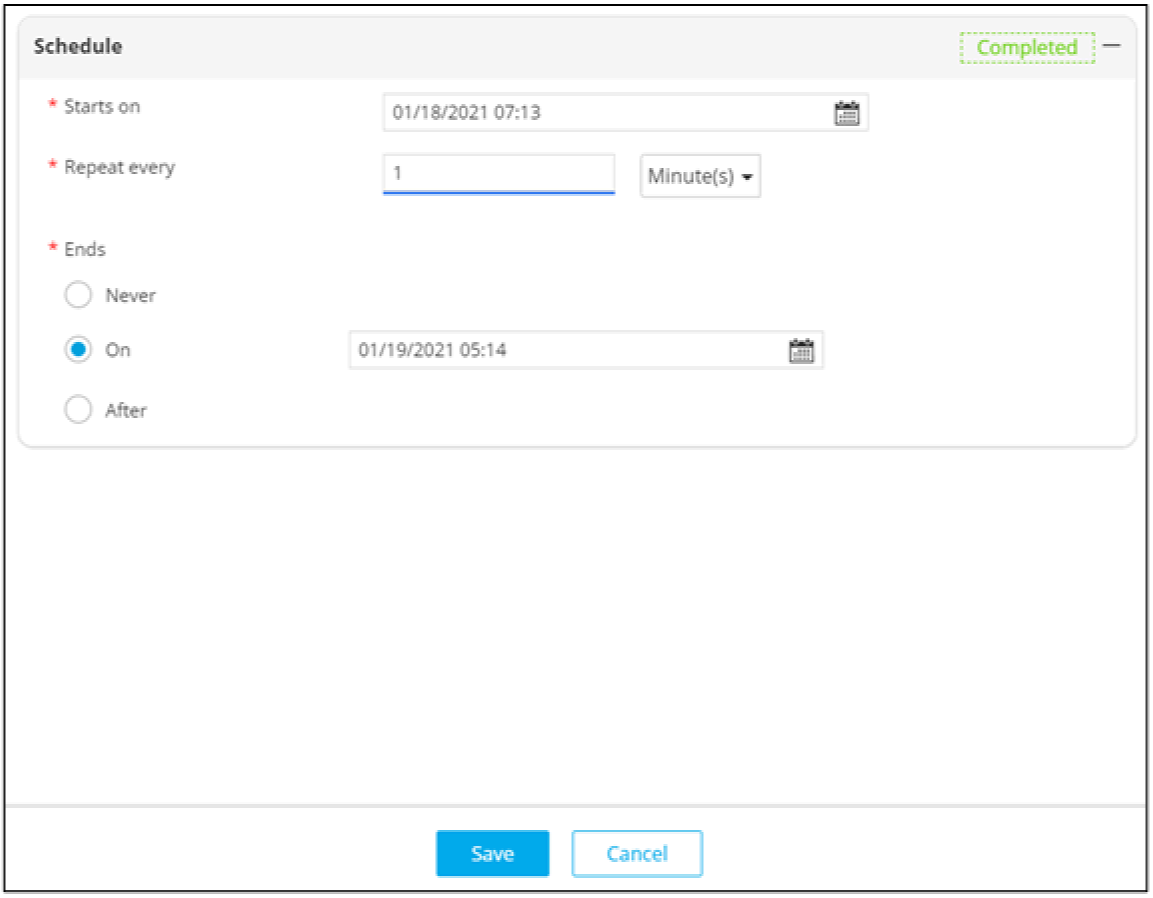
1. Under the **BUILD** section, from the bottom right corner of the screen, click **Share**.



A popup window to **Schedule reports** is displayed.



2. In the **Schedule reports** window, under the **Schedule** section, enter/select the field information.

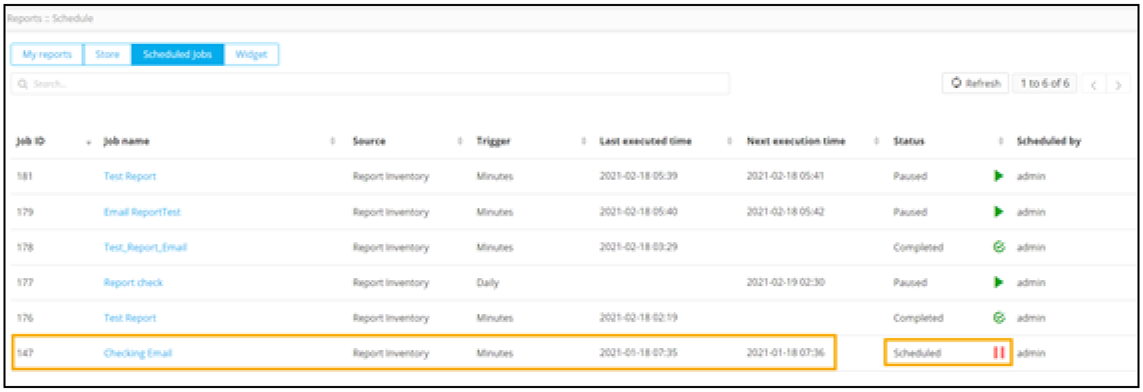


The following table describes the fields in the **Schedule** section:

Field	Description
***Starts on**	Select the date on which report is to be scheduled.
***Repeat every**	Select the numeric value and the frequency of recurrence as minutes, hours, days, weeks, months, or years.
***Ends**	Select when the report should stop recurring. The options available are: • **Never** • **On** a specific date. • **After** a set number of occurrences.
The asterisk (*) symbol indicates mandatory fields.	

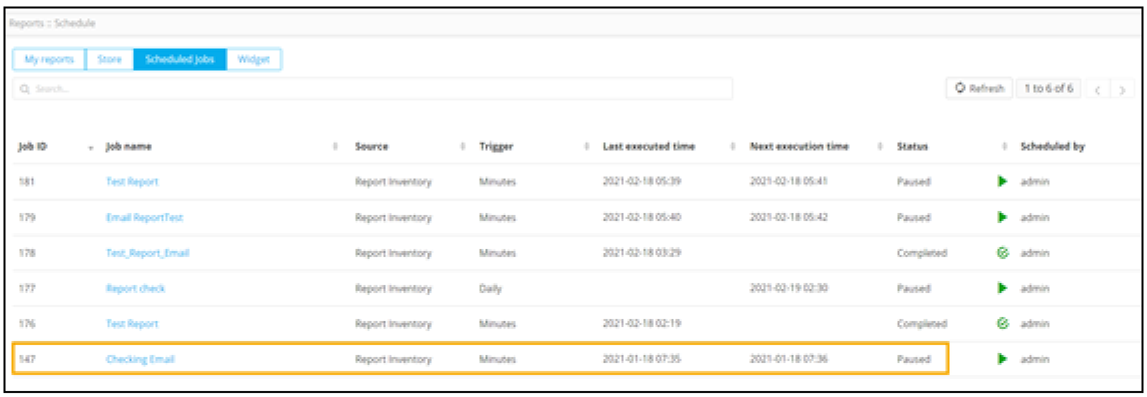
3. Click **Save**.

The scheduled report will be displayed on the **Reports :: Schedule** page.



4. To disable/pause the scheduled job, click .

   The scheduled job is paused.



5. To resume the scheduled job, click .

Chapter 10: Hooks

- Overview
- Using Preexisting Hooks to Build Reports
- Using Query Explorer to build Reports
- Using Scripts to build Reports
- Using REST API to build Reports
- How to Create a New Hook
- How to Reuse Hooks

Overview

A hook is a mechanism used to query and retrieve data from different sources such as database, device, or external vendors, and leverage them as part of the report building process.

The mode of query can be one of the following:

- Query Explorer (GUI based)
- Script (Python)
- REST API

Using Preexisting Hooks to Build Reports

You can build customized reports by using preexisting hooks from the **Hooks Inventory**.

Note: For more information on the **Hooks Inventory**, refer to the Visual Workflow User Guide.

- Example 1
- Example 2

Example 1

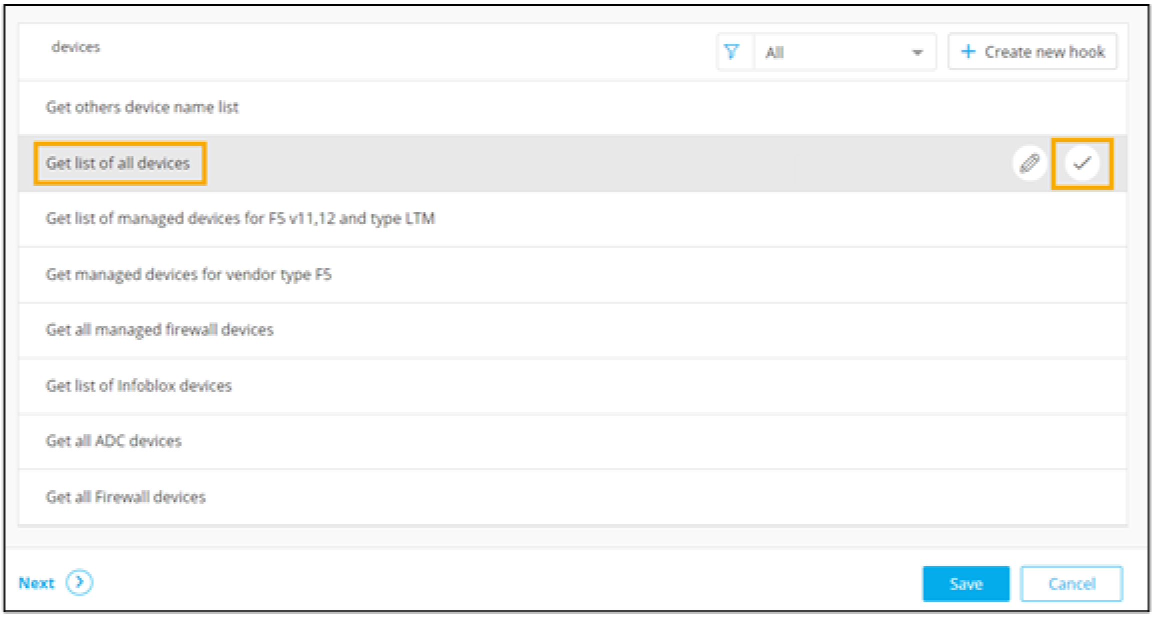
The report builder can be used to build a report to get a list of devices based on vendors using a preexisting hook.

1. On the My Reports page, click **Create new report**.
2. Under the **BUILD** section, enter or select the required field information.

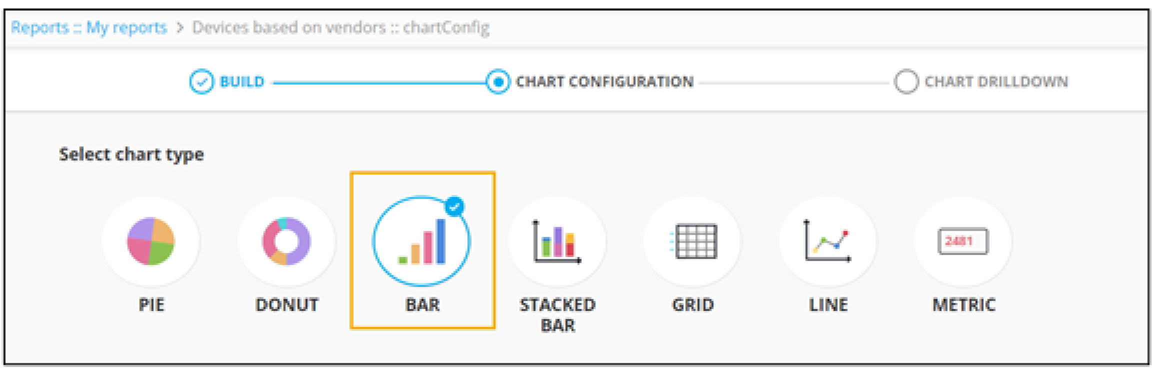
The following table describes the various fields in this section:

Field	Description
***Report name**	Enter a valid report name. For example: **Devices based on vendors**.
Description	Enter a valid description. For example: **Devices based on the vendor names**.
***Select category**	Select the category as **general** from the dropdown list.
The asterisk (*) symbol indicates mandatory fields.	

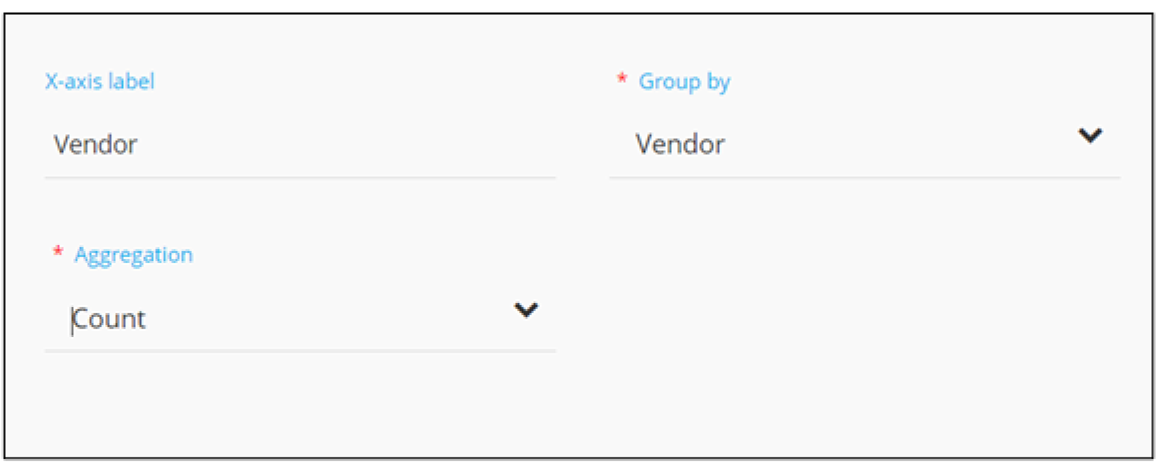
3. To search for and select the appropriate hook from the preexisting inventory, type the keyword in the search bar.
4. To select the hook, click .



5. To save your selections, click **Next**.
6. Under the **CHART CONFIGURATION** section, select the **BAR** chart.



7. Enter or select the field information.

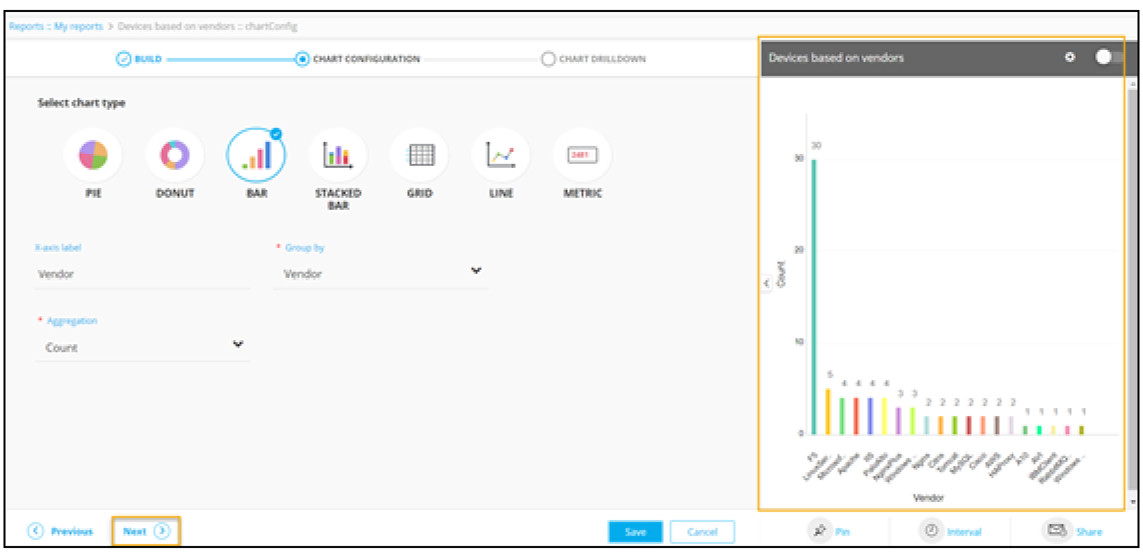


The following table describes the various fields in this section:

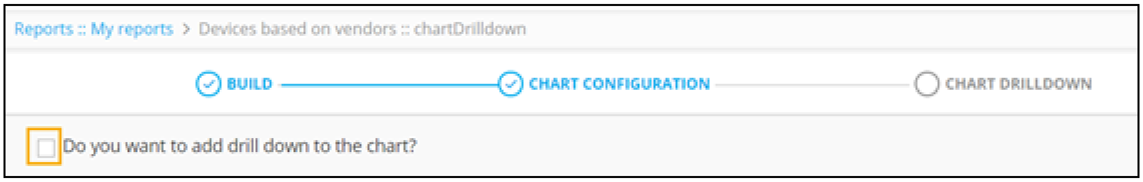
Field	Description
X-axis label	Enter criteria for the X-axis label. For example: **Vendor**.
***Group by**	Select a value from the drop down menu on the basis of which report data will be grouped. For example: **Vendor**.
***Aggregation**	Select the calculation to be done on the report data for the dropdown. For example, count to get the number of devices by name. The following options are available: • **Average**: Calculates the average value of a given set of data. • **Sum**: Calculates the sum of all values in a given set of data. • **Count**: Calculates the total number of items in a given numeric field. • **Maximum**: Displays the maximum value in a given set of data. • **Minimum**: Displays the minimum value in a given set of data.
The asterisk (*) symbol indicates mandatory fields.	

8. To save chart configuration, click **Next**.

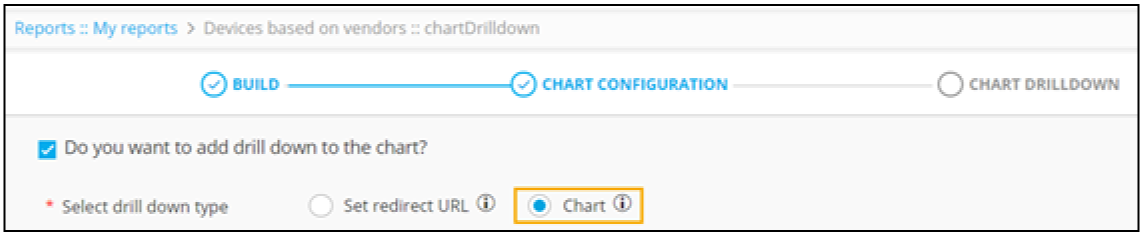
   A preview of the bar chart is displayed on the right side of the screen.



9. To add a drill down to the chart, select the check box as showin the following image.



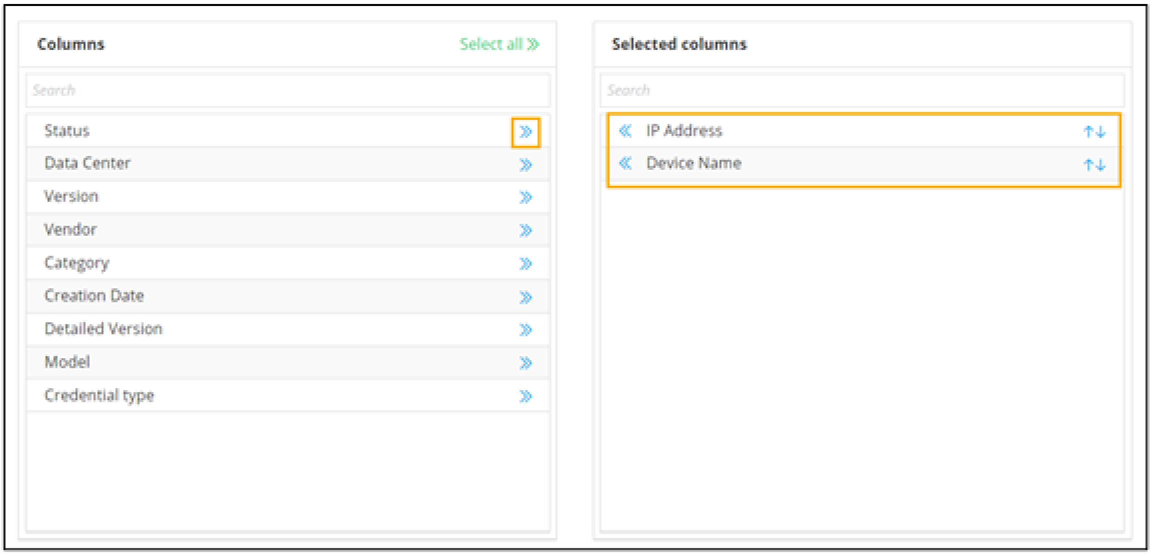
10. **Select drill down type** as **Chart**.



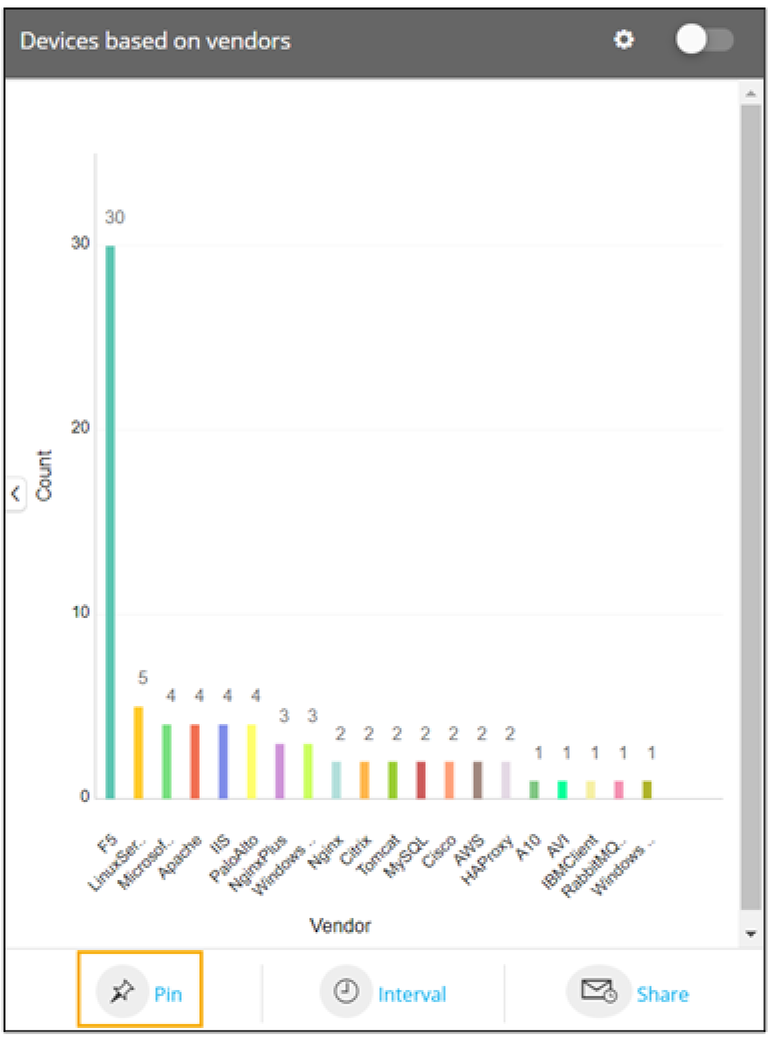
11. Select chart type as **GRID**.

12. Enter an appropriate **Chart title**.

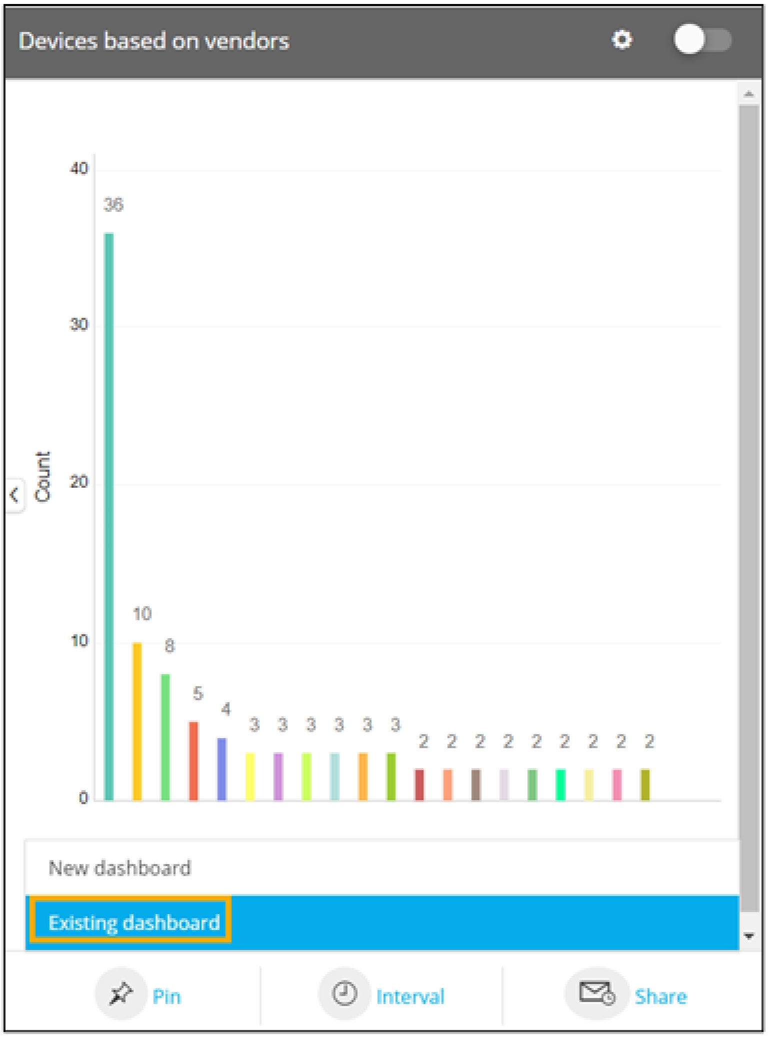
13. To configure the column headers to be displayed within the grid, click .
Selected columns are displayed on the right side.



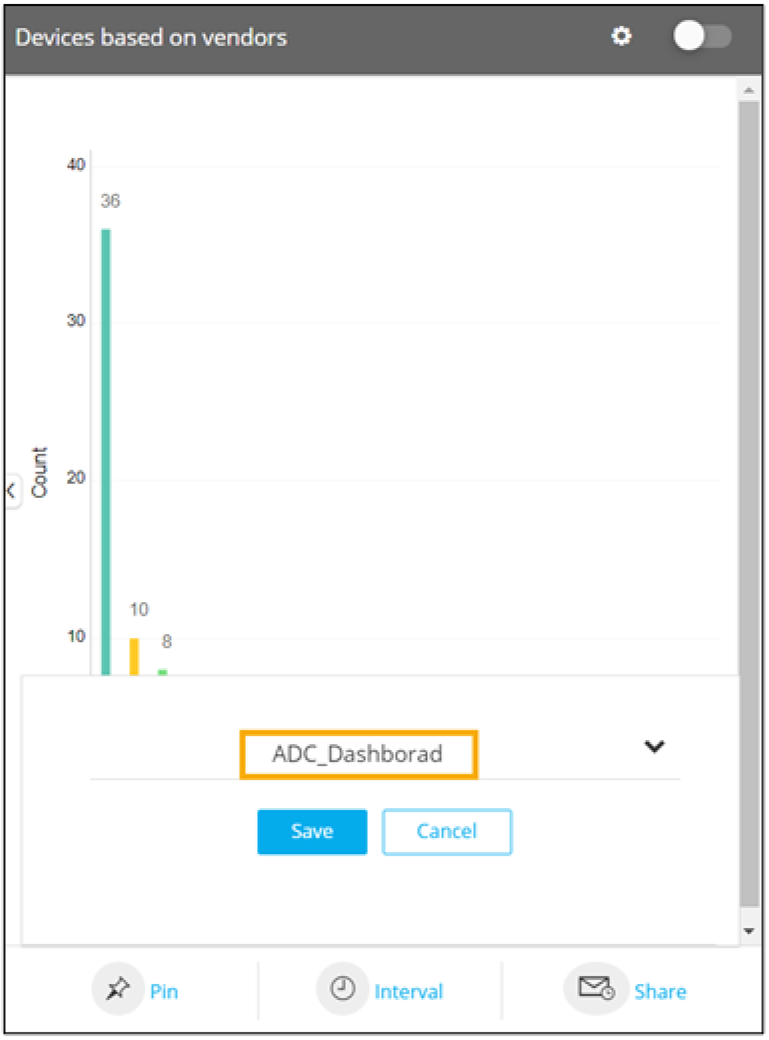
14. To pin the report to a dashboard, click **Pin**.



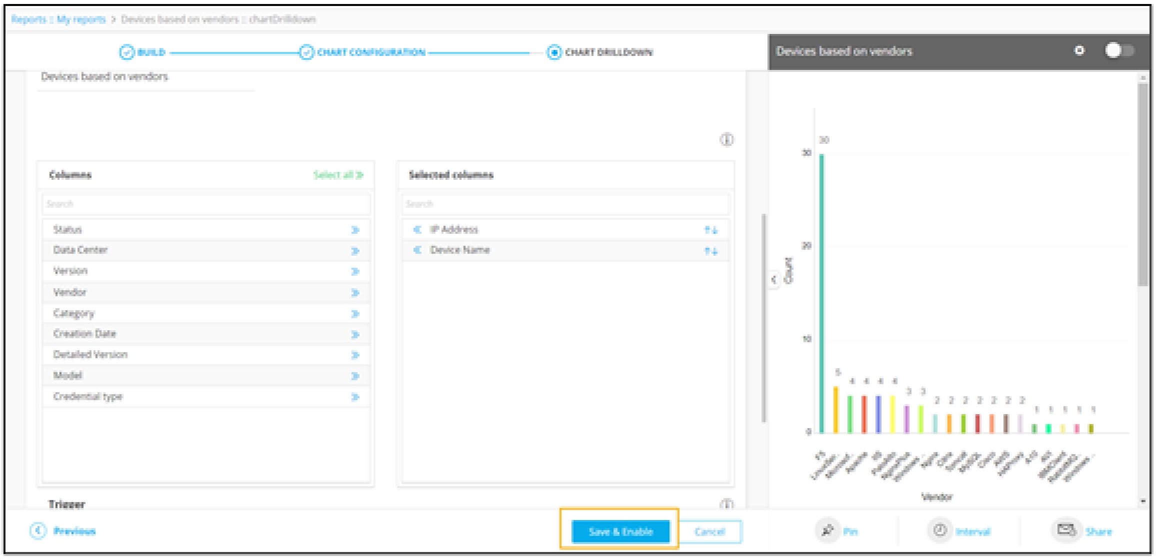
15. To pin the report to an existing dashboard, select **Existing dashboard** from the options.



16. Select a dashboard from the list.



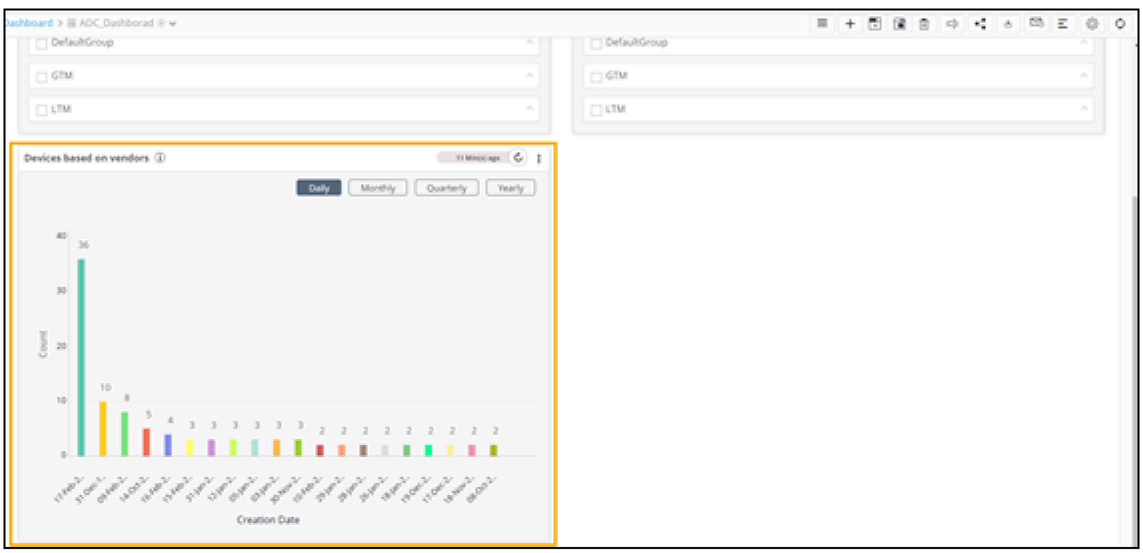
17. Click **Save**.
18. To enable the report, click **Save & Enable**.



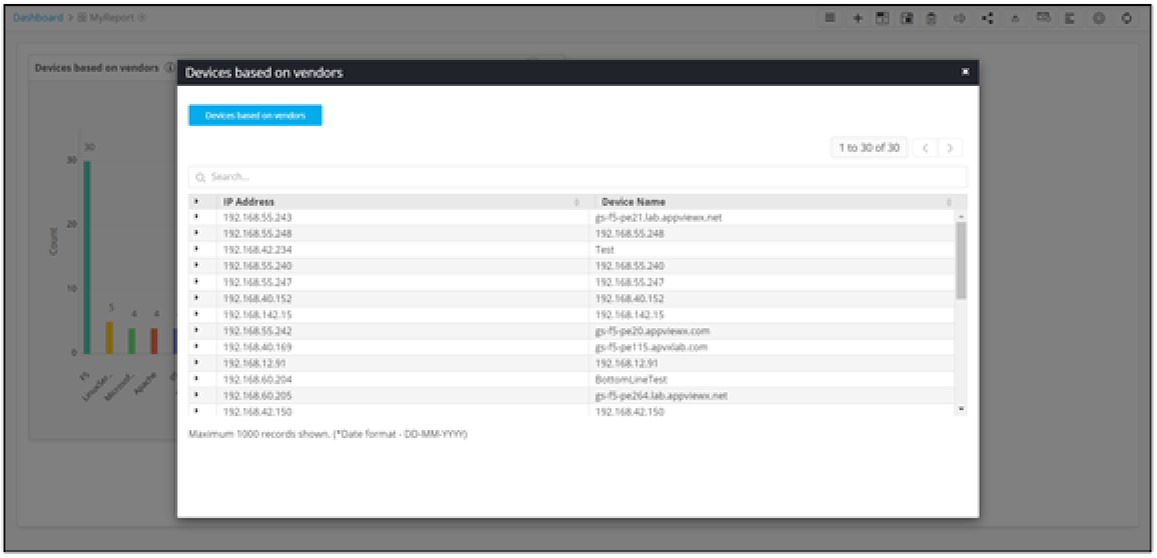
19. To view this report on the dashboard, search for the dashboard in the dashboard inventory.

Note: For more information on how to search for a dashboard, click here.

The **Devices based on vendors** report can be seen on the selected dashboard.



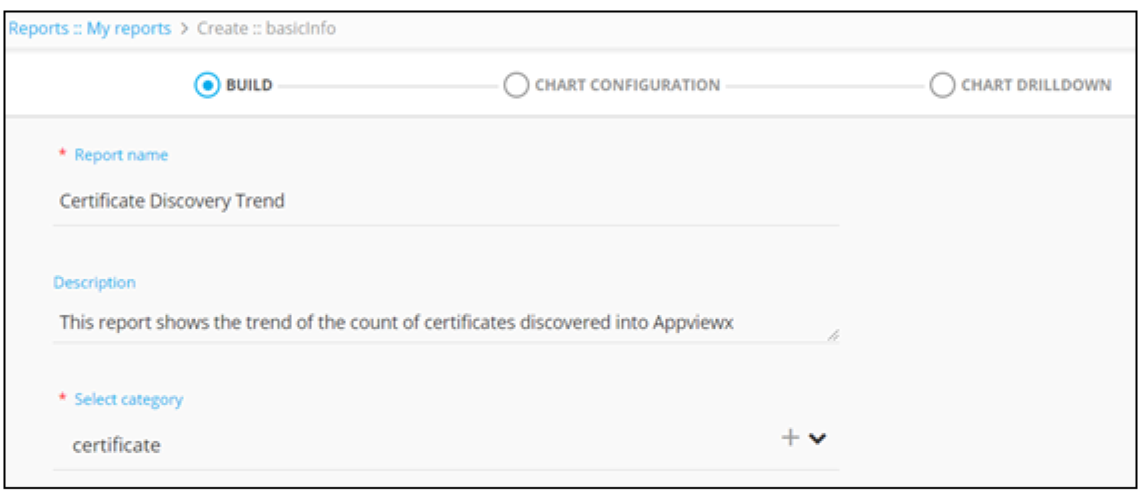
20. To display specific data on each of the vendors, click on any of the bars for the chart drilldown.



Example 2

To create a report for getting the **Certificate Discovery Trend** for all certificate types using a preexisting hook:

1. On the My Reports page, click **Create new report**.
2. Under the **BUILD** section, enter or select the required field information.

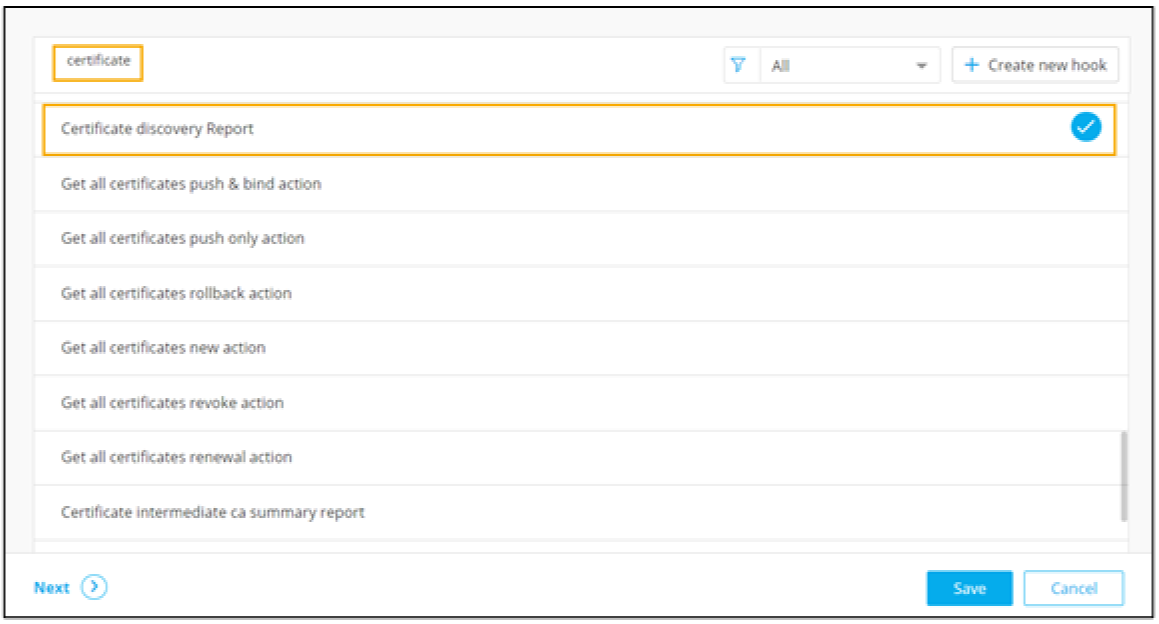


The following table describes the various fields in this section:

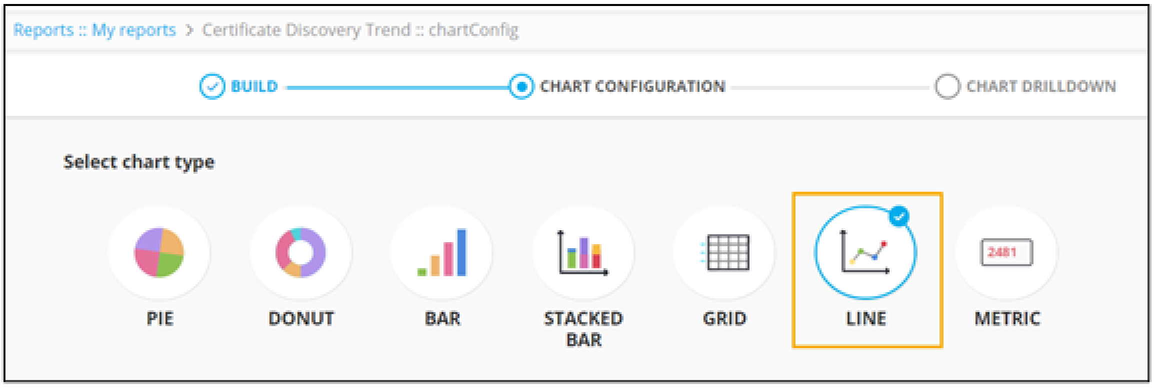
Field	Description
***Report name**	Enter a valid report name.

Field	Description
	For example: **Certificate Discovery Trend**.
Description	Enter a valid description. For example: **This report shows the trend of the count of certificates discovered into Appviewx.**
***Select category**	Select the category as **certificate** from the dropdown list.
The asterisk (*) symbol indicates mandatory fields.	

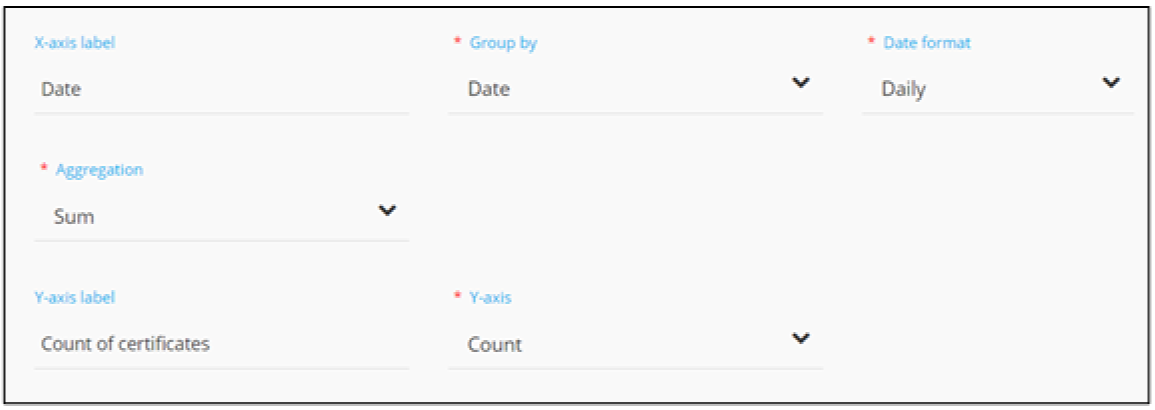
3. To search and select the appropriate hook from the preexisting inventory, type the keyword in the search bar.
4. To select the hook, click .



5. To save your selections, click **Next**.
6. Under the **CHART CONFIGURATION** section, select the **LINE** chart.



7. Enter or select the field information.



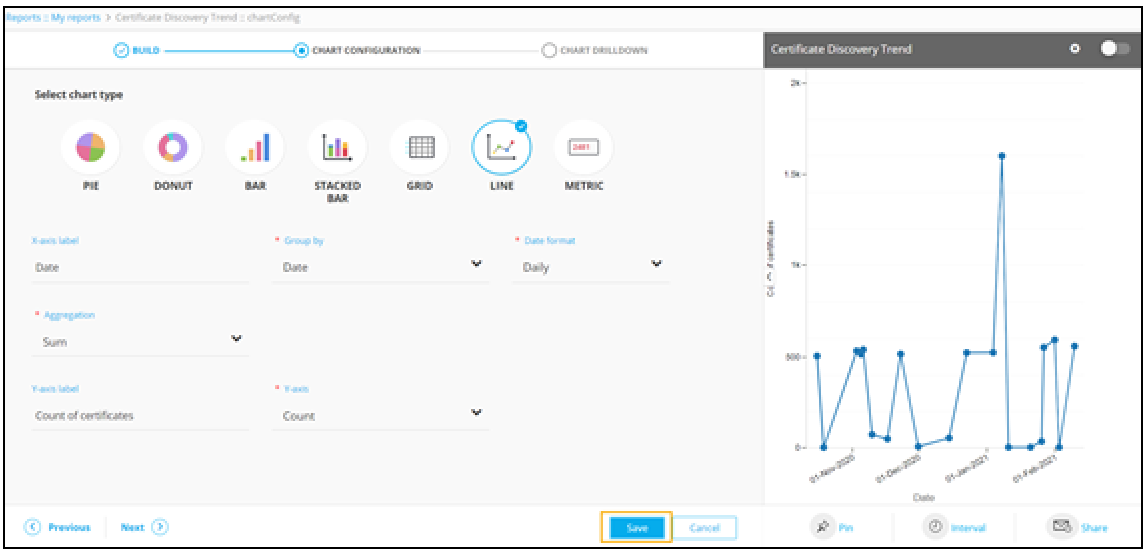
The following table describes the various fields in this section:

Field	Description
X-axis label	Enter the criteria for the X-axis label. For example: **Date**.
***Group by**	Enter the value on which data will be grouped. For example: **Date**.
***Date format**	Select a valid date format from the dropdown. For example: **Daily**.
***Aggregation**	Select the calculation to be done on the report data for the dropdown. For example, count to get the number of devices by name. The following options are available: • **Average**: Calculates the average value of a given set of data. • **Sum**: Calculates the sum of all values in a given set of data.

Field	Description
	• **Count**: Calculates the total number of items in a given numeric field. • **Maximum**: Displays the maximum value in a given set of data. • **Minimum**: Displays the minimum value in a given set of data.
Y-axis label	Enter the criteria for the Y-axis label. For example: **Count of certificates**.
***Y-axis**	Select value from the dropdown. For example: **Count**.
The asterisk (*) symbol indicates mandatory fields.	

8. To save chart configuration details, click **Save**.

   A preview of the line chart is displayed on the right side of the screen.



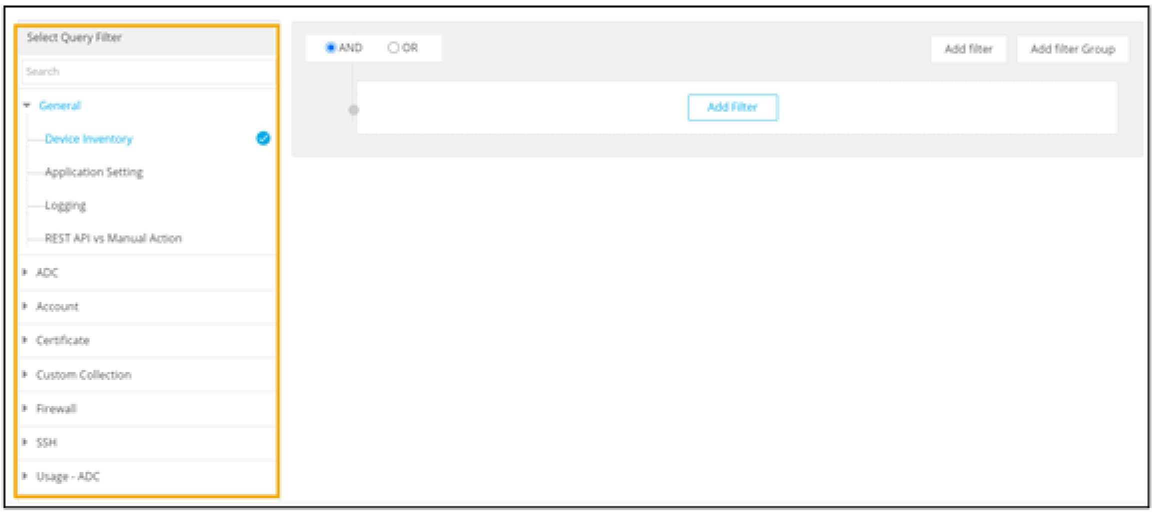
Using Query Explorer to build Reports

- Overview
- Conditional Operators
- Create a CERT Expiry Report using Query Explorer

- Create an ADC Usage Report using Query Explorer
- Importing Custom Data in Query Explorer

Overview

AppViewX's Report builder has an enhanced, intuitive **Query Explorer**. The GUI-based query explorer maps all major database collections in AppViewX and helps you build your own customized reports. Over 40 out of the box (OOB) queries are pre-shipped to the end-user. It also comes with advanced conditional operators to build complex queries.



Each query filter has a set of predefined fields associated with it. Query actions will differ according to the data in the query fields. The query builder also comes equipped with an auto-suggestion feature that aids you in selecting appropriate values from the suggested entries.

Query explorer also exhibits improved performance with query optimization by supporting four million to 50 million records. Its performance optimized search inventory enables higher volumes of data to be balanced and reduces load time.

Conditional Operators

Query Explorer has ten conditional operators that allow users to build complex queries. All of these operators support dynamic values. The dynamic values can be passed at runtime by using payload to perform queries.

The conditional operators are categorized based on field types: String, Integer, Date, and Boolean Variable.

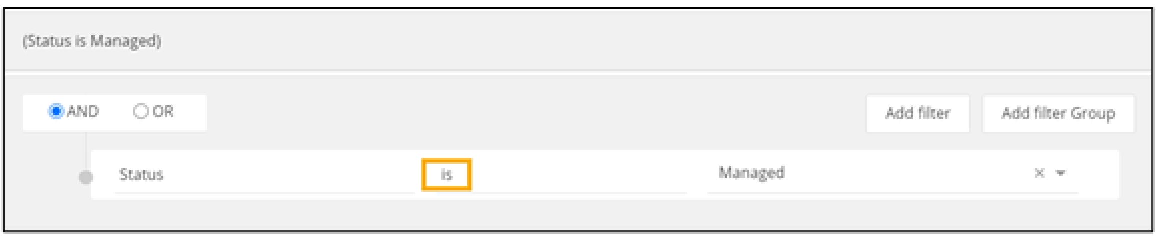
- Field Type: String
- Field Type: Integer
- Field Type: Date
- Field Type: Boolean Variable

Field Type: String

When you choose the field type as **String**, the values for the conditional operators are auto-populated from the database. The following conditional operators are available when you choose the field type as **String**:

- **Is -** This operator is used if the query is for a particular value.

  For example, Status is Managed.



  The report will display data specific to this query and show the list of devices only with **Managed** status.
- **Is not** - This operator generates results where the condition is not matched.
  For example, Vendor is not Citrix.

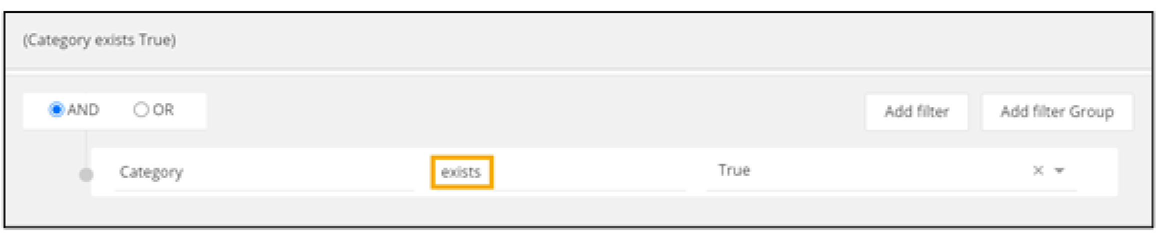
  The report will display data that matches all criteria except the one that is selected and show the list of devices of all vendors except Citrix.
- **Is one of** - This operator allows multiple values to be selected and matches all conditions.For example, Category is one of Server, Firewall, WAF.

The report will display data where all the three conditions are matched and show a list of devices that belong to the three selected categories.

- **Is not one of** - This operator allows multiple values to be selected and gives results where the conditions are not matched.
  For example, Category is not one of ADC, Firewall.

The report will display data that matches all criteria except the ones that are selected and show a list of all devices except ADC and Firewall.

- **Exists** - A boolean operator is provided for narrowing down the search parameters so that the result is either True or False.



The report will display data after confirming if the selected field is available in the database (True) or not (False).

- **Regex** - Regular expression (Regex) is a sequence of characters defining a search pattern specifying a set of strings for a particular purpose.
  For example, Device name regex .*

The period (.) means match any character and the asterisk (*) means any number of times. So .* means match anything and the report will display all the device names.

- **Starts with** - This operator allows users to enter the first three letters/numbers of the search criteria.

The report will display results matching hash algorithms that start with ‘SHA’.

- **Ends with** - This operator allows users to enter the last three letters/numbers of the search criteria.

The report will display results matching hash algorithms that end with ‘256’.

- **Contains** - This operator allows users to enter some values for the search criteria and generates results that contain those values.

The report will display results with hash algorithms that contain the value ‘256’.

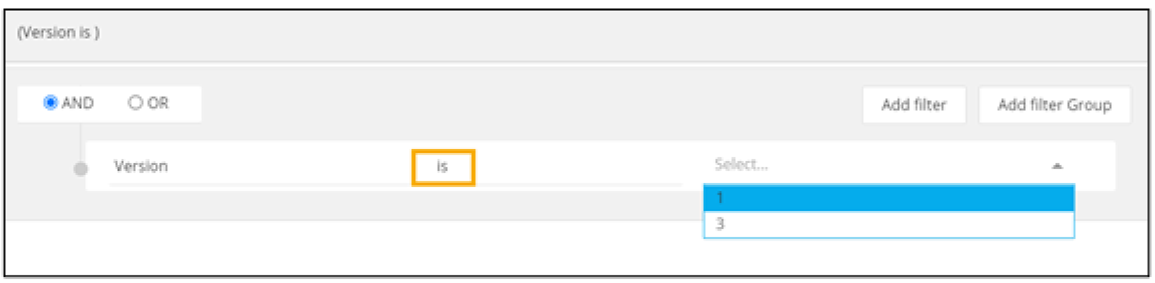
- **Does not contain** - This operator allows users to enter some values for the search criteria and generates results that do not contain those values.

The report will display results with hash algorithms that do not contain the value ‘256’.

Field Type: Integer

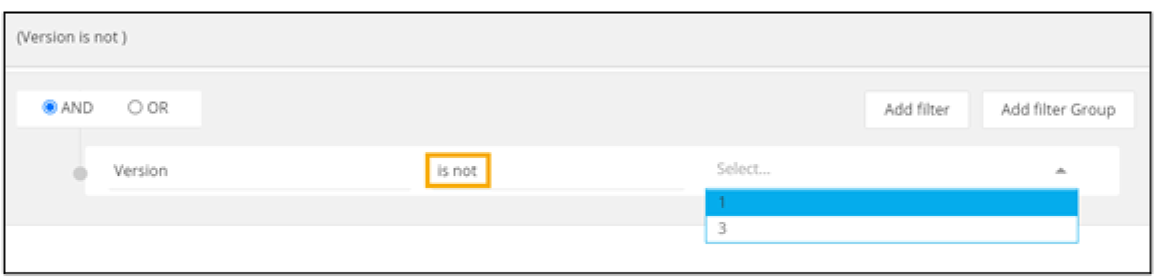
When you choose the field type as Integer, the values for the conditional operator are auto-populated from the database. The following conditional operators are available when you choose the field type as Integer:

- **Is**: This operator is used if the query is for a particular value. For example, version is 1.



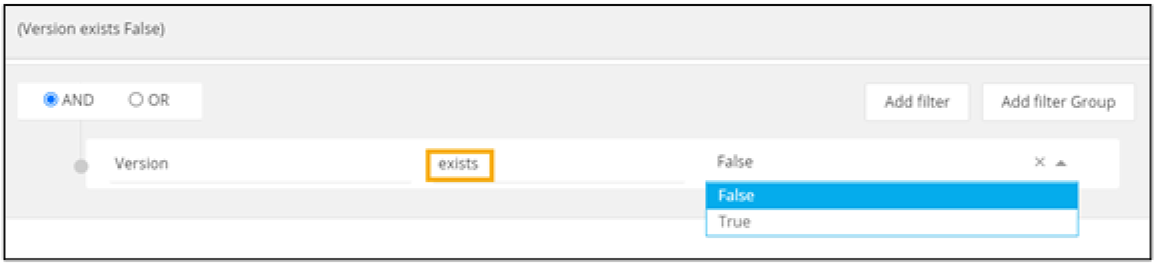
The report generated will display data specific to this query and show the certificates with Version equal to 1.

- **Is not**: This operator generates results if the condition is not matched. For example, version is not 1.



The report generated will display data that matches all criteria except the one that is selected and show certificates with Version not equal to 1.

- **Exists**: A boolean operator is provided for narrowing down the search parameters so that the result is either True or False.

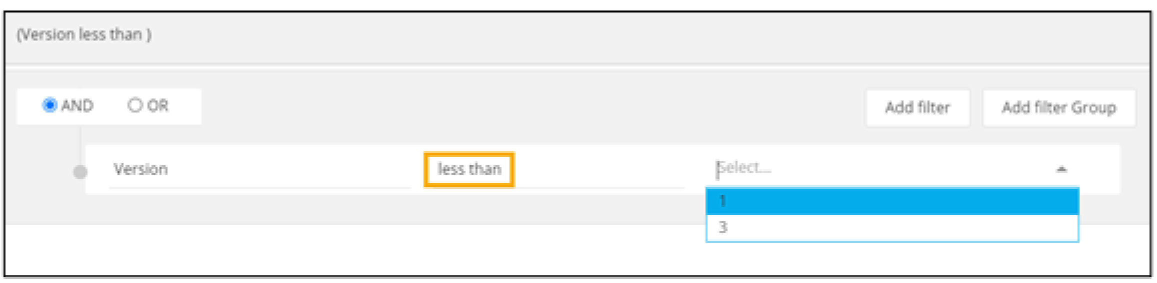


The report will display data after confirming if the selected field is available in the database or not. If the field is available, the result is True. If the field is not available, the result is False.

- **Greater than**: This operator is used to display records that match values greater than the selected value. For example, Version greater than 1.

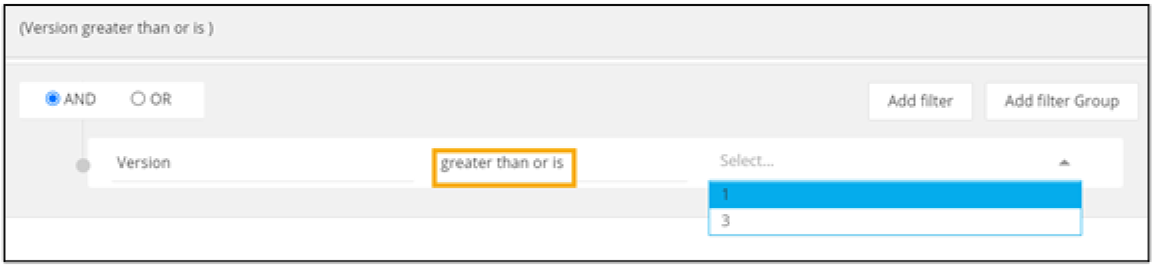
The report generated will display certificates with version greater than 1.

- **Less than**: This operator is used to display records that match values less than the selected value. For example, Version less than 1.



The report generated will display certificates with version less than 1.

- **Greater than or is**: This operator is used to display records that match values greater than or equal to the selected value. For example, Version greater than or is 1.



The report generated will display certificates with version greater than or equal to 1.

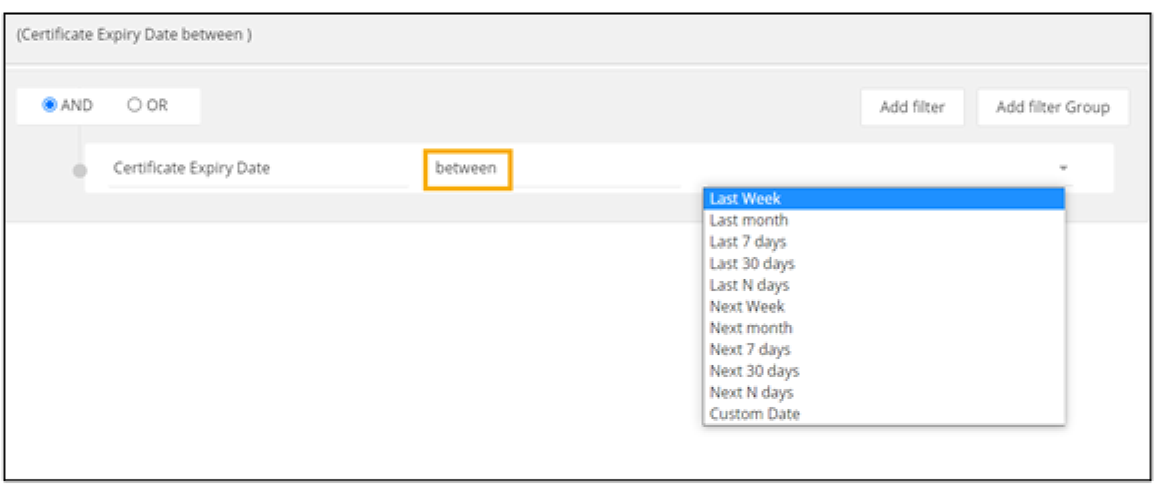
- **Less than or is**: This operator is used to display records that match values less than or equal to the selected value. For example, Version less than or is 1.

The report generated will display certificates with version less than or equal to 1.

Field Type: Date

When you choose the field type as Date, the values for the conditional operators are predefined and need to be selected from the dropdown list. The following conditional operators are available when you choose the field type as Date:

- **Between** - This operator allows users to select the duration for which reports will be generated.

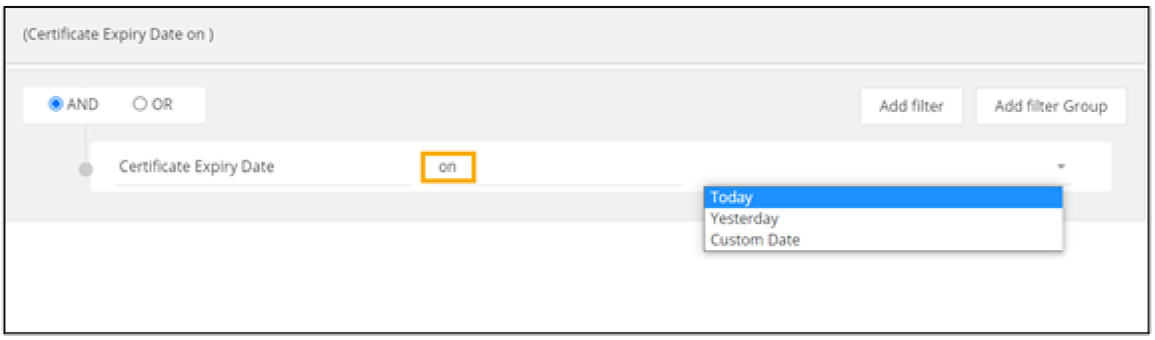


The following table describes the date values supported by the **between** operator:

Date Type	Description	Example
Last Week	Returns records within the previous selected time period, starting with the beginning of that time frame.	For example, a filter run on July 27, 2021 will return any records with a date range of July 18 to July 24, 2021.
Last Month		For example, a filter run on July 27, 2021 will return any records with a date range of 1 June to 30 June 2021.
Last 7 days		For example, a filter run on July 27, 2021 will return any records with a date range of July 21 to July 27, 2021.
Last 30 days		For example, a filter run on July 27, 2021 will return any records with a date range of 27 June to 26 July, 2021.
Last N days		For example, a filter run on July 27, 2021 will return any records with a date range of Nth day to July 27, 2021.
Next Week	Returns records within the next selected time period, including records with values up to the end of that time frame.	For example, a filter run on July 27, 2021 will return any records with a date range of August 1 to August 7, 2021.
Next Month		For example, a filter run on July 27, 2021 will return any records with a date range of August 1 to August 31, 2021.
Next 7 days		For example, a filter run on July 27, 2021 will return any records with a date range of July 27 to August 2, 2021.
Next 30 days		For example, on July 27, 2021 will return any records with a date range of July 27 to August 30, 2021.

Date Type	Description	Example
Next N days		For example, a filter run on July 27, 2021 will return any records with a date range of July 27, 2021 to the Nth day.
Custom Date	Returns records within the defined custom date.	

• **On -** This operator allows users to select a specific day for which the records will be generated.



The following table describes the date values supported by the **On** operator:

Date Type	Description	Example
Today	Returns records for the selected time period, including records with values up to the end of that time frame.	For example, a **Certificate Expiry Date** filter run on July 27, 2021 will return records for certificates expiring on July 27, 2021.
Yesterday		For example, a **Certificate Expiry Date** filter run on July 27, 2021 will return records for certificates expiring on July 26, 2021.
Custom Date	Returns records within the defined custom date.	For example, a **Certificate Expiry Date** filter run on a custom date, say August 1, will return records for certificates expiring on August 1, 2021.

• **Not on -** This operator allows users to select the time period for which the records should not be generated.

The following table describes the date values supported by the **not on** operator:

Date Type	Description	Example
Today	Returns records for the time period other than the selected time period, including records with values up to the end of that time frame.	For example, a **Certificate Expiry Date** filter run on July 27, 2021 will return records for certificates not expiring on July 27, 2021.
Yesterday		For example, a **Certificate Expiry Date** filter run on July 27, 2021 will return records for certificates not expiring on July 26, 2021.
Custom Date	Returns records for the time period other than the defined custom date.	For example, a **Certificate Expiry Date** filter run on a custom date, say August 1, will return records for certificates not expiring on August 1, 2021.

- **After** - This operator allows users to generate records of dates after the selected time period.

The following table describes the date values supported by the **after** operator:

Date Type	Description	Example
Today	Returns records for the selected time period, including records with values up to the end of that time frame.	For example, a **Certificate Expiry Date** filter run on July 27, 2021 will return records for certificates expiring after July 27, 2021.

Date Type	Description	Example
Yesterday		For example, a **Certificate Expiry Date** filter run on July 27, 2021 will return records for certificates expiring after July 26, 2021.
Custom Date	Returns records within the defined custom date.	For example, a **Certificate Expiry Date** filter run on a custom date, say August 1, will return records for certificates expiring after August 1, 2021.

• **Before -** This operator allows users to generate records before the selected time period.

The following table describes the date values supported by the **before** operator:

Date Type	Description	Example
Today	Returns records for the selected time period, including records with values up to the end of that time frame.	For example, a **Certificate Expiry Date** filter run on July 27, 2021 will return records for certificates expiring before July 27, 2021.
Yesterday		For example, a **Certificate Expiry Date** filter run on July 27, 2021 will return records for certificates expiring before July 26, 2021.
Custom Date	Returns records within the defined custom date.	For example, a **Certificate Expiry Date** filter run on a custom date, say August 1, will return records for certificates expiring before August 1, 2021.

• **At or after -** This operator allows users to generate records at or after the selected time period.

The following table describes the date values supported by the on operator:

Date Type	Description	Example
Today	Returns records for the selected time period, including records with values up to the end of that time frame.	For example, a **Certificate Expiry Date** filter run on July 27, 2021 will return records for certificates expiring at or after July 27, 2021.
Yesterday		For example, a **Certificate Expiry Date** filter run on July 27, 2021 will return records for certificates expiring at or after July 26, 2021.
Custom Date	Returns records within the defined custom date.	For example, a **Certificate Expiry Date** filter run on a custom date, say August 1, will return records for certificates expiring at or after August 1, 2021.

- **At or before** - This operator allows users to generate records at or before the selected time period.

The following table describes the date values supported by the on operator:

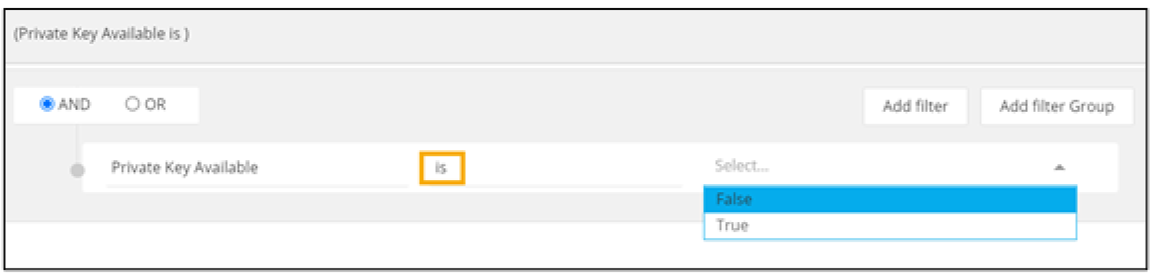
Date Type	Description	Example
Today	Returns records for the selected time period, including records with values up to the end of that time frame.	For example, a **Certificate Expiry Date** filter run on July 27, 2021 will return records for certificates expiring at or before July 27, 2021.

Date Type	Description	Example
Yesterday		For example, a **Certificate Expiry Date** filter run on July 27, 2021 will return records for certificates expiring at or before July 26, 2021.
Custom Date	Returns records within the defined custom date.	For example, a **Certificate Expiry Date** filter run on a custom date, say August 1, will return records for certificates expiring at or before August 1, 2021.

Field Type: Boolean Variable

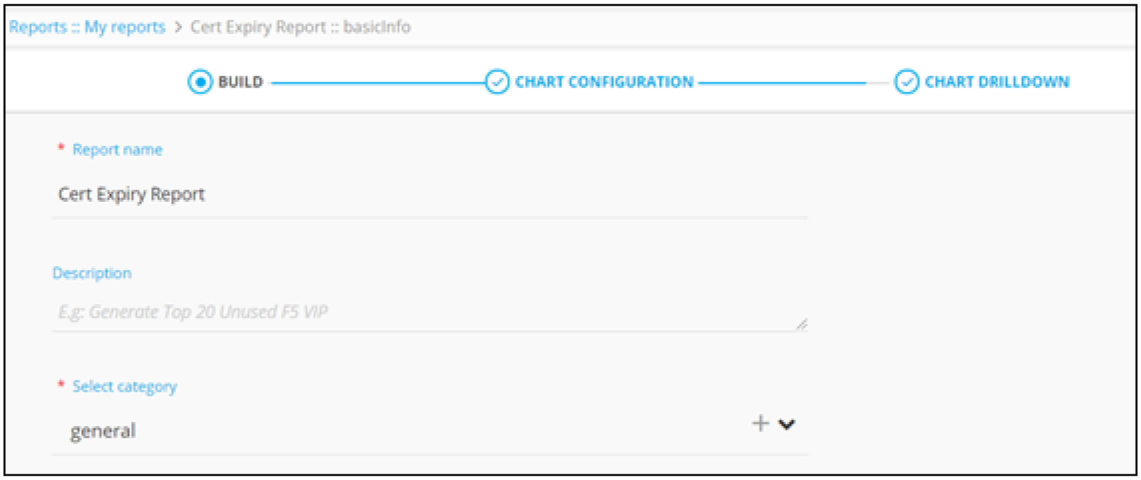
When you choose the field type as **Boolean**, the values for the conditional operator are either **true** or **false**. The conditional operator available when choosing the field type as Boolean is:

- **Is** - The report will display data after confirming if the selected field is available in the database (**True**) or not (**False**).



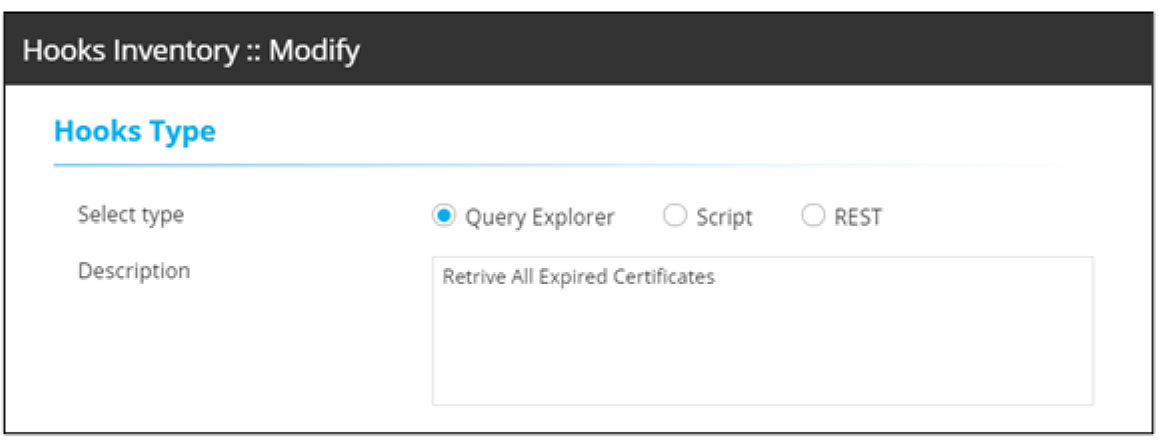
Create a CERT Expiry Report using Query Explorer

1. On the My Reports page, click **Create new Report**.
2. Under the **BUILD** section, enter or select the basic information on the report.



3. To modify a hook, select a hook from the pre-populated list and click .

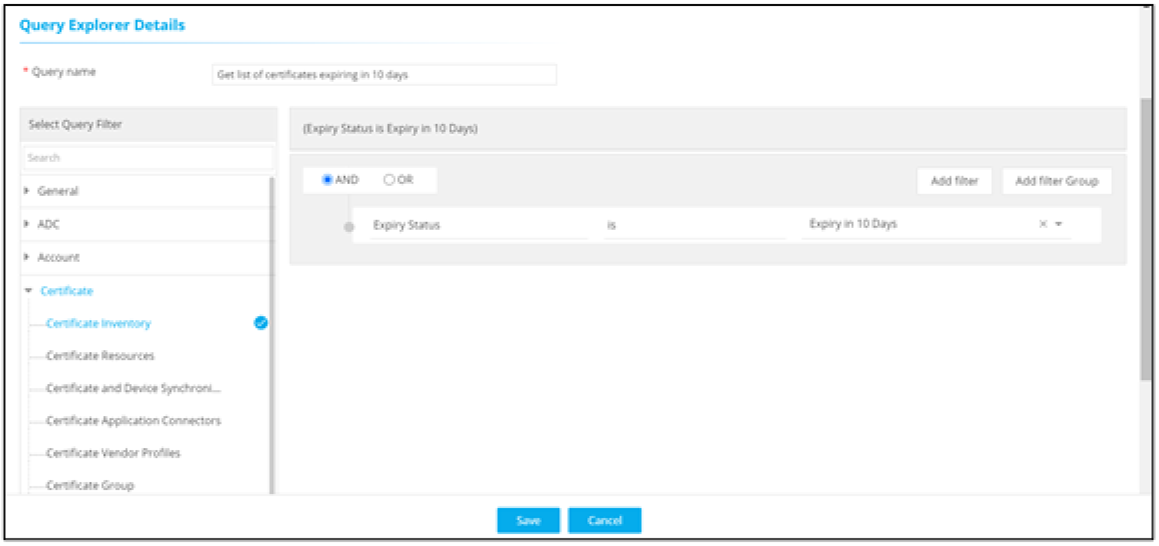
4. In the **Hooks Inventory::Modify** pop-up window, under **Hooks Type**, enter or select the field information.



This table describes the field information in this section:

Field	Description
Select type	Select hook type as **Query Explorer**.
Description	Enter a description of the hook.

5. In the **Query Explorer Details** section, enter or select the field information.



The following table describes the various fields in this section:

Field	Description
***Query name**	Enter a valid Query name. For example: **Get list of certificates expiring in 10 days**.
Select Query Filter	Select an appropriate query filter. For example:**Certificate Inventory under Certificate**, since this report is to get data on certificates.
Add filter	Add a filter and select appropriate fields from the predefined values. For example: **Expiry status is Expiry in 10 days**.
AND/OR	Select the appropriate conditional parameters depending on the type of output required in the report. **AND**: Report will reflect data satisfying all the filter conditions. **OR**: Report will reflect data satisfying either of the filter conditions.

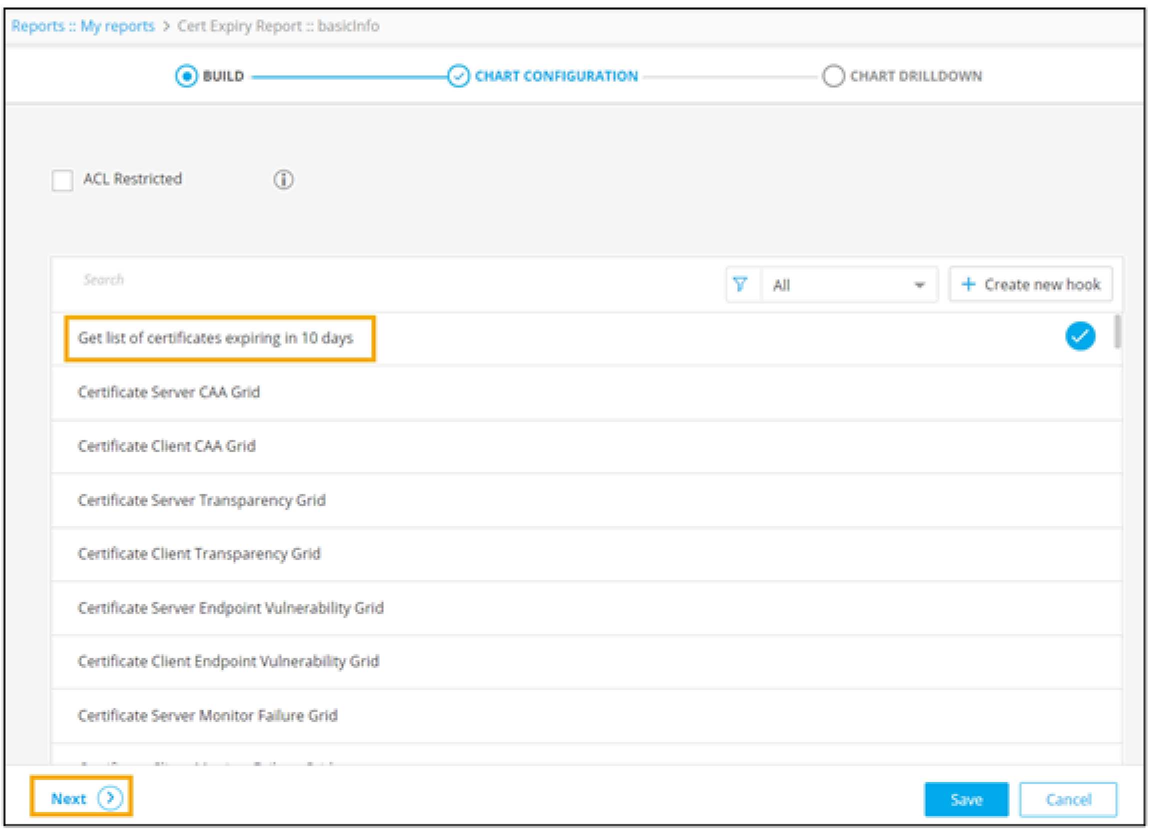
Field	Description
The asterisk (*) symbol indicates mandatory fields.	

Note:

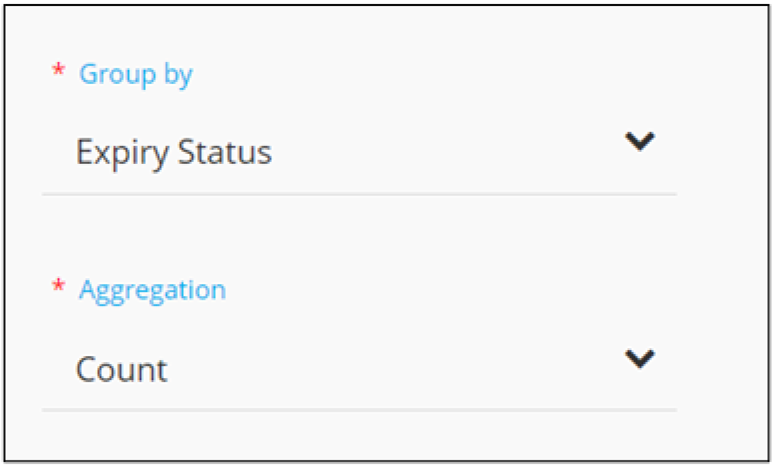
- Users can add more filters and apply conditional operators to generate different kinds of data in their reports. For example, add another filter to get data on **Compliance Status** of the certificates that are expiring in 10 days.
- Set the conditional parameter to **AND** to generate a report that satisfies both the defined conditions and display certificates that are both compliant and are expiring in 10 days. Setting the conditional parameter to **OR** will generate a report that reflects data satisfying either of the two defined conditions.

6. To create this new hook, click **Save**.
7. To save the basic information, click **Next**.

   The new hook is displayed in the list of hooks.

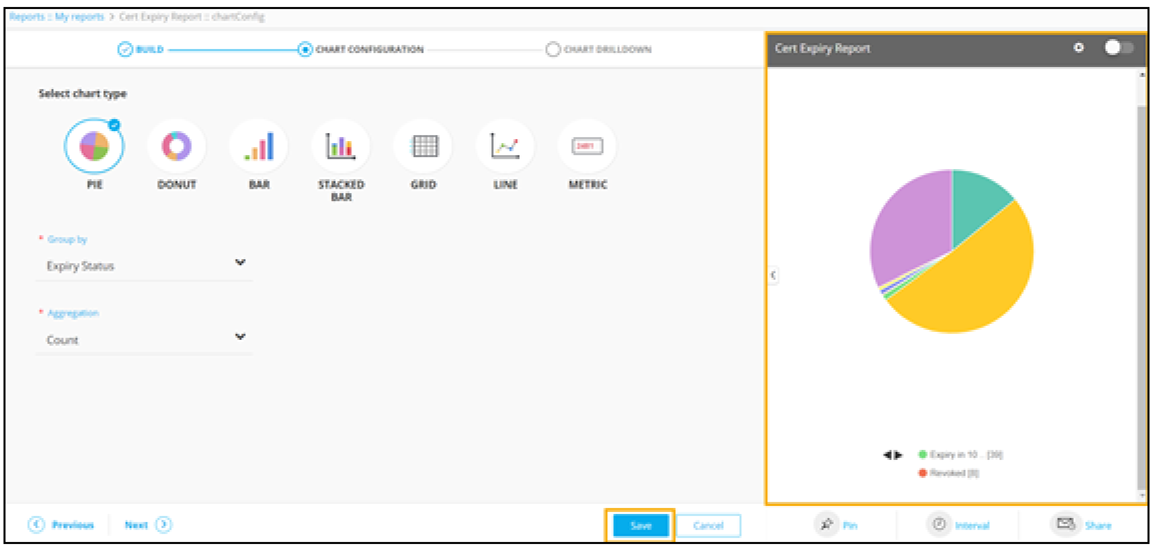


8. Under the **CHART CONFIGURATION** section, select the **PIE** chart.
9. Select the appropriate values for the various fields.

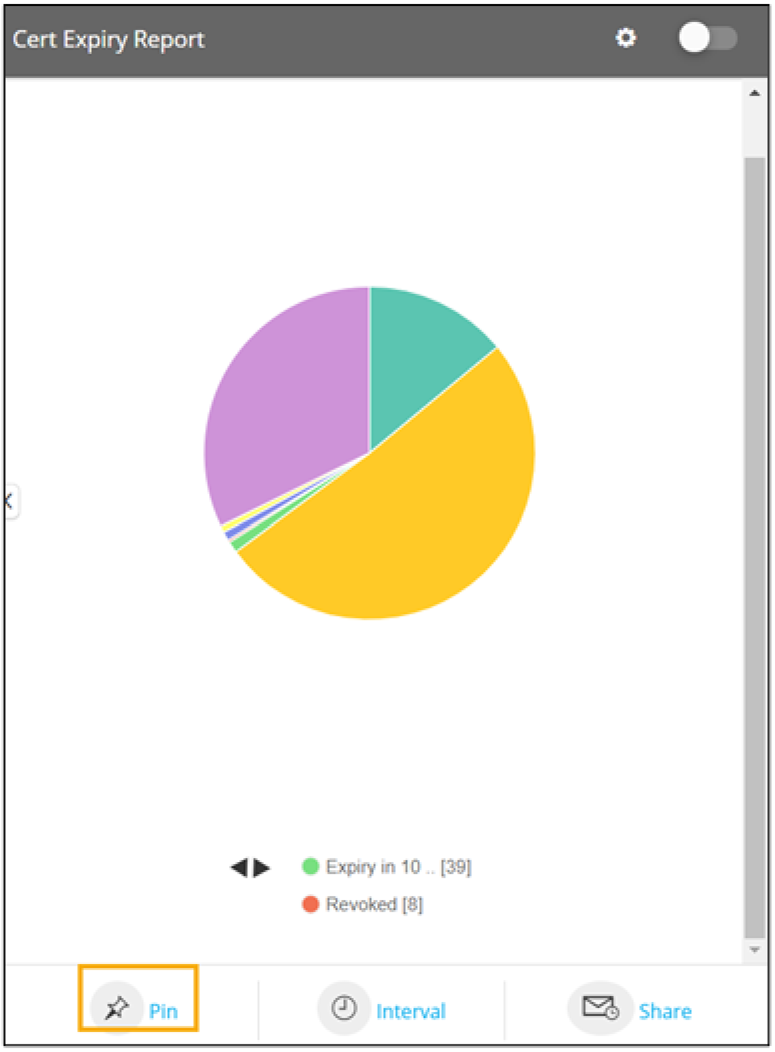


10. Click **Save**.

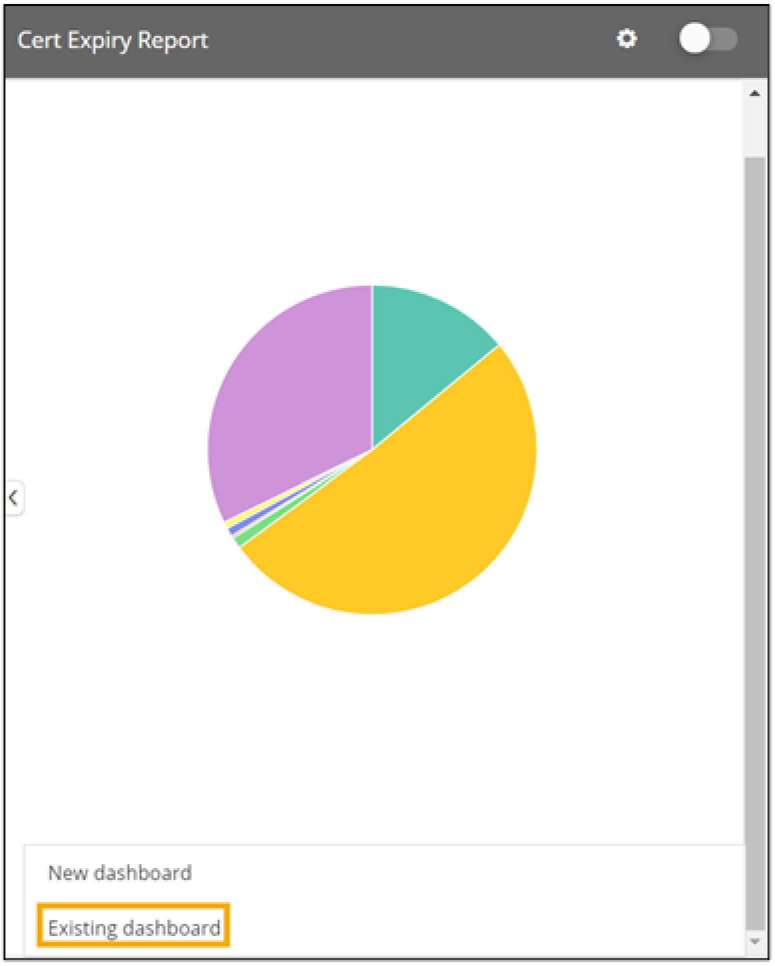
    A preview of the pie chart is displayed on the right side of the screen.



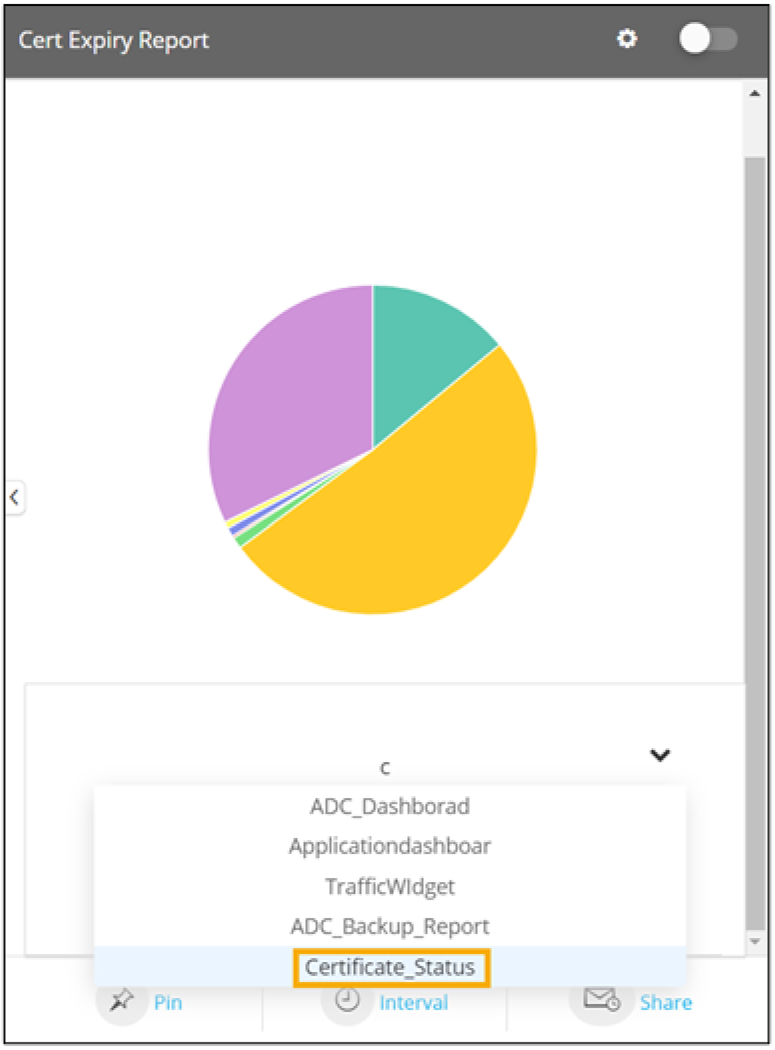
11. To pin the report to the dashboard, click **Pin**.



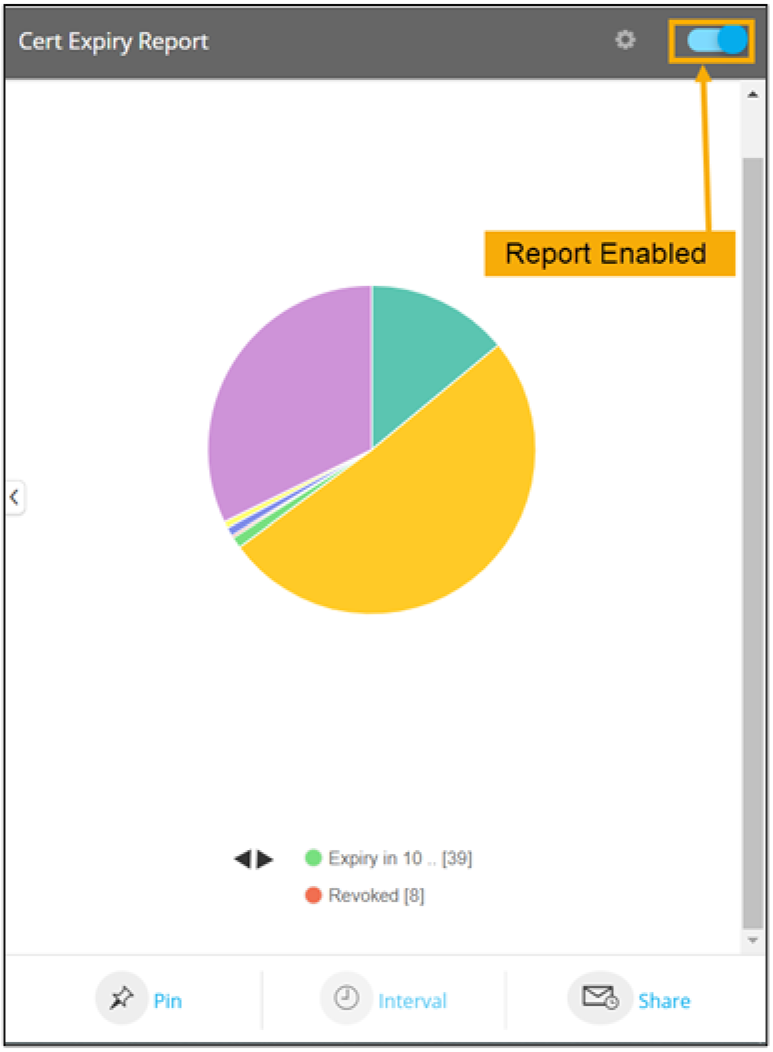
12. From the options displayed, select **Existing dashboard**.



13. From the list of available dashboards, select the required dashboard.



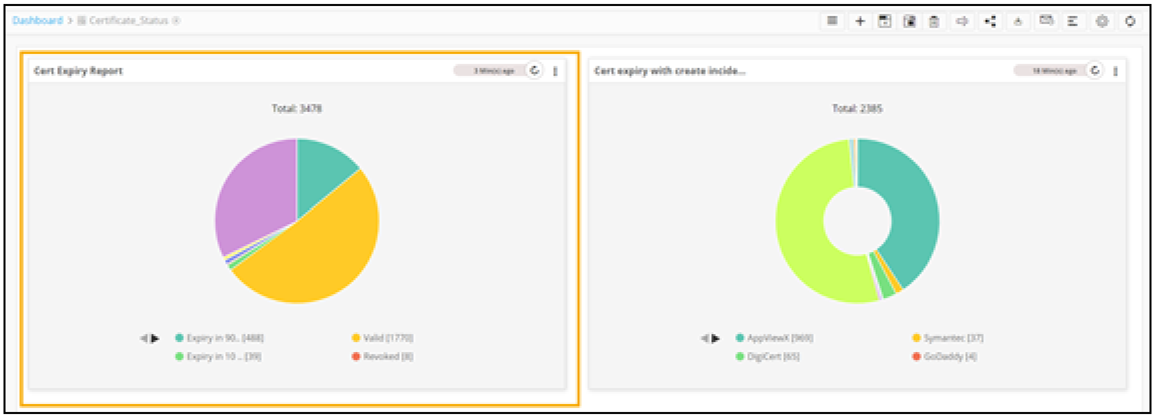
14. To pin this report to the new dashboard, click **Save**.
15. To enable the report, turn on the toggle.



16. To view this report on the dashboard, search for the dashboard in the dashboard inventory.

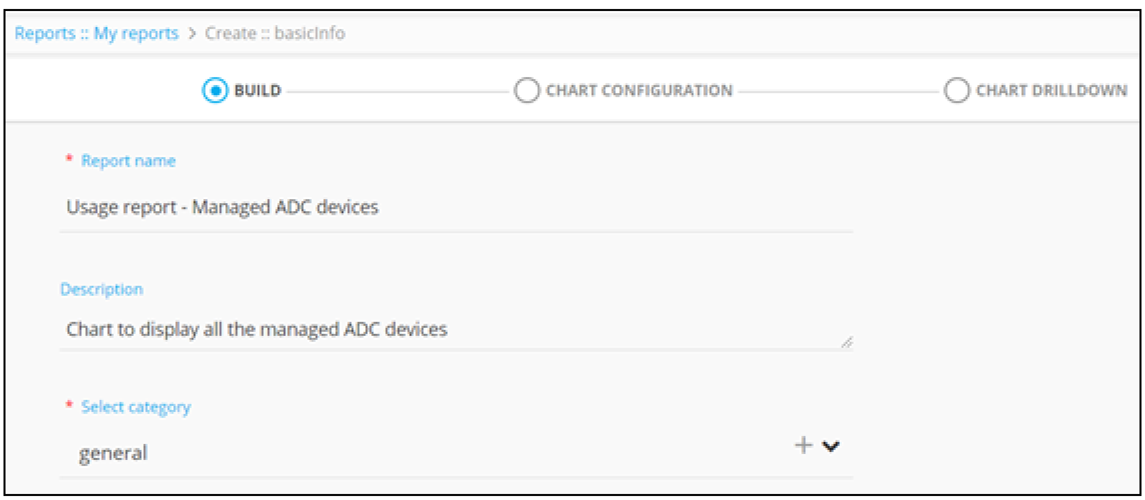
> **Note:** For more information on how to search for a dashboard, click here.

The **Cert Expiry Report** can be seen on the dashboard.



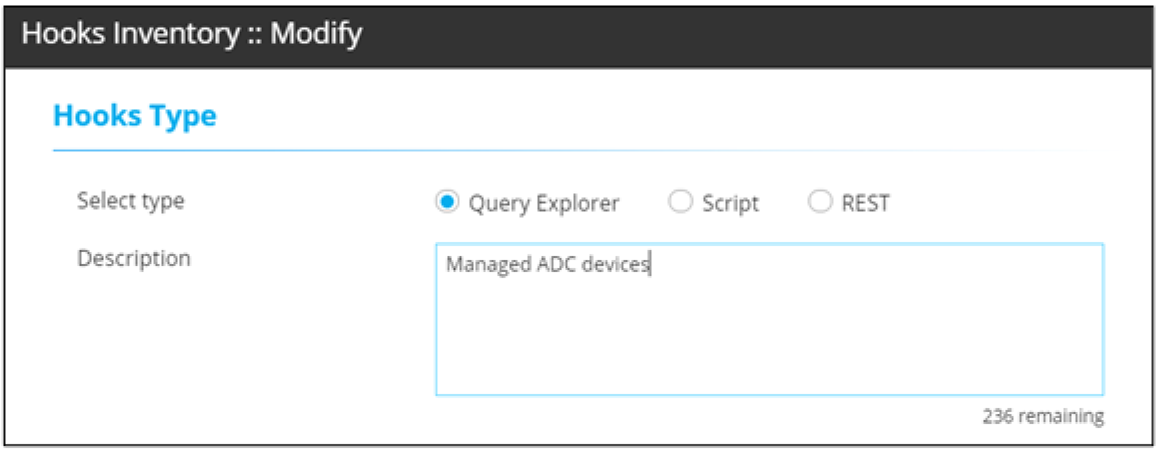
Create an ADC Usage Report using Query Explorer

1. On the My Reports page, click **Create new report**.
2. Under the **BUILD** section, enter or select the basic information on the report.



3. To modify the hook, select a hook from the pre-populated list and click .

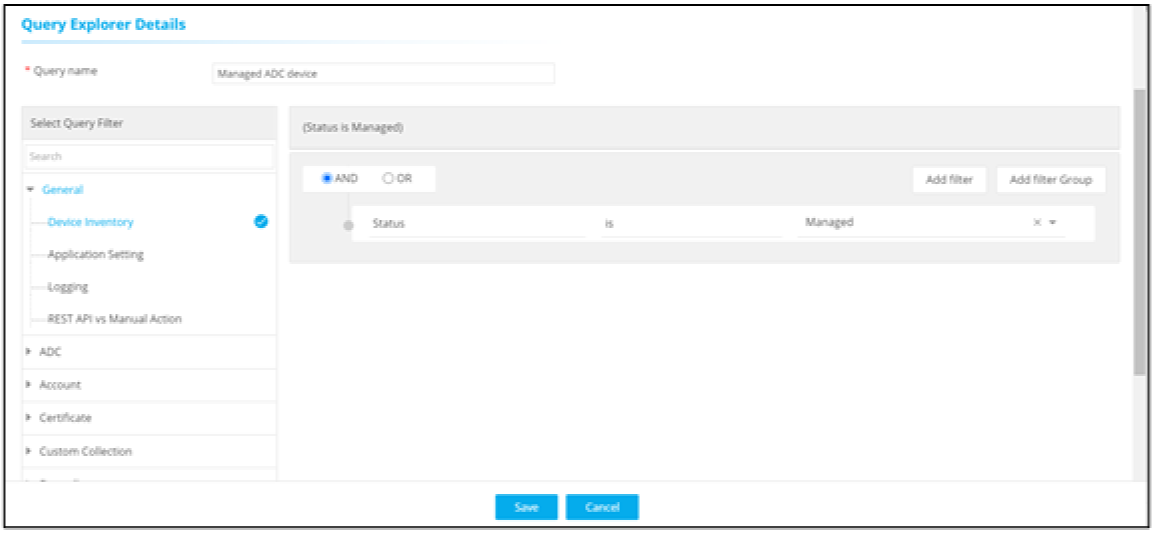
4. In the **Hooks Inventory::Modify** window, under **Hooks Type**, enter or select the field information.



This table describes the field information in this section:

Field	Description
Select type	Select hook type as **Query Explorer**.
Description	Enter a description of the hook.

5. In the **Query Explorer Details** section, enter or select the field information.

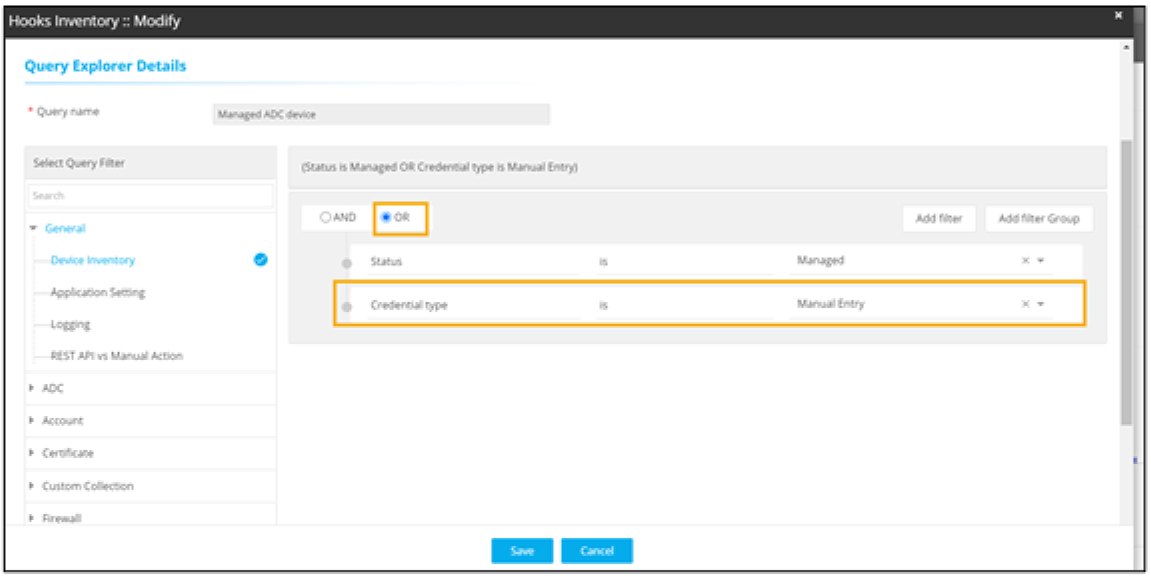


The following table describes the various fields in this section:

Field	Description
Query name	Enter a valid Query name. For example: **Managed ADC devices**.
Select Query Filter	Select an appropriate query filter. For example: **Device Inventory under General**, since this report is to get data on devices.
Add filter	Select appropriate fields from the pre-defined values. For example: **Status is Managed**.
AND/OR	Select the appropriate conditional parameters depending on the type of output required in the report. **AND**: Report will reflect data satisfying all the filter conditions. **OR**: Report will reflect data satisfying either of the filter conditions.

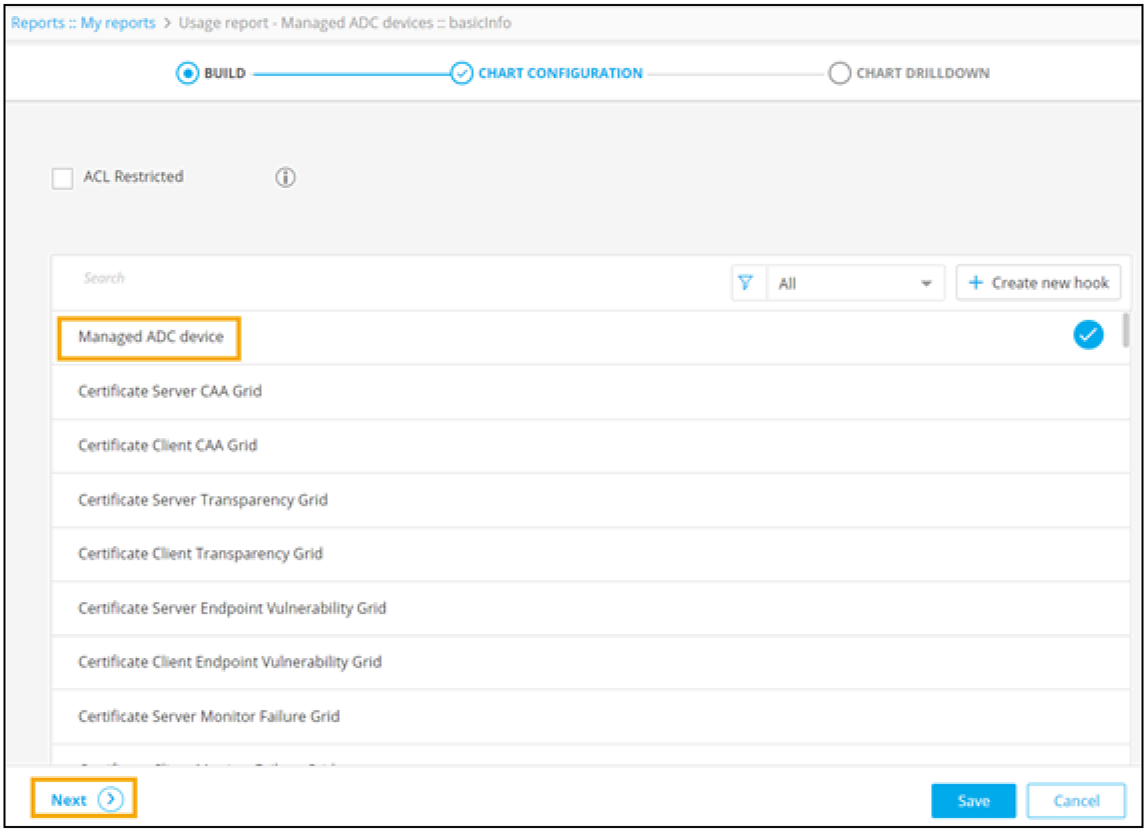
Note:

- Users can add more filters and apply conditional operators to generate different kinds of data in their reports. For example, adding another filter to get data on credential type of the ADC devices that are managed.
- Set the conditional parameter to **AND** to generate a report that satisfies both the conditions and display devices that are both managed and required manual credentials entry. Setting it to **OR** will generate a report that reflects data satisfying either of these two defined conditions.

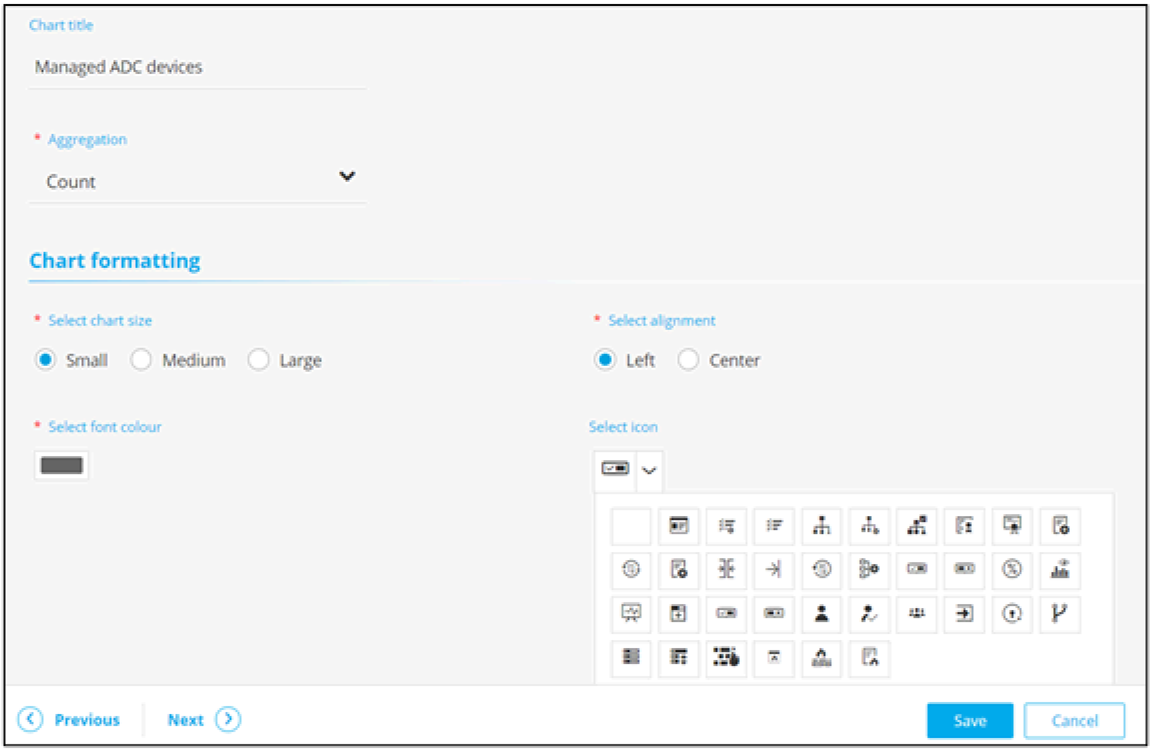


6. To create this new hook, click **Save**.
7. To save the basic information, click **Next**.

   The new hook can be seen in the list of hooks.

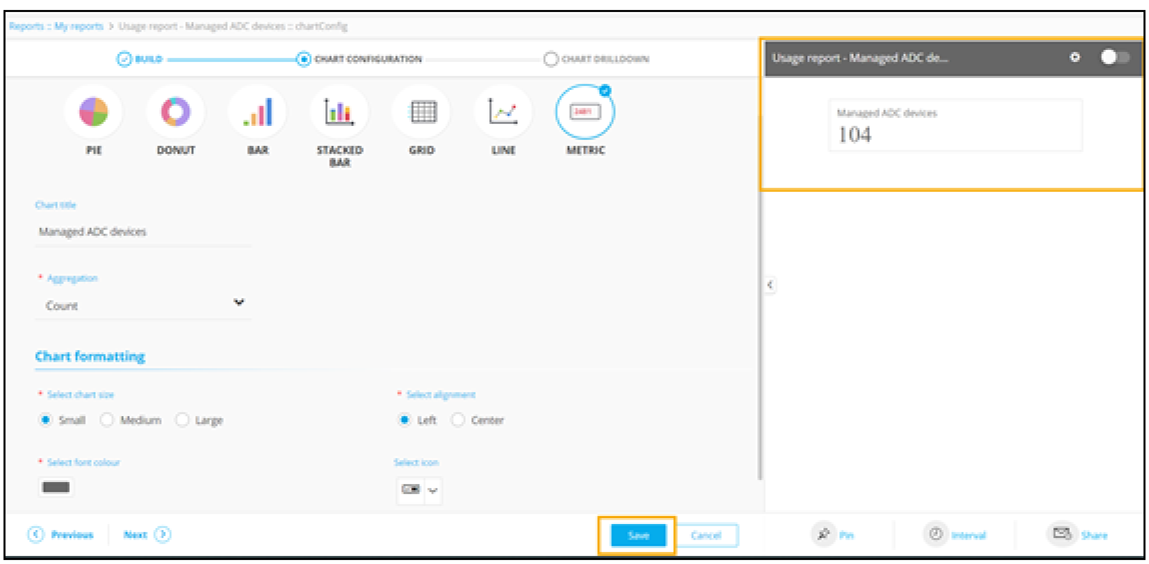


8. Under the **CHART CONFIGURATION** section, select the chart type as **METRIC**.
9. Enter or select the appropriate values for the various fields.



10. To save the basic information on the chart, click **Save**.

    A preview of the metric is displayed on the right side of the screen.

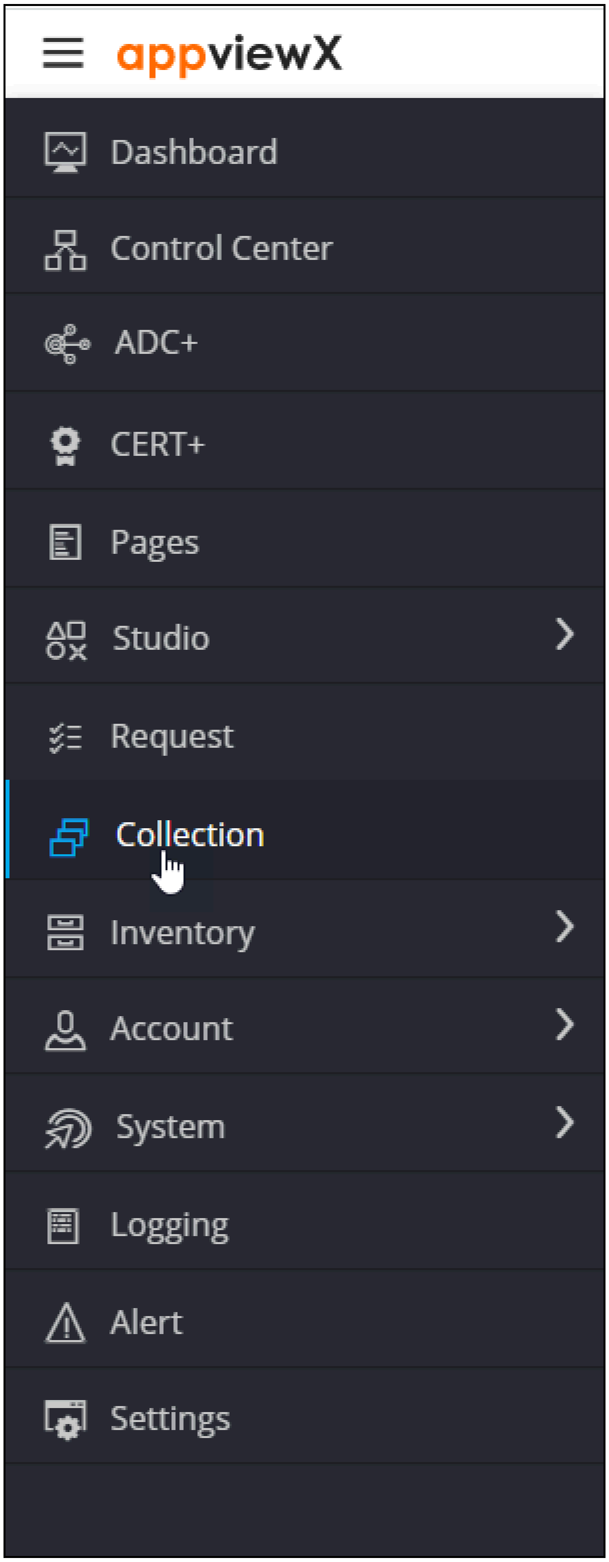


Importing Custom Data in Query Explorer

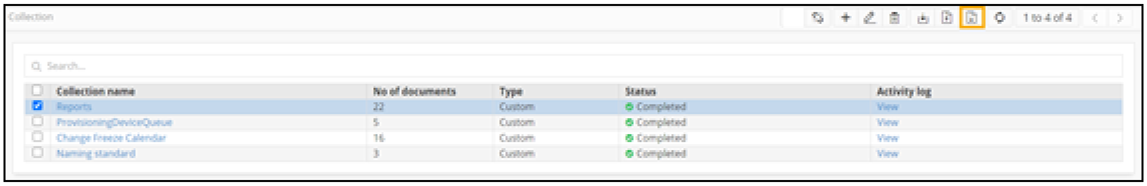
You can import data and upload it into the **Collection** module of the AppViewX platform and enable it to build custom queries to create reports.

To import a collection into the Query Explorer:

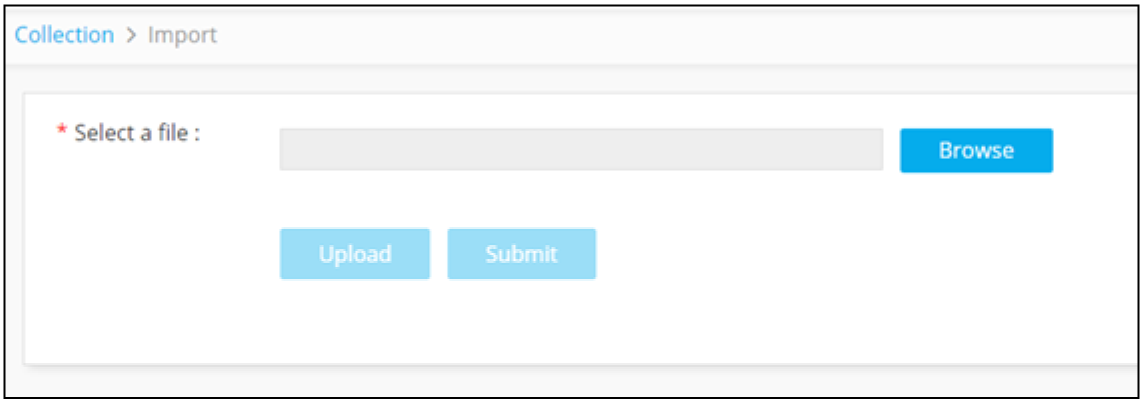
1. From the top left corner of the screen, click .
2. From the menu displayed, click **Collection**.



3. To import a collection, from the top right corner of the page, click .

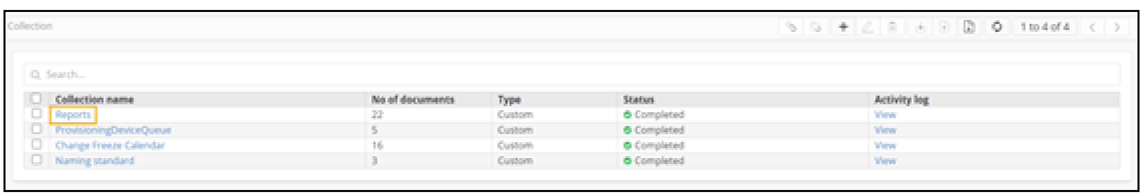


4. To select a file to be uploaded to the **Collection** module, click **Browse**.

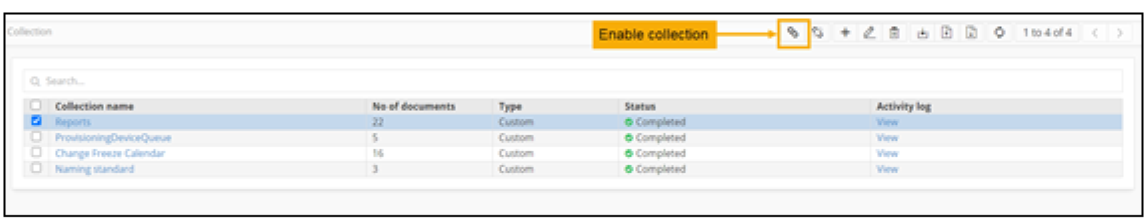


5. Click **Upload** once the file is selected.
6. Select the collection and click **Submit**.

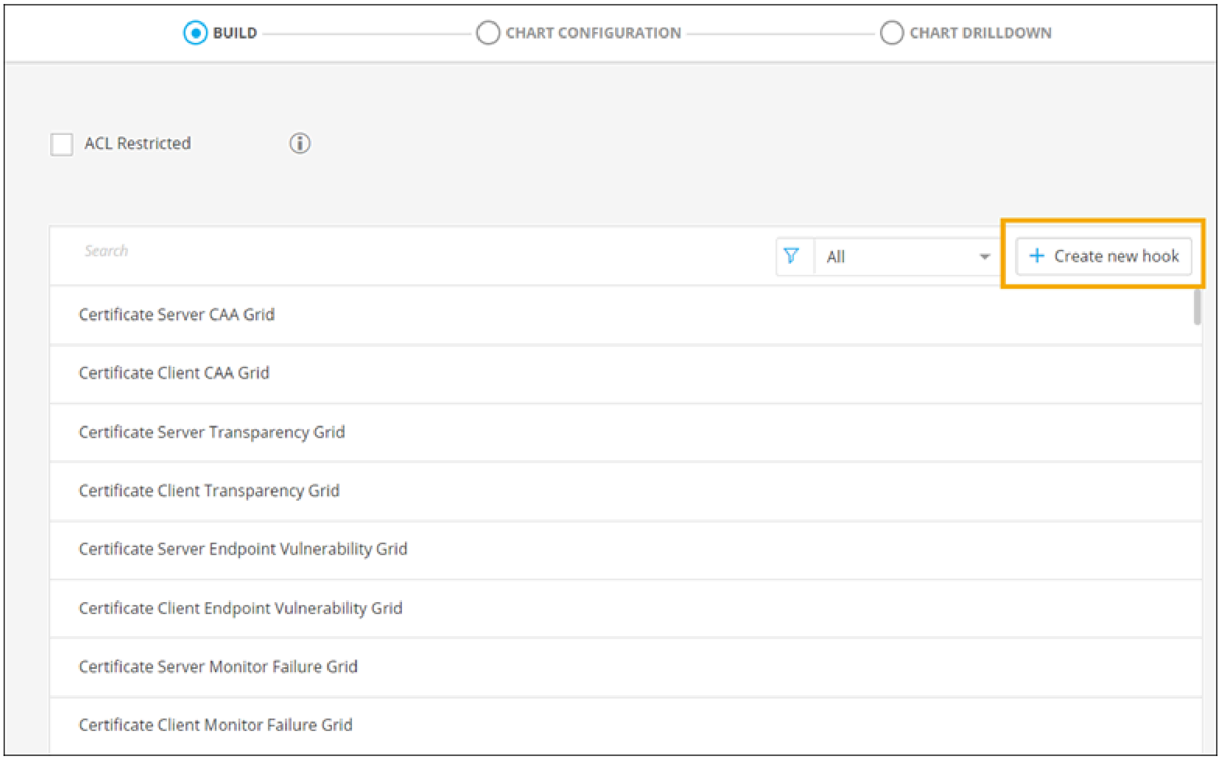
   The newly created collection can be seen on the **Collection** page under **Collection Name**.



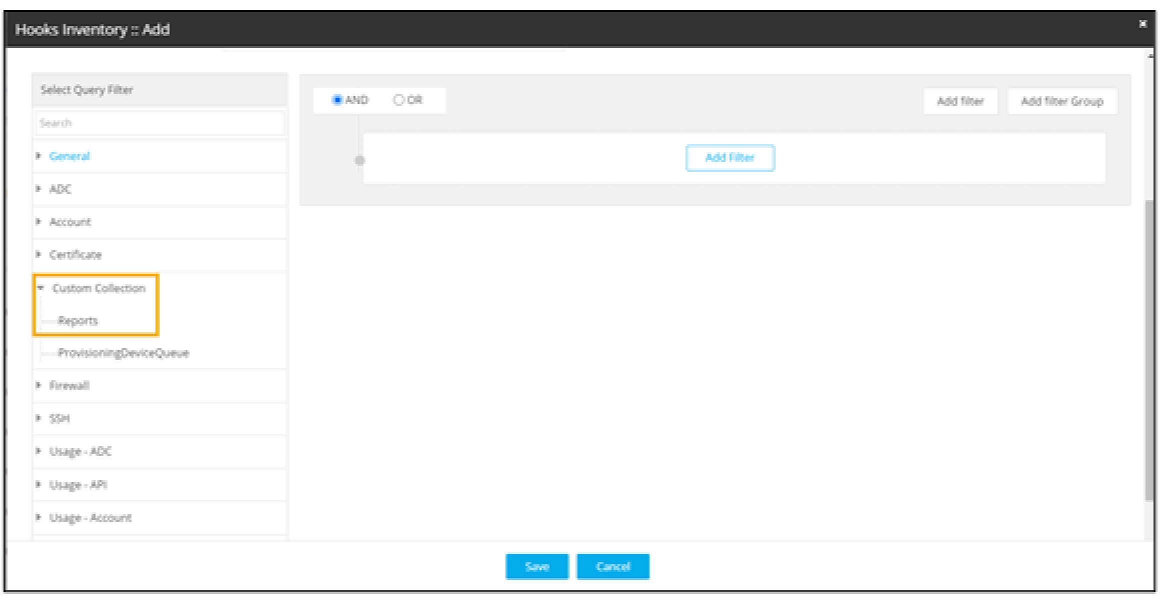
7. To enable the collection to build a custom query, select the collection and click .



8. On the My Reports page, click **Create new report**.
9. Under the **BUILD** section, click **Create new hook**.



The newly created collection is displayed on the **Hooks Inventory** page under **Custom Collection**.



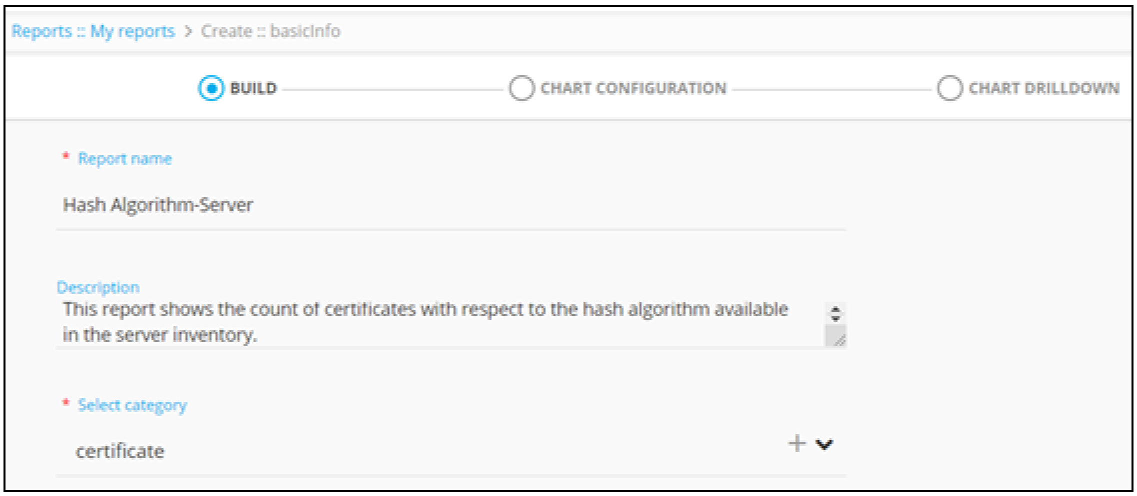
Using Scripts to build Reports

The report builder allows you to create reports using preexisting and custom scripts. You can add your own custom code to generate reports that meet your requirements.

- Example 1
- Example 2

Example 1

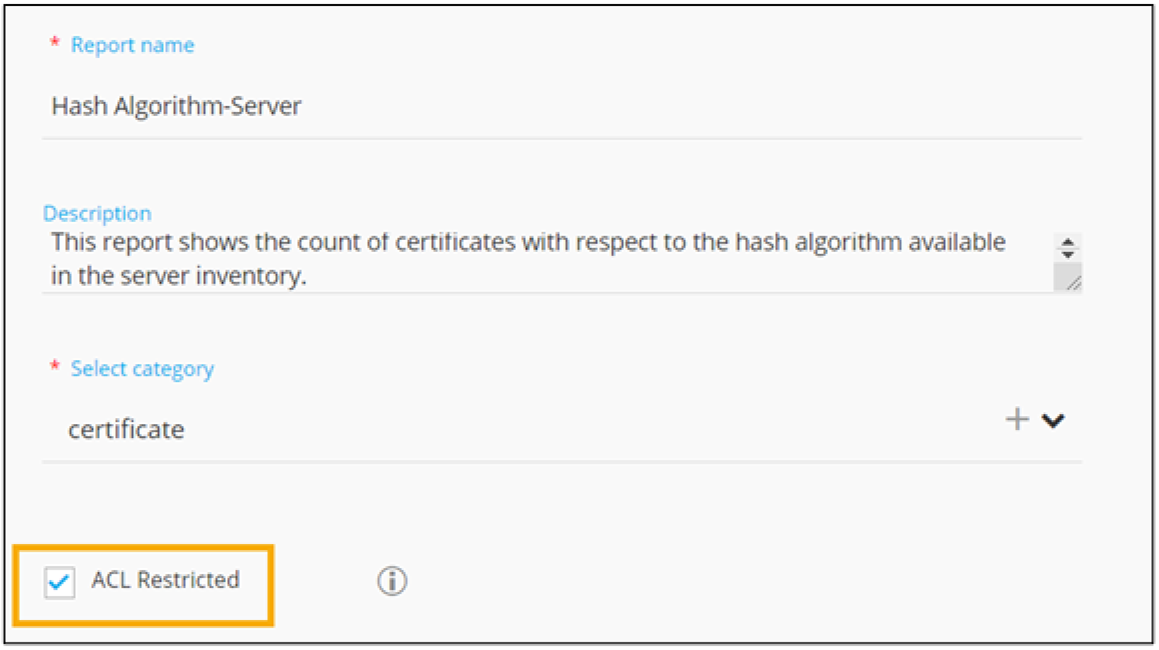
1. On the My Reports page, click **Create new report**.
2. Under the **BUILD** section, enter or select the field information.



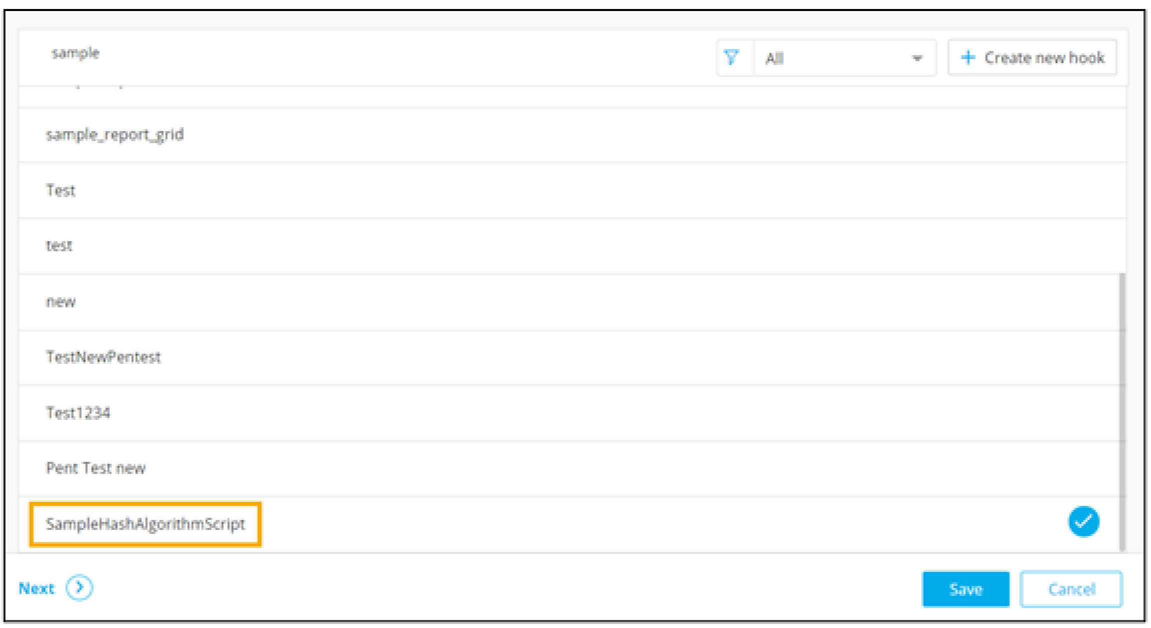
This table describes the field information under this section:

Field	Description
***Report name**	Enter a valid report name. For example, **Hash Algorithm-Server**.
Description	Enter a description of the report. For example: **This report shows the count of certificates with respect to the hash algorithm available in the server inventory.**
***Select category**	Select category as **certificate**.
The asterisk (*) symbol indicates mandatory fields.	

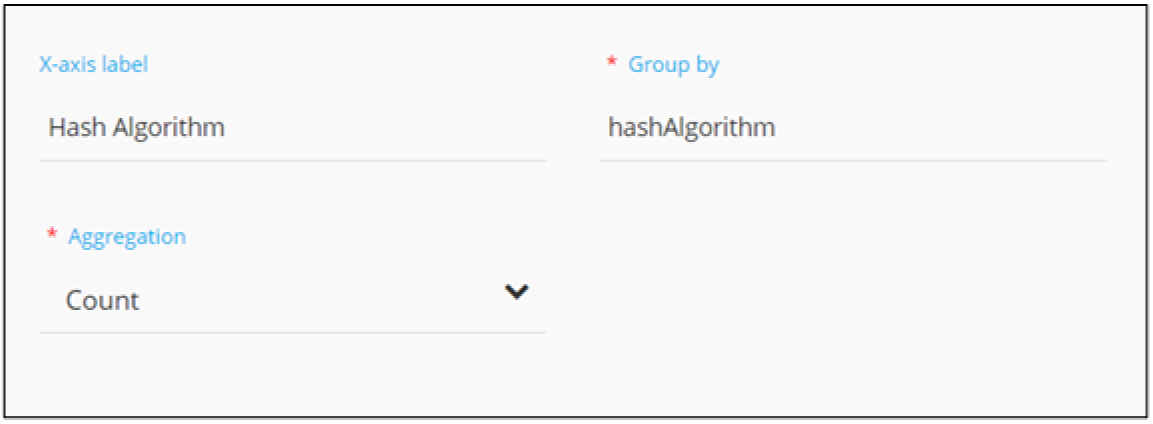
3. Select the **ACL restricted** check box.



4. Select a sample script from the list of available hooks.



5. To save your selections, click **Next**.
6. Under the **CHART CONFIGURATION** section, select the **BAR** chart.
7. Enter or select all the field information on this page.

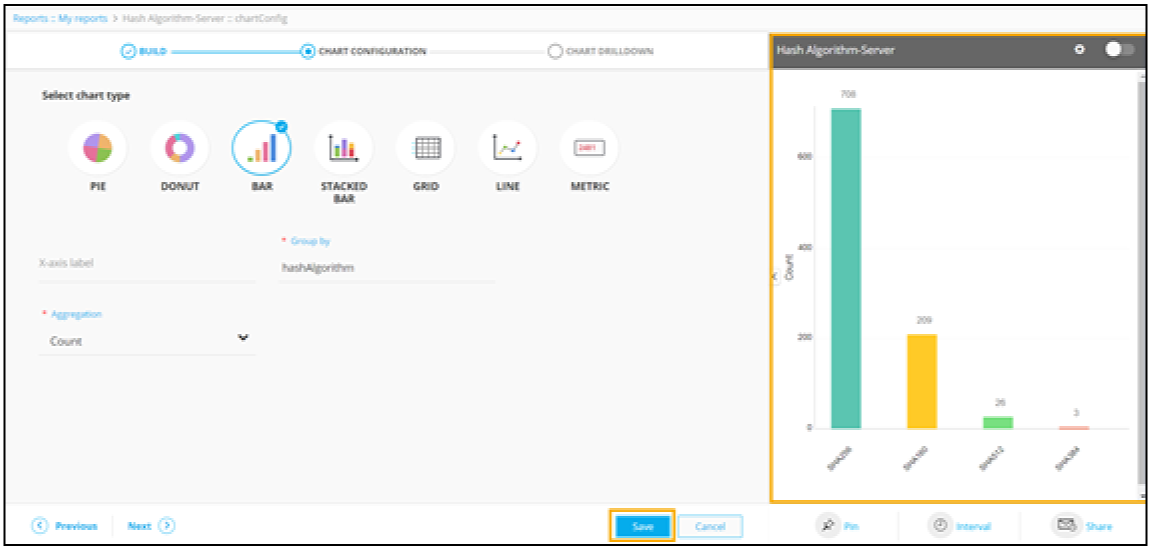


This table describes the field information under this section:

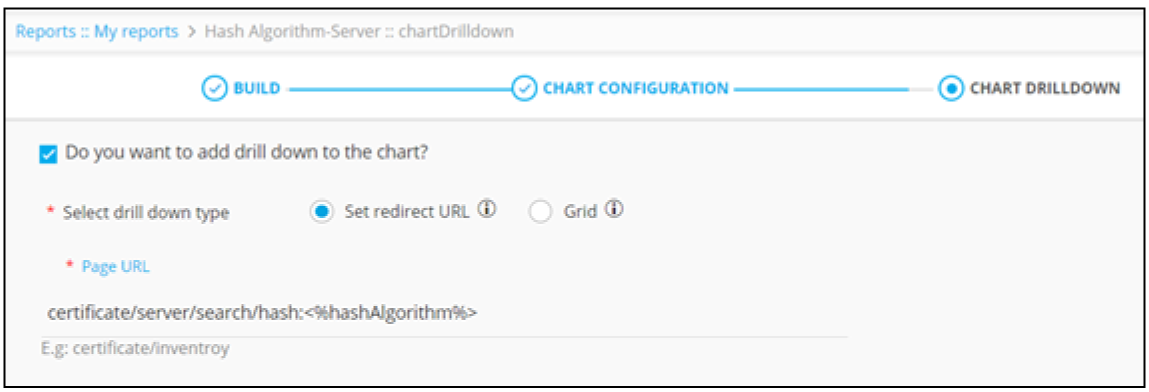
Field	Description
X-axis label	Enter the criteria for the X-axis label. For example, Hash algorithm.
***Group by**	Select a value from the dropdown menu on the basis of which report data will be grouped. For example, hashAlgorithm.
***Aggregation**	Select the calculation to be done on the report data for the dropdown. The following options are available: • **Average**: Calculates the average value of a given set of data. • **Sum**: Calculates the sum of all values in a given set of data. • **Count**: Calculates the total number of items in a given numeric field. • **Maximum**: Displays the maximum value in a given set of data. • **Minimum**: Displays the minimum value in a given set of data.
The asterisk (*) symbol indicates mandatory fields.	

8. Click **Save**.

   A preview of the bar chart is displayed on the right side of the screen.



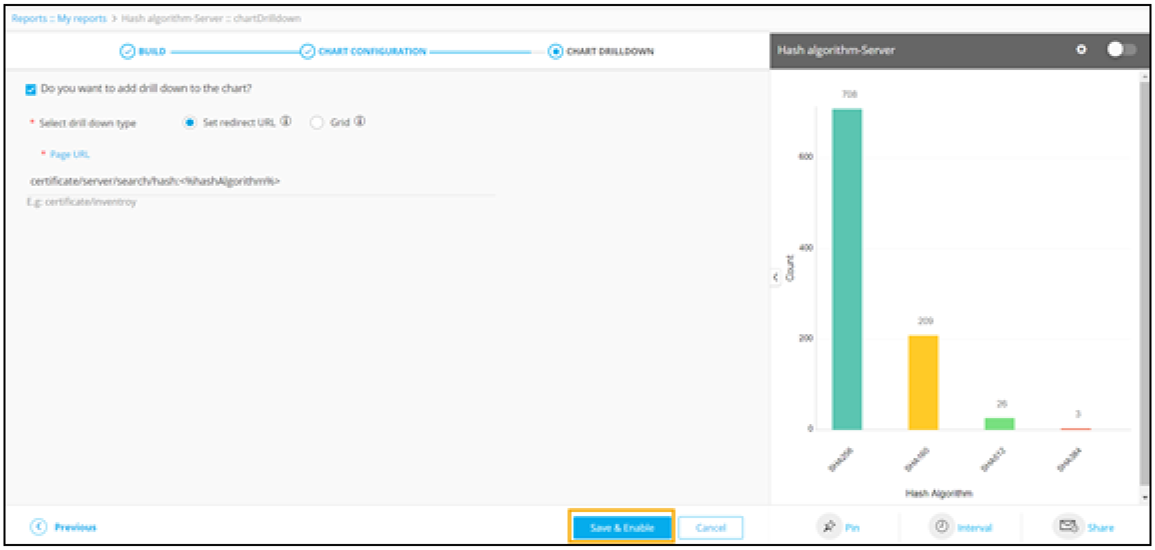
9. To add drill down to the report, click **Next**.
10. Under the **CHART DRILLDOWN** section, enter or select the field information.



The following table describes the field information on this page:

Field	Description
***Select drill down type**	Select drill down type as redirect URL.
***Page URL**	Enter a valid URL.
The asterisk (*) symbol indicates mandatory fields.	

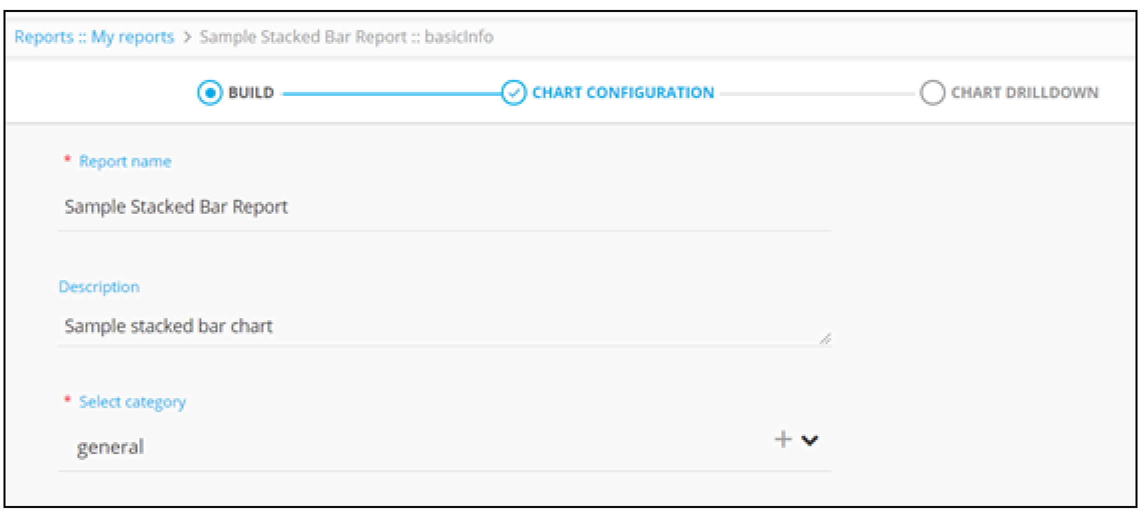
11. To enable drill down, click **Save & Enable**.



12. To be redirected to the drill down URL, click on any of the bars on the bar chart.

Example 2

1. On the My Reports page, click **Create new report**.
2. Under the **BUILD** section, enter or select the field information.



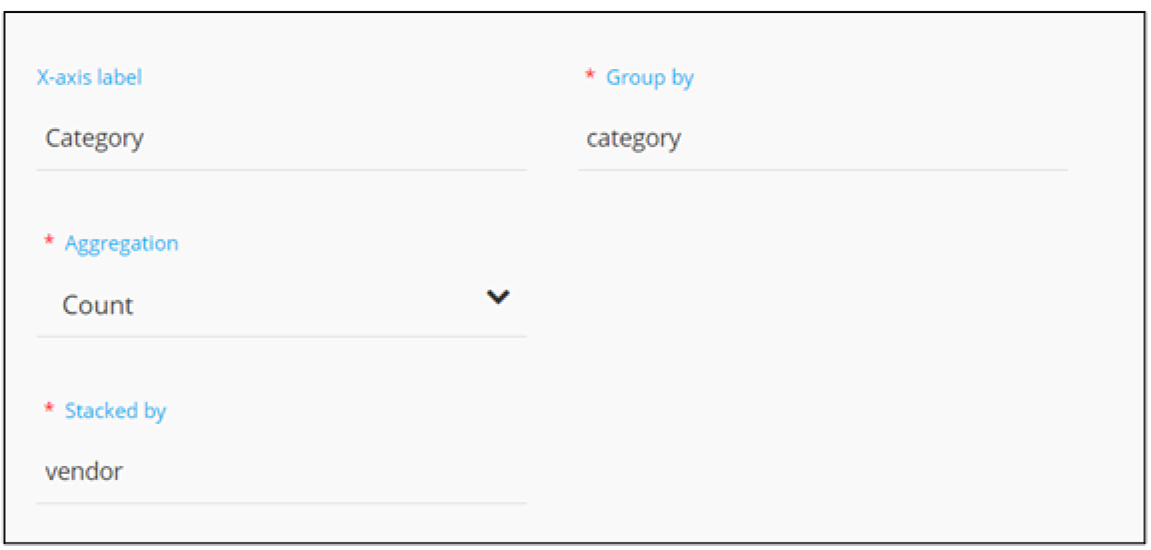
This table describes the field information under this section:

Field	Description
***Report name**	Enter a valid report name.

Field	Description
Description	Enter a valid description of the report.
***Select category**	Select category as general.
The asterisk (*) symbol indicates mandatory fields.	

3. Select an appropriate hook from the list and click .

4. To save your selections, click **Next**.
5. Under the **CHART CONFIGURATION** section, select the **STACKED BAR** chart.
6. Enter or select the field information on this page.

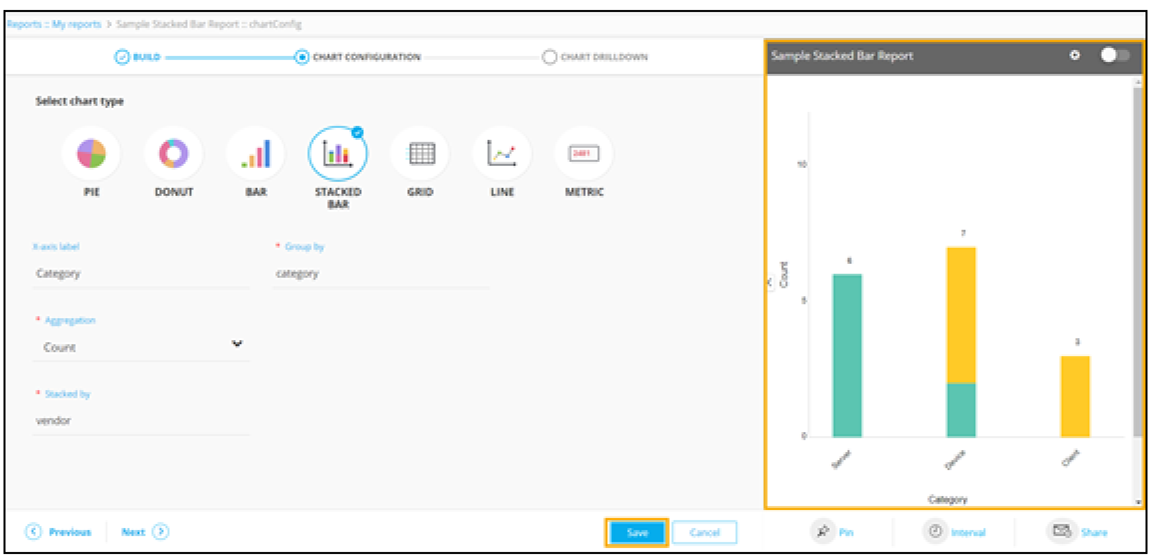


This table describes the field information under this section:

Field	Description
X-axis label	Enter the criteria for the X-axis label.
***Group by**	Enter the criteria on the basis of which report data will be grouped. For example, **category**.
***Aggregation**	Select the calculation to be done on the report data for the dropdown. The following options are available: • **Average**: Calculates the average value of a given set of data. • **Sum**: Calculates the sum of all values in a given set of data. • **Count**: Calculates the total number of items in a given numeric field. • **Maximum**: Displays the maximum value in a given set of data. • **Minimum**: Displays the minimum value in a given set of data.
***Stacked by**	Enter the criteria on the basis of which report data will be stacked. For example, **vendor**.
The asterisk (*) symbol indicates mandatory fields.	

7. Click **Save**.

   A preview of the stacked bar chart is displayed on the right side of the screen.



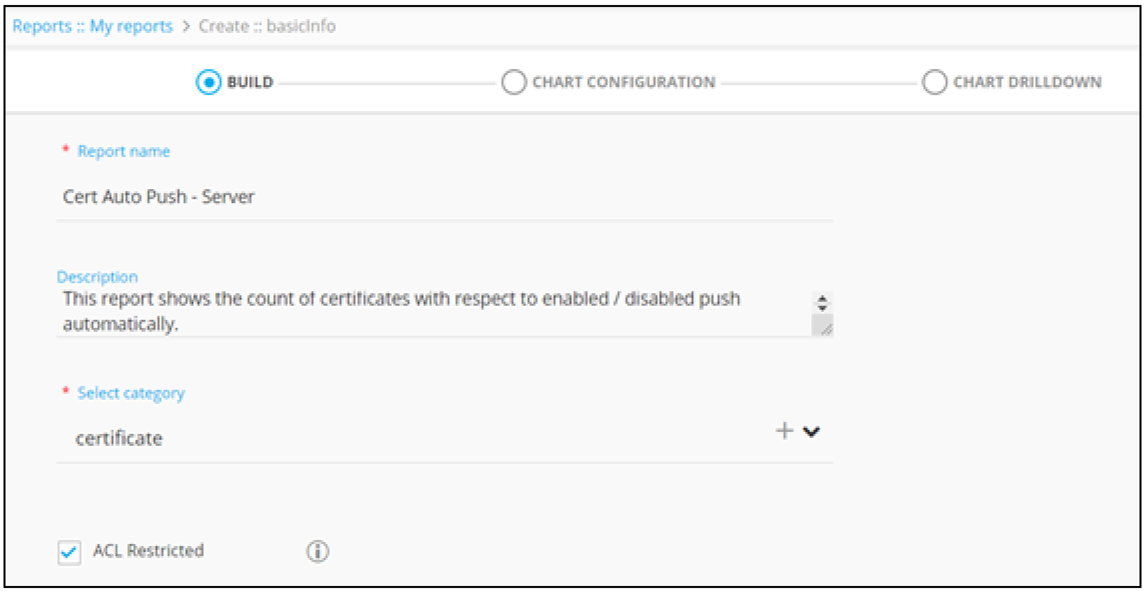
Using REST API to build Reports

You can also use the report builder to create reports using preexisting or custom APIs. You can integrate your internal APIs into this platform to generate customized reports.

- How to Create a Report using Sample REST API

How to Create a Report using Sample REST API

1. On the My Reports page, click **Create new report**.
2. Under the **BUILD** section, enter or select the field information.

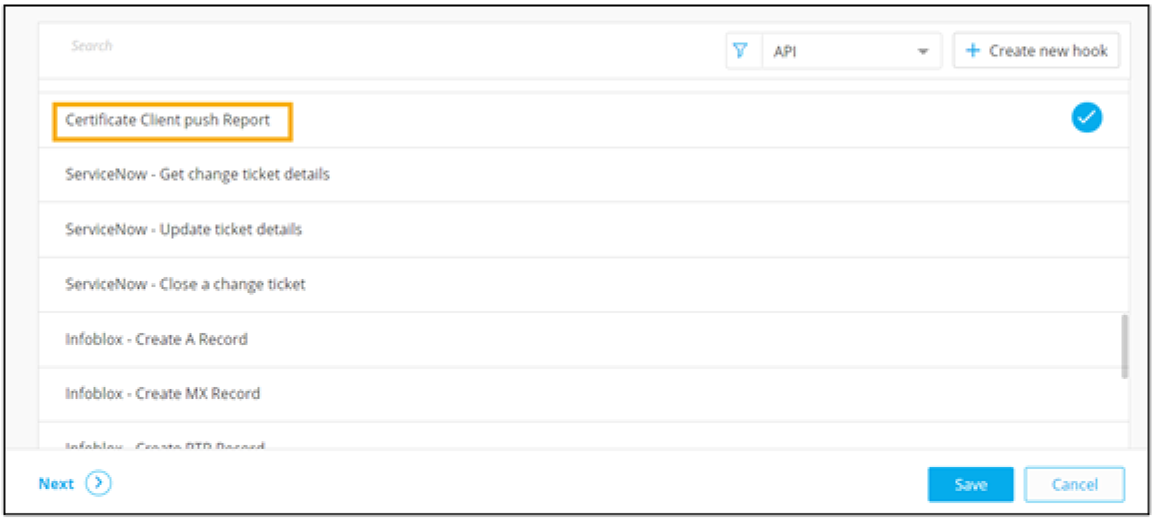


This table describes the field information under this section:

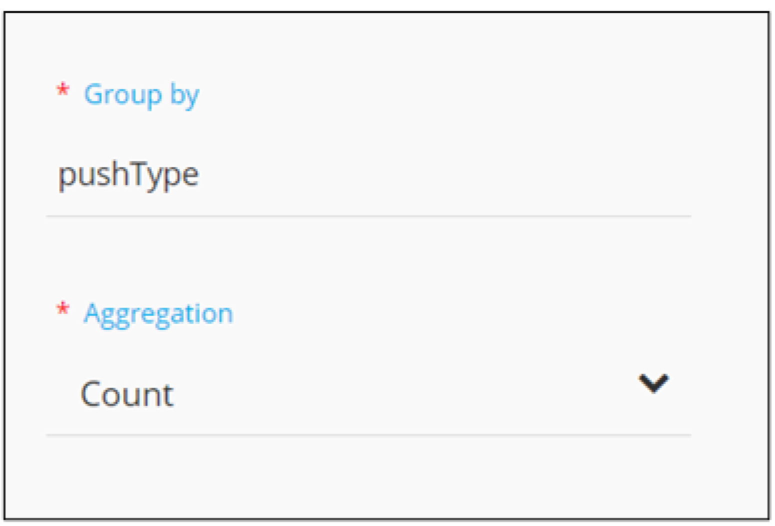
Field	Description
***Report name**	Enter a valid report name. For example, **Cert Auto Push server**.
Description	Enter a valid description for the report. For example: **This report shows the count of certificates with respect to enabled / disabled push automatically.**
***Select category**	Select category as certificate.

Field	Description
ACL restricted	Select this checkbox to query certificates based on role permission.
The asterisk (*) symbol indicates mandatory fields.	

3. Select a sample API hook from the list of preexisting hooks.



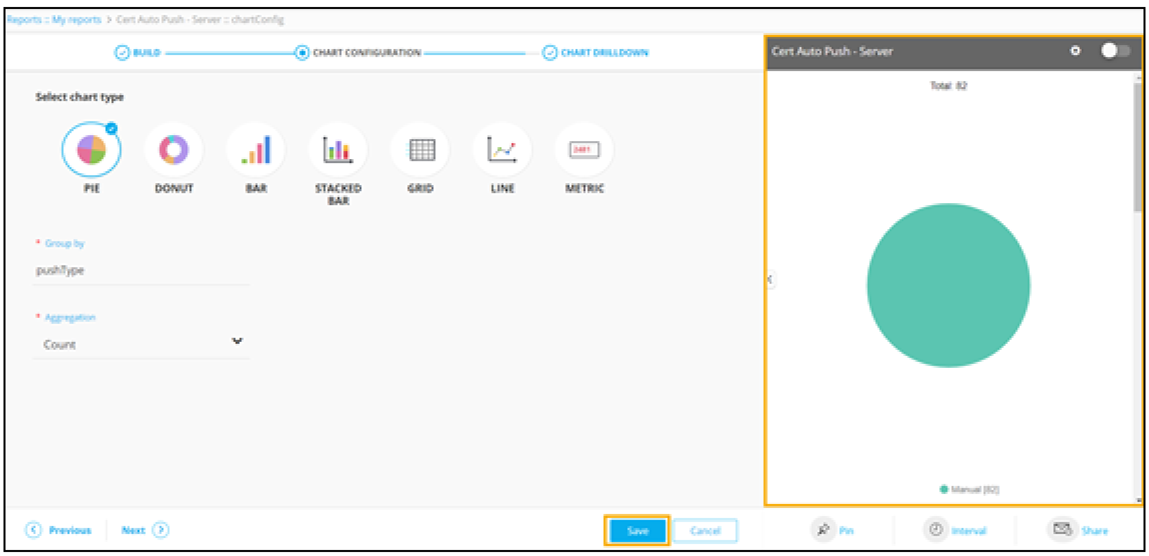
4. To save your selections, click **Next**.
5. Under the **CHART CONFIGURATION** section, select the **PIE** chart.
6. Enter or select the field information.



The following table describes the field information in this section:

Field	Description
***Group by**	Enter the criteria on the basis of which report data will be grouped. For example: **pushType**.
***Aggregation**	Select the calculation to be done on the report data for the dropdown. The following options are available: • **Average**: Calculates the average value of a given set of data. • **Sum**: Calculates the sum of all values in a given set of data. • **Count**: Calculates the total number of items in a given numeric field. • **Maximum**: Displays the maximum value in a given set of data. • **Minimum**: Displays the minimum value in a given set of data.
The asterisk (*) symbol indicates mandatory fields.	

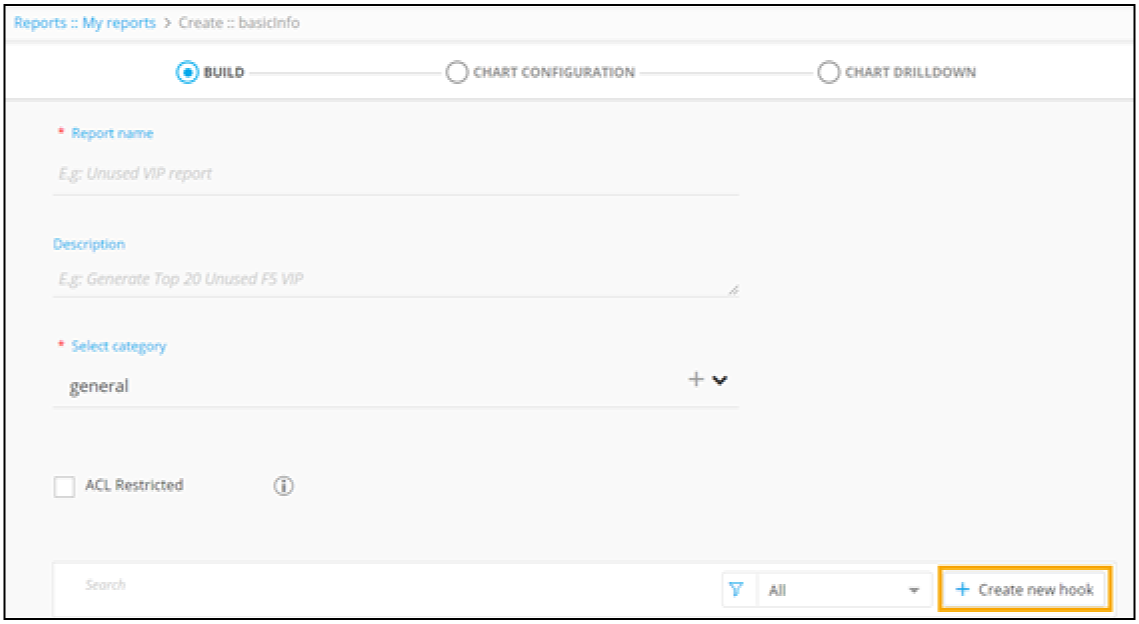
7. To save your selections, click **Save**.
   A preview of the pie chart is generated on the right side of the screen.



How to Create a New Hook

To create a new hook for generating reports based on a specific category:

1. On the My Reports page, click **Create new report**.
2. Under the **BUILD** section, click **Create new hook**.

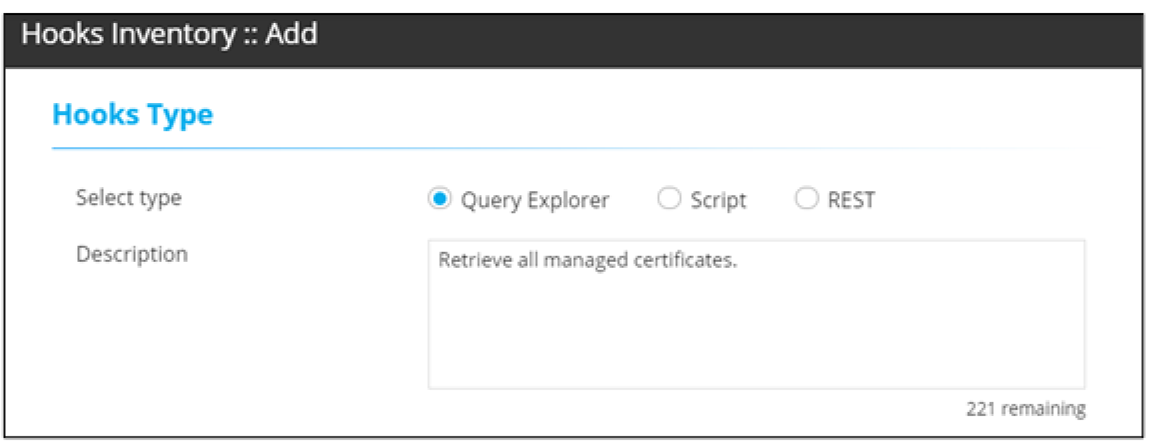


The **Hooks Inventory** page pops up, where users can add/create a new hook according to their specific requirements.

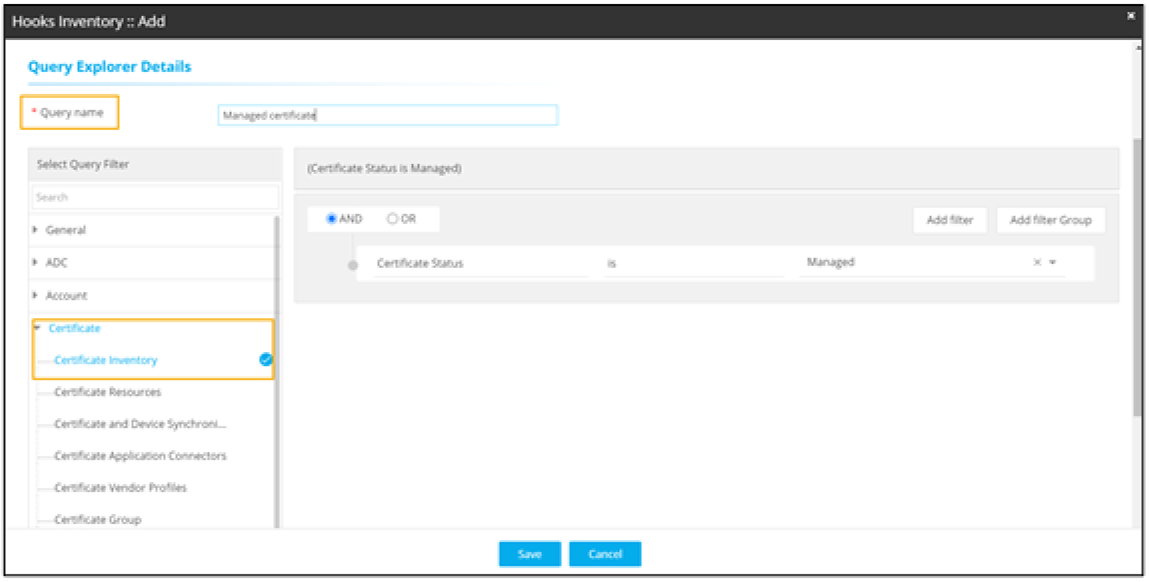
- Creating a Query Explorer Hook
- Creating a Script Hook
- Creating a REST API Hook

Creating a Query Explorer Hook

1. In the **Hooks Inventory :: Add** window, under **Hooks Type**, select the **Query Explorer** option.
2. Add a description for the selected hook.



3. Under **Query Explorer Details**, enter or select the field information.



The following table describes the various fields in the **Query Explorer Details** section:

Field	Description
Query name	Enter a valid query name. For example, **Managed certificates**.
Select Query Filter	Select the appropriate query filter from the pre-populated

Field	Description
	list of filters. For example, **Certificate Inventory under Certificate section**.
Add Filter	Add a filter and select appropriate fields from the predefined values. For example, **Certificate Status is Managed**.
AND/OR	Select the appropriate conditional parameters depending on the

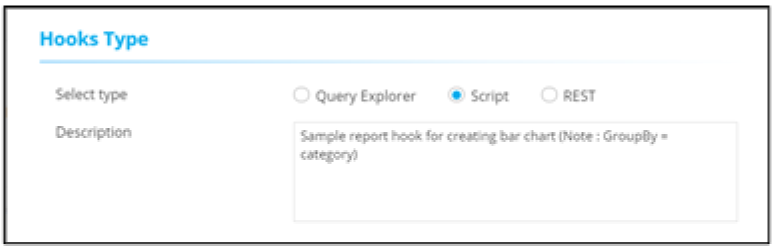
Field	Description
	type of output required in the report. **AND**: Report will reflect data satisfying all the filter conditions. **OR**: Report will reflect data satisfying either of the filter conditions.
	All asterisk (*) marked fields

Field	Description
	are mandatory.

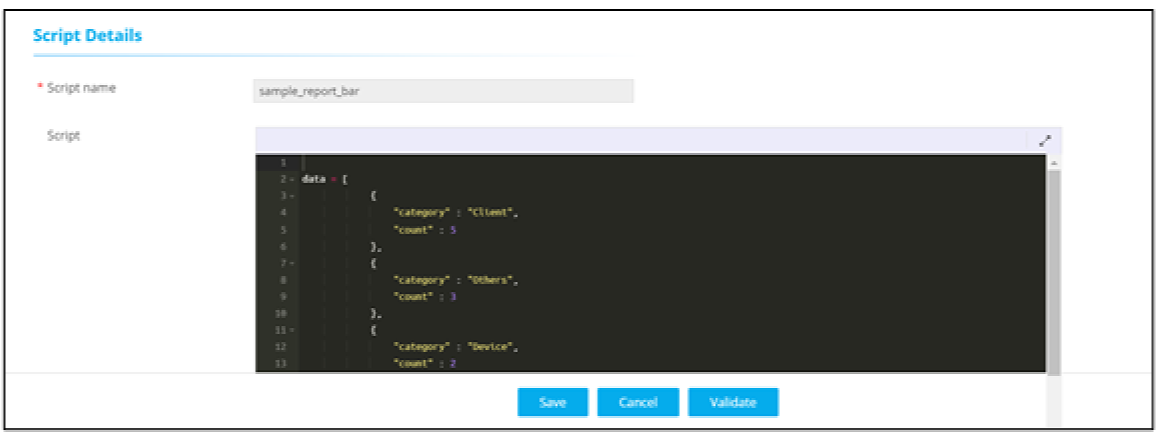
4. To add this new hook to the list of existing hooks, click **Save**.

Creating a Script Hook

1. In the **Hooks Inventory :: Add** window, under **Hooks Type**, select the **Script** option.
2. Add a description for the selected hook.



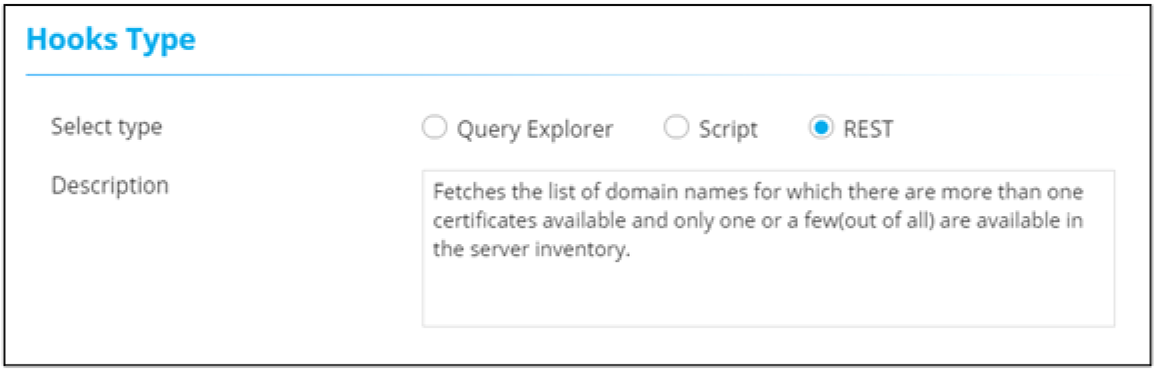
3. Under **Script Details**, enter a valid script name and define the script logic .



4. To add this new hook to the list of existing hooks, click **Save**.

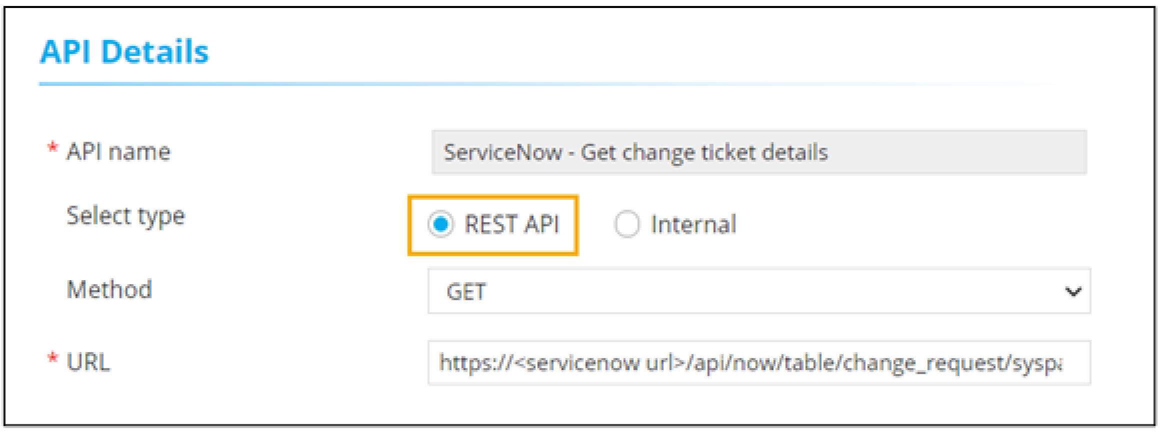
Creating a REST API Hook

1. In the **Hooks Inventory :: Add** window, under **Hooks Type**, select the **REST** option.
2. Enter a description for the selected hook.

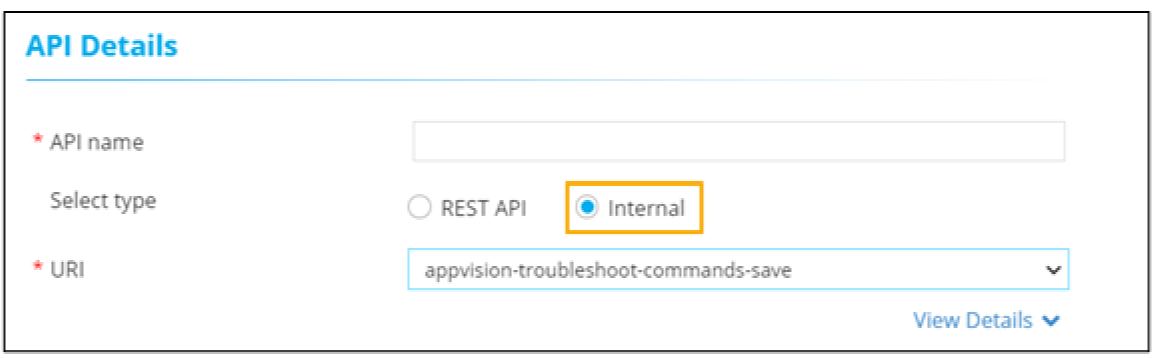


3. Under **API Details**, enter or select the field information.

- **Using REST API**



- **Using Internal API**



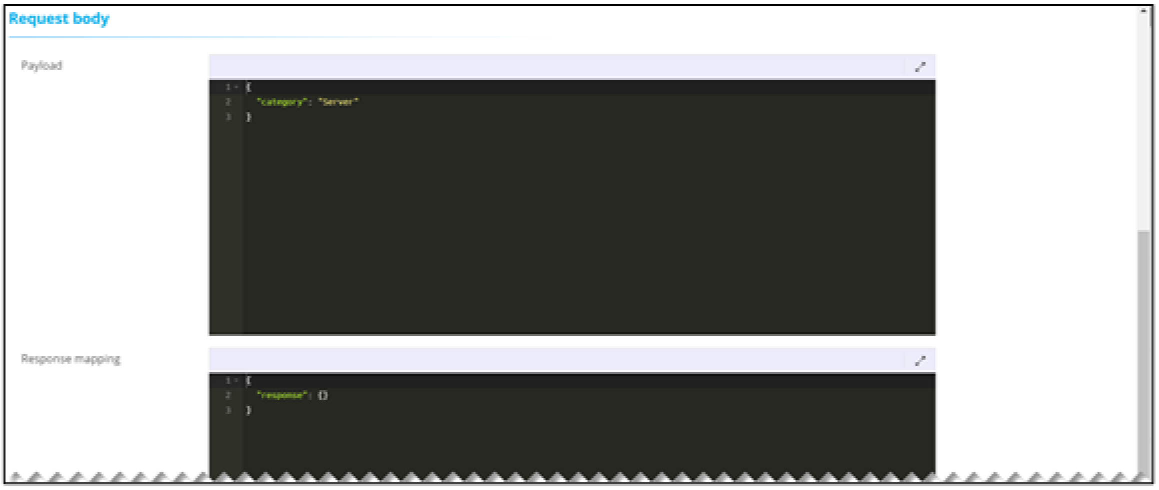
The following table describes field description in this section:

Field	Description
API name	Enter

Field	Description
	valid name for the API.
Select type	You can select between REST API and Internal. • **REST API**: Use this to select external API and enter the URL. • **Internal**: Use this to select an internal API and select a

Field	Description
	URI (Uniform Resources Identifier) from the dropdown menu.
Path params	Parameters that are used to identify a specific resource(s).
Query params	Parameters that are used to filter resources.
	All asterisk (*) marked fields are mandatory.

4. Under **Request Body**, enter the payload and response mapping details.



The following table describes field description in this section:

Field	Description
Payload	Payload is the actual data that needs to be passed for the API.
Response mapping	Mapping an integration response from the backend.

5. To add this new REST API hook to the hook inventory, click **Save**.

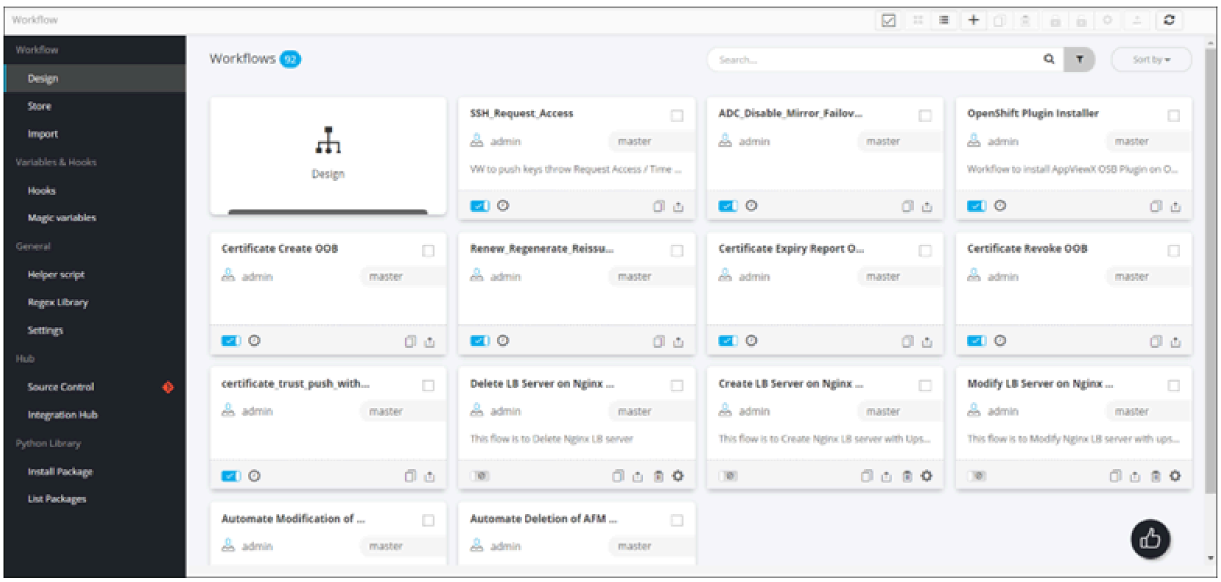
How to Reuse Hooks

The **Hooks Inventory** lists all the hooks that are available to you for building reports. Any new hook created will be added to the **Hooks Inventory** and can be reused for creating reports.

To create and reuse hooks:

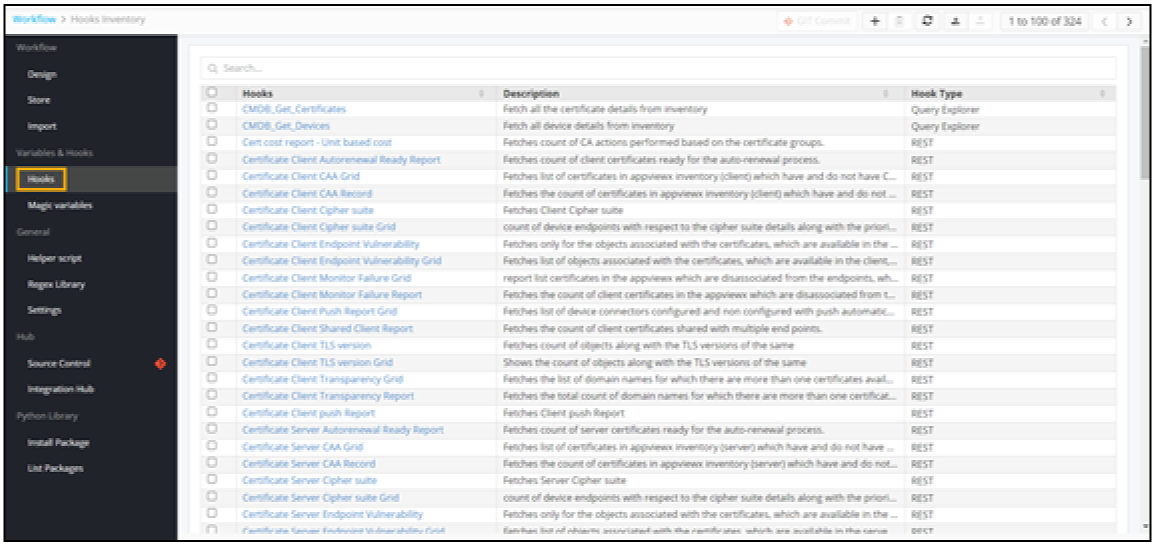
1. From the top left corner of the screen, click .
2. From the menu displayed, select **Studio** > **Workflow**.

   The **Workflow** inventory is displayed.

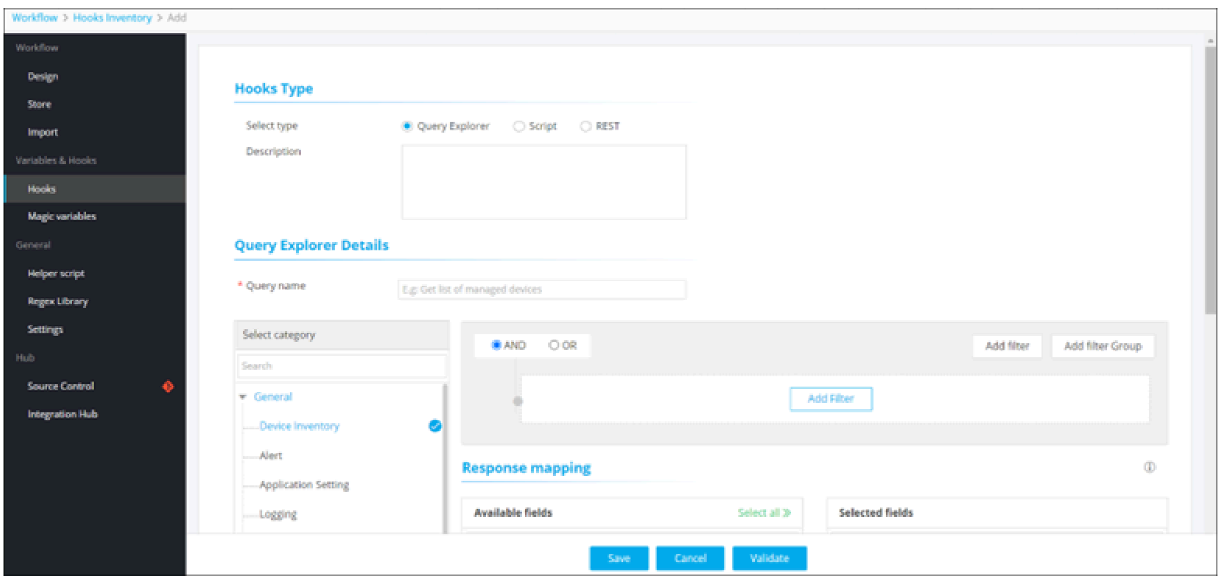
3. From the navigation pane on the left, click **Hooks**.

   The **Hooks Inventory** is displayed.

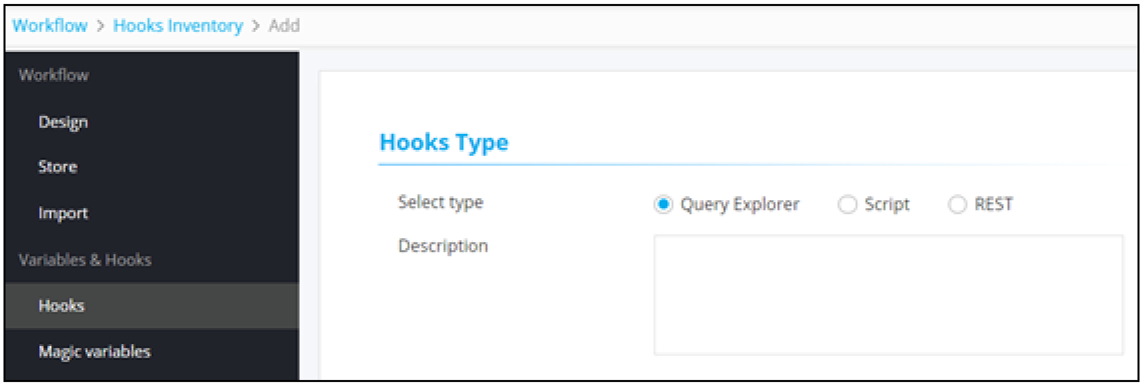


4. To add a new hook, click + from the top right corner of the screen.

The **Workflow > Hooks Inventory > Add** page is displayed.



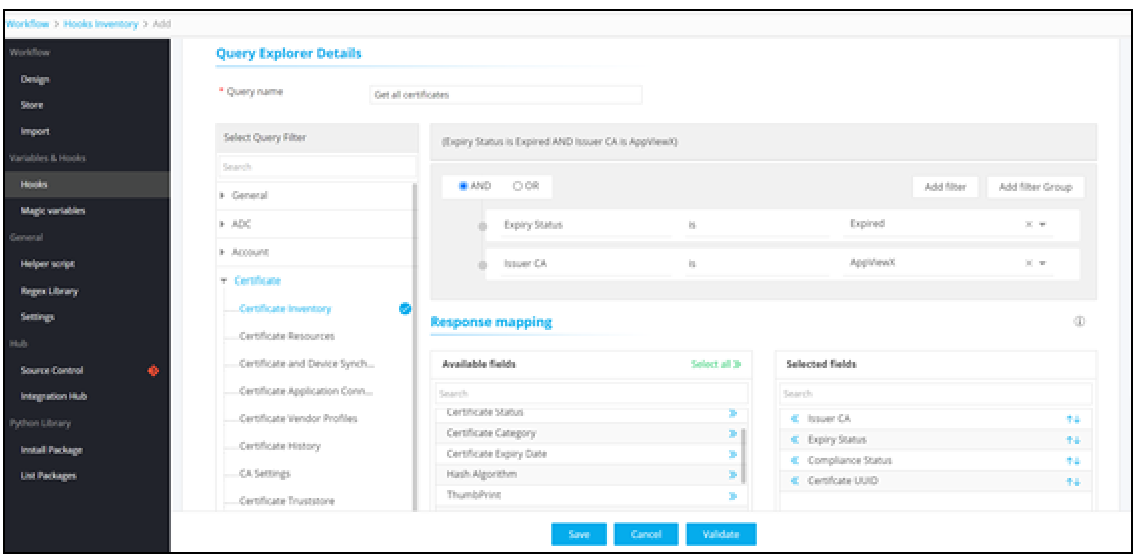
5. Under **Hooks Type**, enter or select the field information.



This table describes the field information in this section:

Field	Description
Select Type	Select hook type as **Query Explorer**.
Description	Enter a valid description. For example: **Retrieve all certificates that have been managed or monitored.**

6. Under **Query Explorer Details**, enter or select the field information.

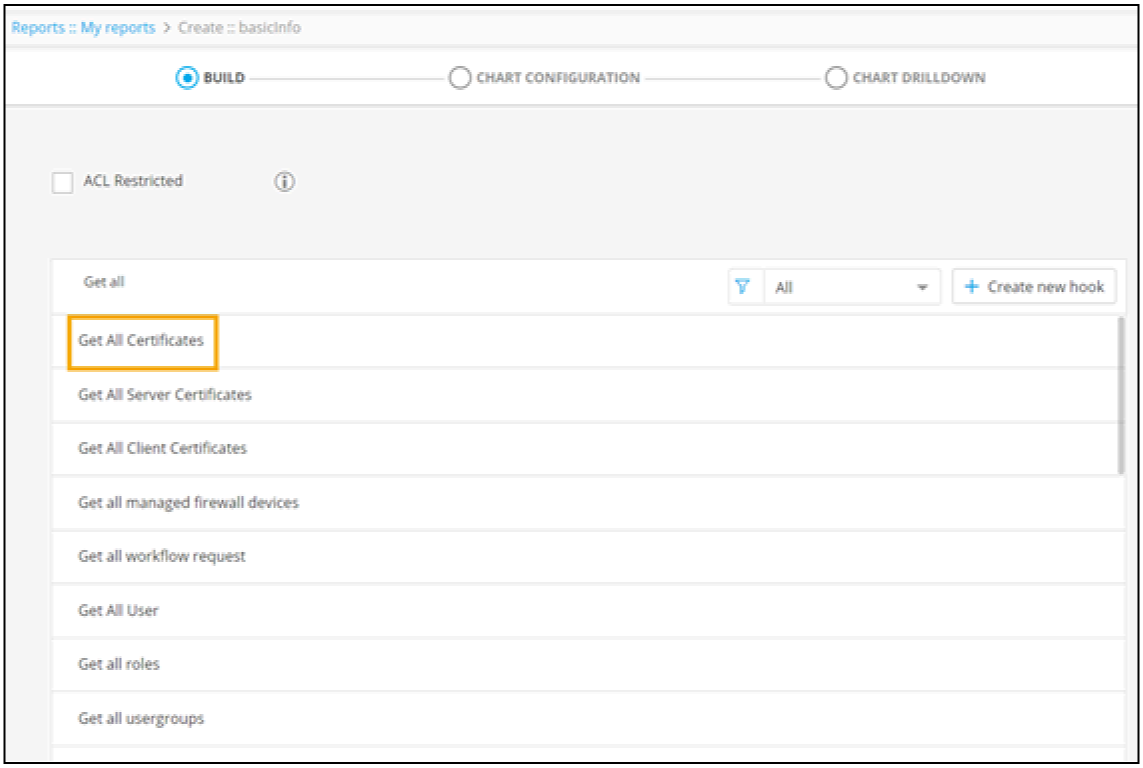


This table describes the various fields in this section:

Field	Description
Query name	Enter a valid query name. For example: **Get all certificates**.

Field	Description
Select Query Filter	Select an appropriate query filter from the collection of hooks. For example: **Certificate Inventory under the Certificate section.**
Add filter	Add a filter(s) and select appropriate fields from the predefined values. For example: **Expiry Status is Expired and Issuer CA is AppViewX.**
AND/OR	Select the appropriate conditional parameters depending on the type of output required in the report. **AND**: Report will reflect data satisfying all the filter conditions. **OR**: Report will reflect data satisfying either of the filter conditions.
Response Mapping	Select the fields from the available list to map the integration response. For example: Select **Issuer CA, Expiry Status, Certificate Status, Certificate UUID.** Selected fields appear on the right side.
The asterisk (*) symbol indicates mandatory fields.	

7. To add this hook to the **Hooks Inventory**, click **Save**.
8. On the My Reports page, click **Create new report**.
9. To search for the new hook, under the **BUILD** section, type the keyword in the search bar.
   The new hook is added to the list of hooks.


Reports :: My reports > Create :: basicInfo
BUILD
CHART CONFIGURATION
CHART DRILLDOWN
ACL Restricted
Get all
All
Create new hook
Get All Certificates
Get All Server Certificates
Get All Client Certificates
Get all managed firewall devices
Get all workflow request
Get All User
Get all roles
Get all usergroups

Chapter 11: Report Widgets

Overview

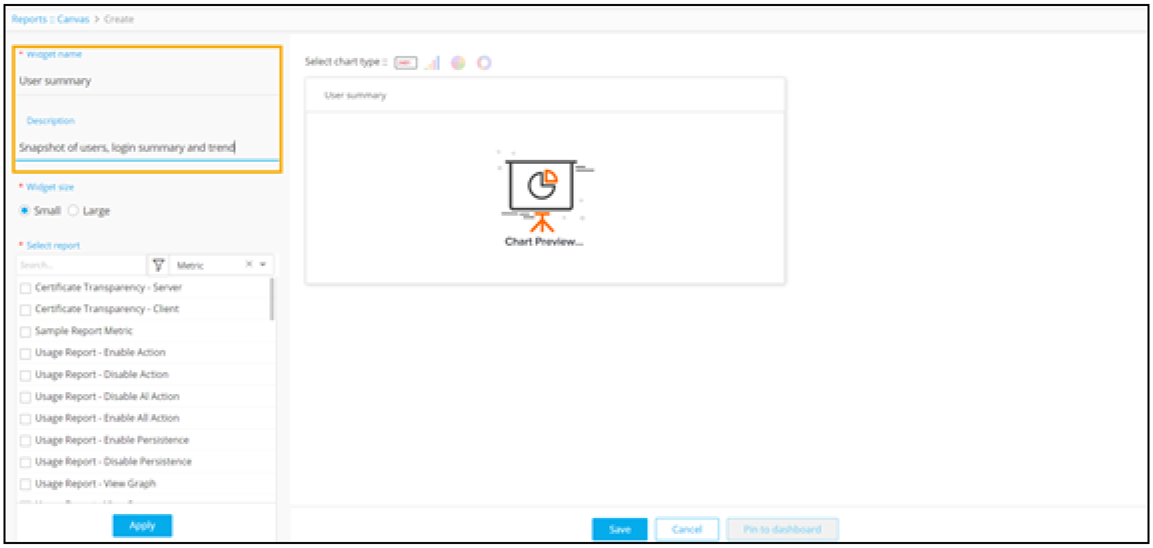
You can create customized widgets, pin them to a dashboard, and also download report widgets to your device using the Report builder platform.

How to Create a Widget

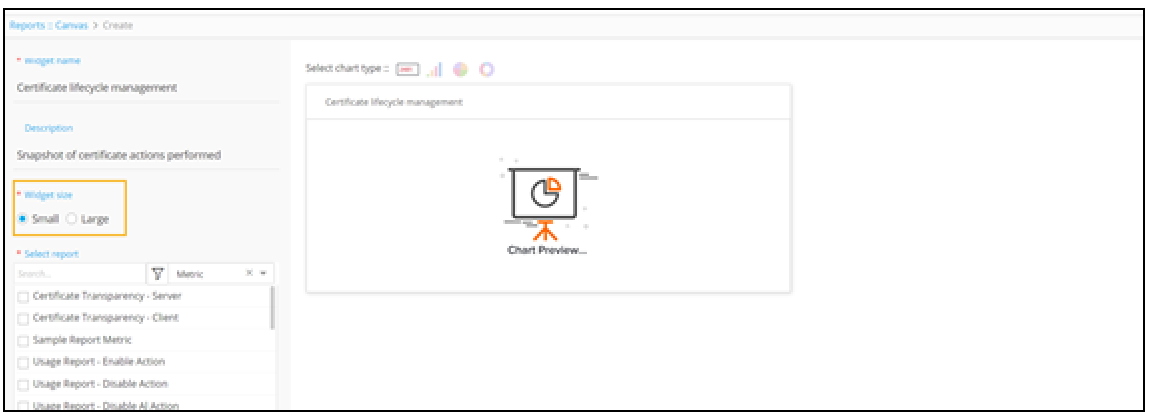
Creating a User Summary Widget

To create a **User Summary** widget that displays the information on user groups, roles, and login summary:

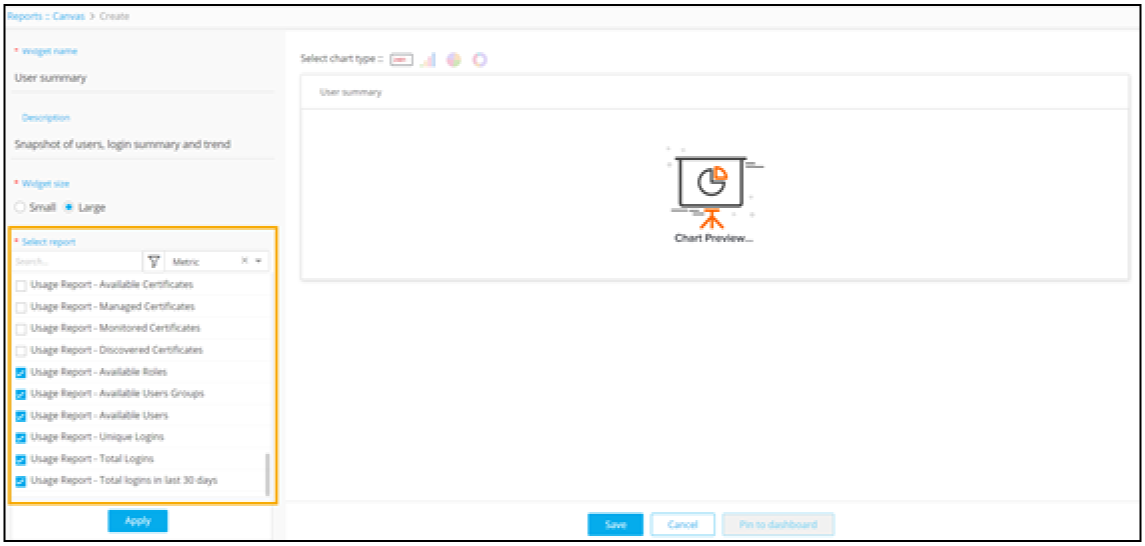
1. On the Widget page, click **Create new widget**.
2. On the **Reports::Canvas > Create** page, enter a suitable **Widget name** and **Description**.



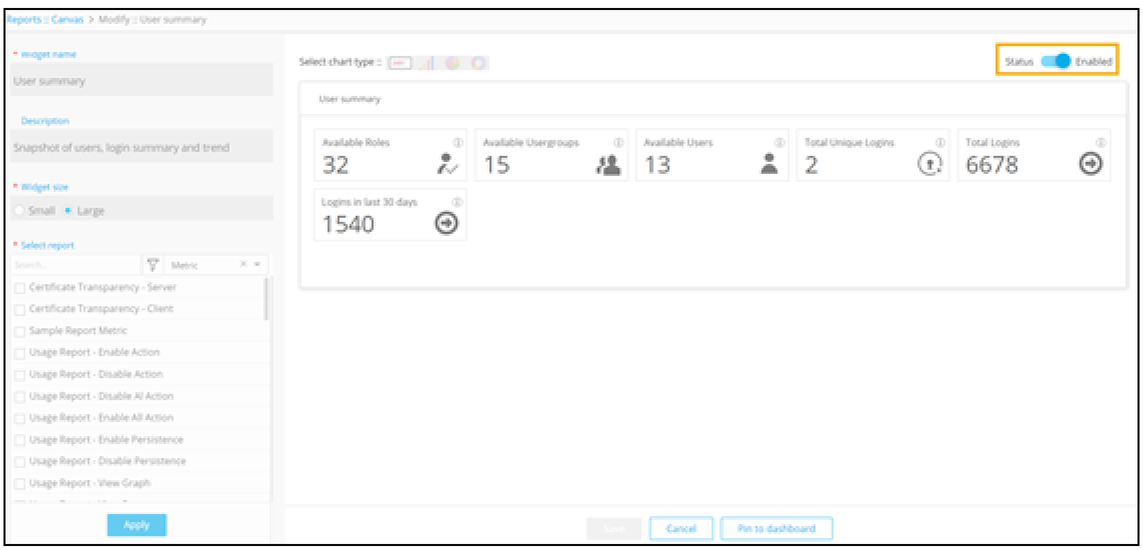
3. Select the **Widget size**.



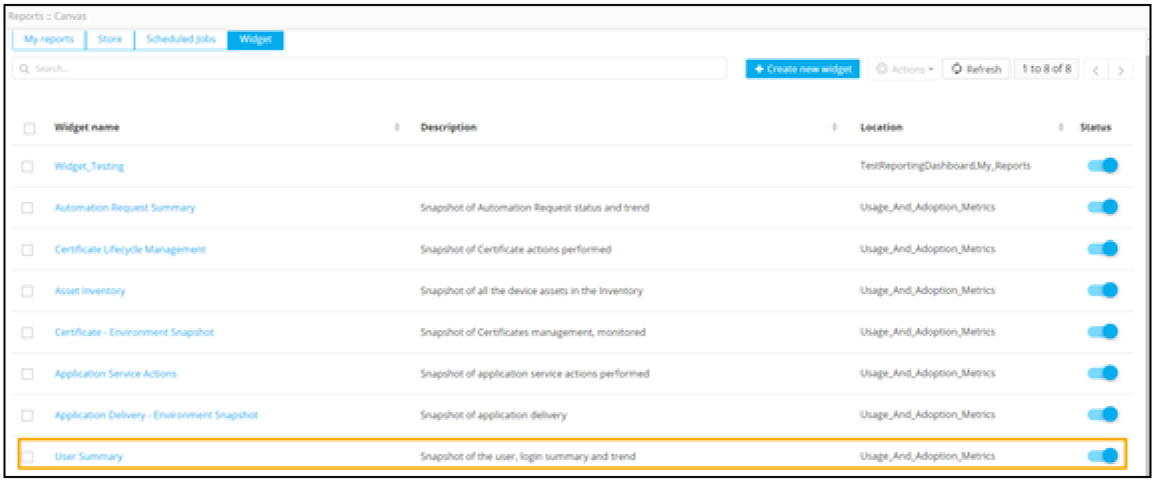
4. From the list of reports available as metrics, select the report(s) to be displayed on the widget.



5. To get a preview of the widget, click **Apply**.
6. Click **Save**.
7. To change the status of the widget to **Enabled**, turn on the toggle.



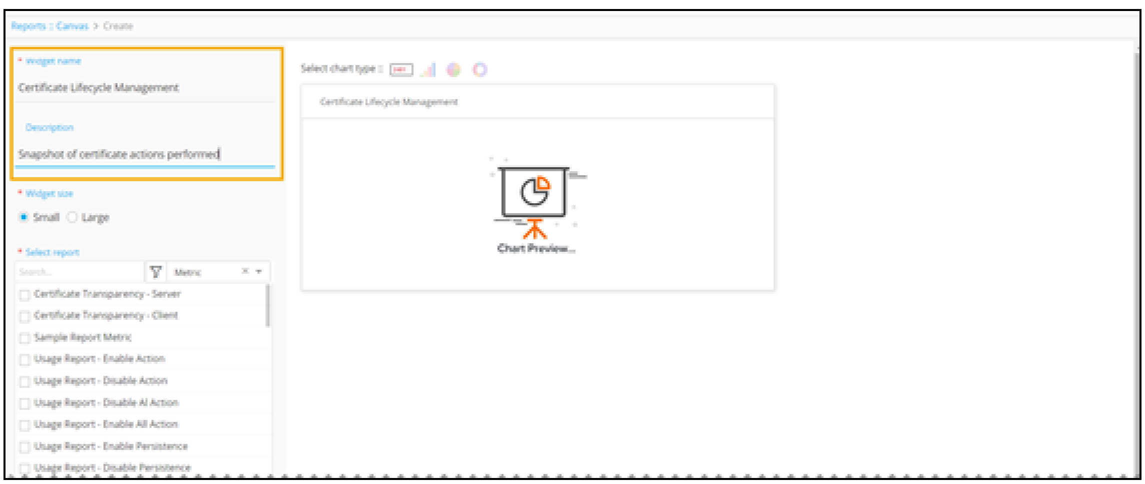
The **User Summary** widget is displayed on the **Reports :: Canvas** page under **Widget**.



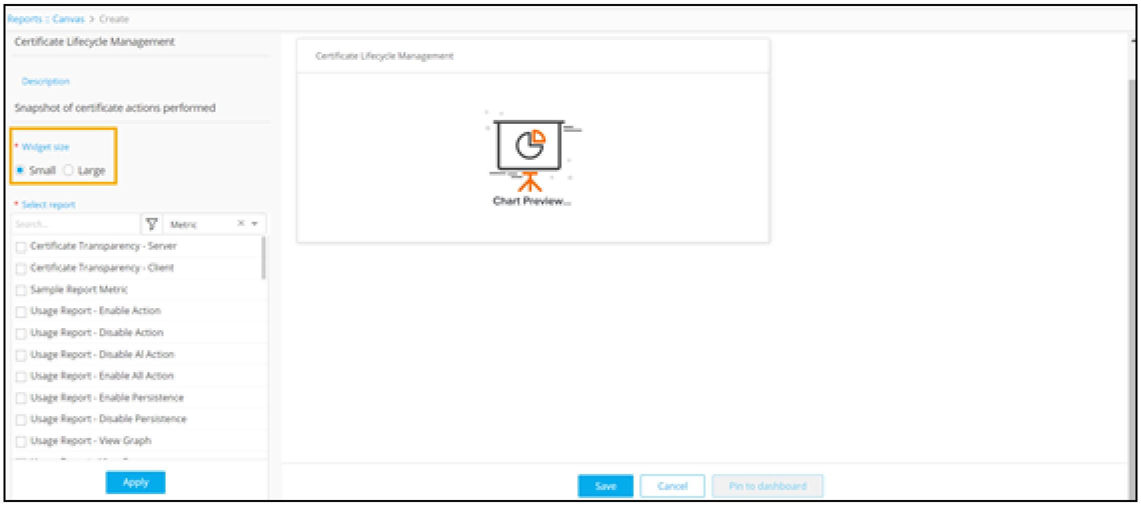
Creating a Certificate Lifecycle Management Widget

To create a **Certificate Lifecycle Management** widget that displays a snapshot of certificate actions performed:

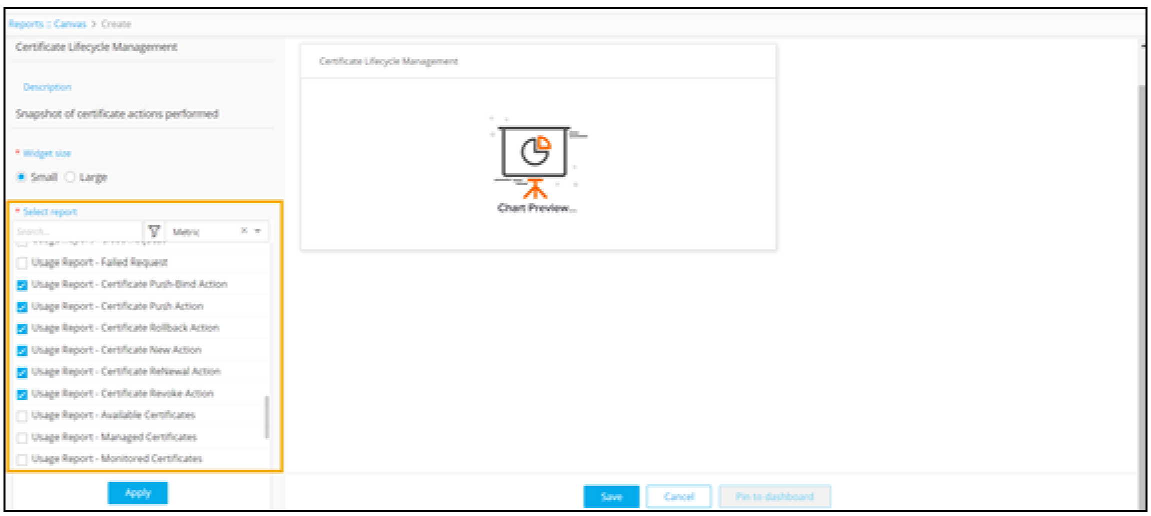
1. On the Widget page, click **Create new widget**.
2. On the **Reports::Canvas > Create** page, enter a suitable **Widget name** and **Description**.



3. Select the **Widget size**.

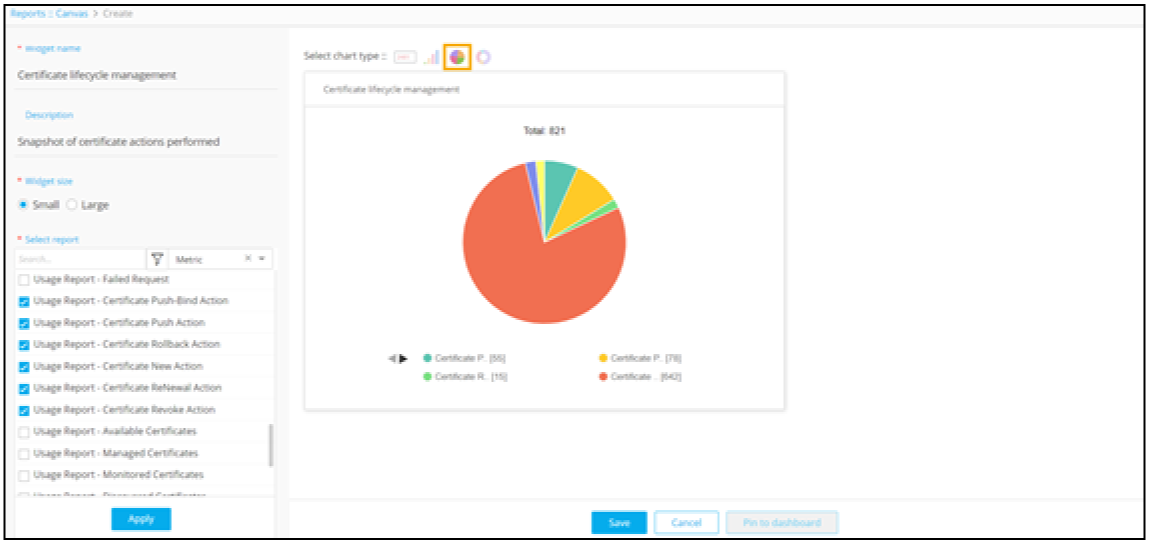


4. From the list of reports available as metrics, select the report(s) to be displayed on the widget.



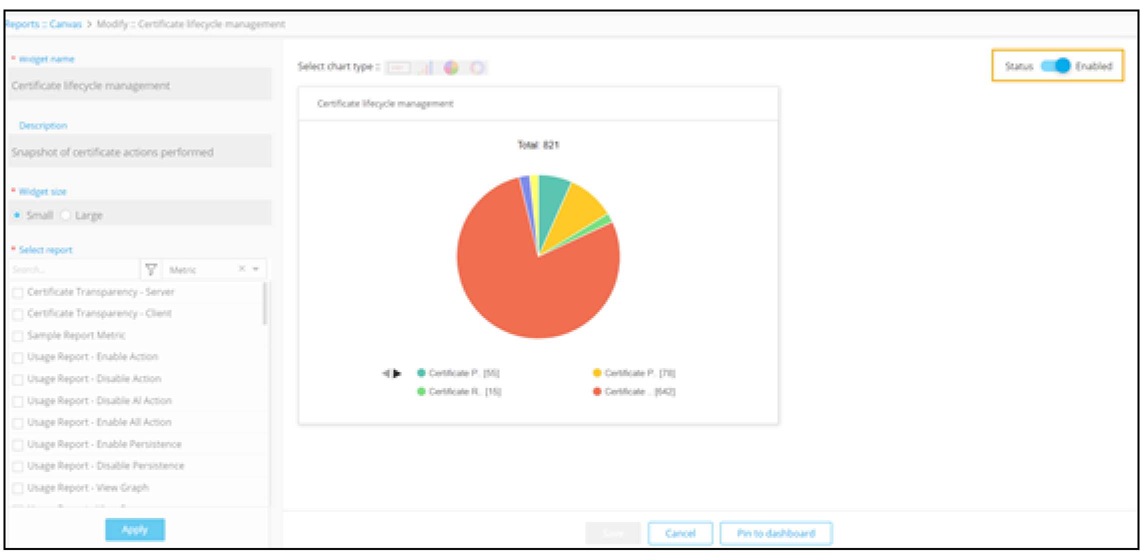
5. To get a preview of the widget, click **Apply**.

6. To view this widget as a pie chart, click  .

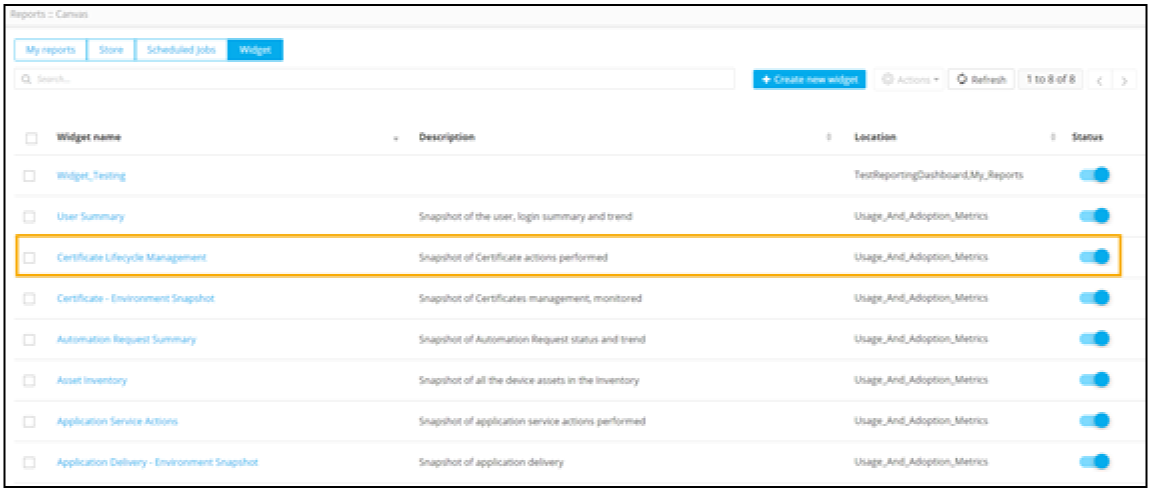


Note: You can choose between four chart types: metric, bar, pie, and donut.

7. To save this widget, click **Save**.
8. To change the status of the widget to **Enabled**, turn on the toggle.



The **Certificate Lifecycle Management** widget is displayed on the **Reports :: Canvas** page under **Widget**.



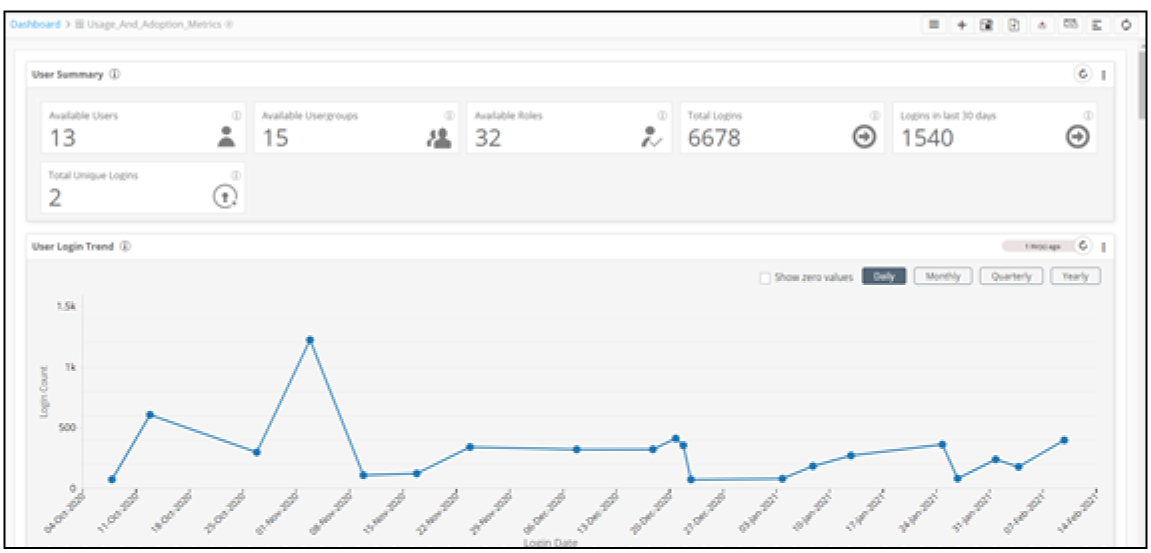
How to Download Report Widgets

Report widgets can also be downloaded to your device as a PDF or CSV file.

To download the widget as PDF:

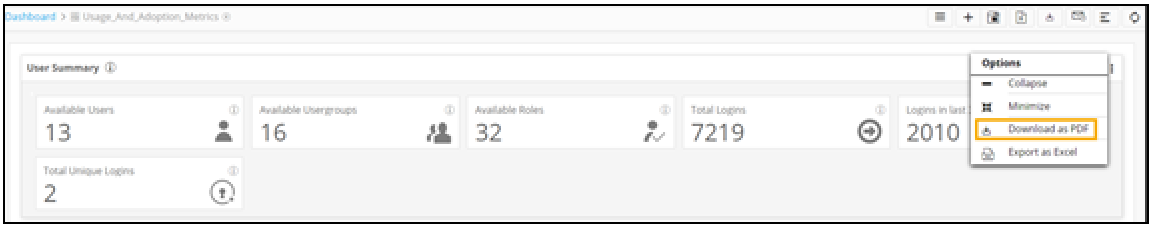
1. From the **Dashboard** inventory, select the **Usage_And_Adoption_Metrics** dashboard.

   This dashboard displays all the widgets pinned to this dashboard.



Note: For more information on how to search a dashboard, click here.

2. To see all available options, from the top right corner of the widget, click .
3. To download the widget as a PDF file to your device, select **Download as PDF**.



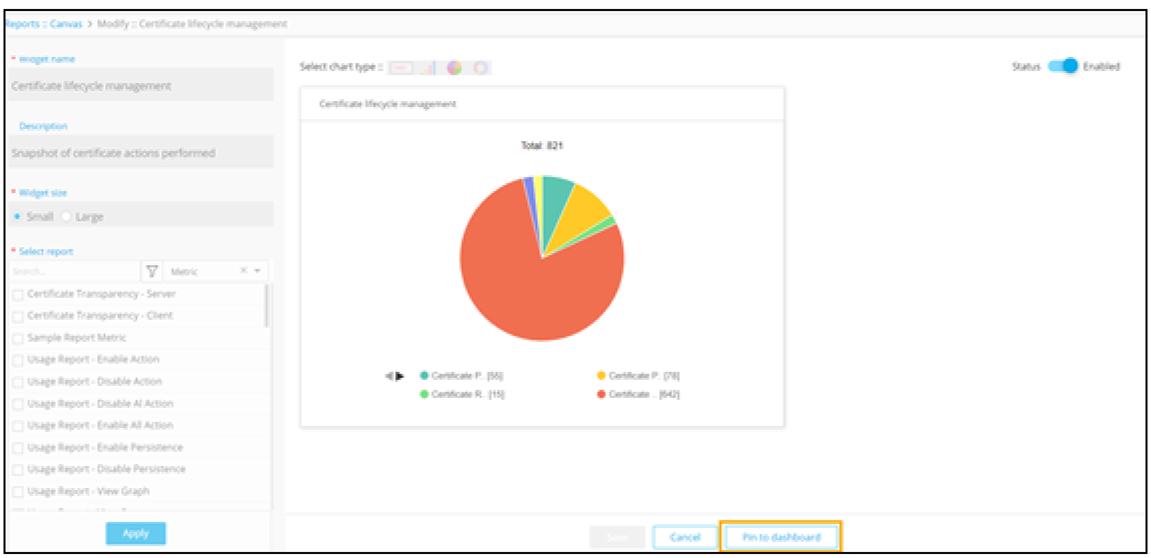
The widget is downloaded to your machine as a PDF file.

How to Pin a Widget to a Dashboard

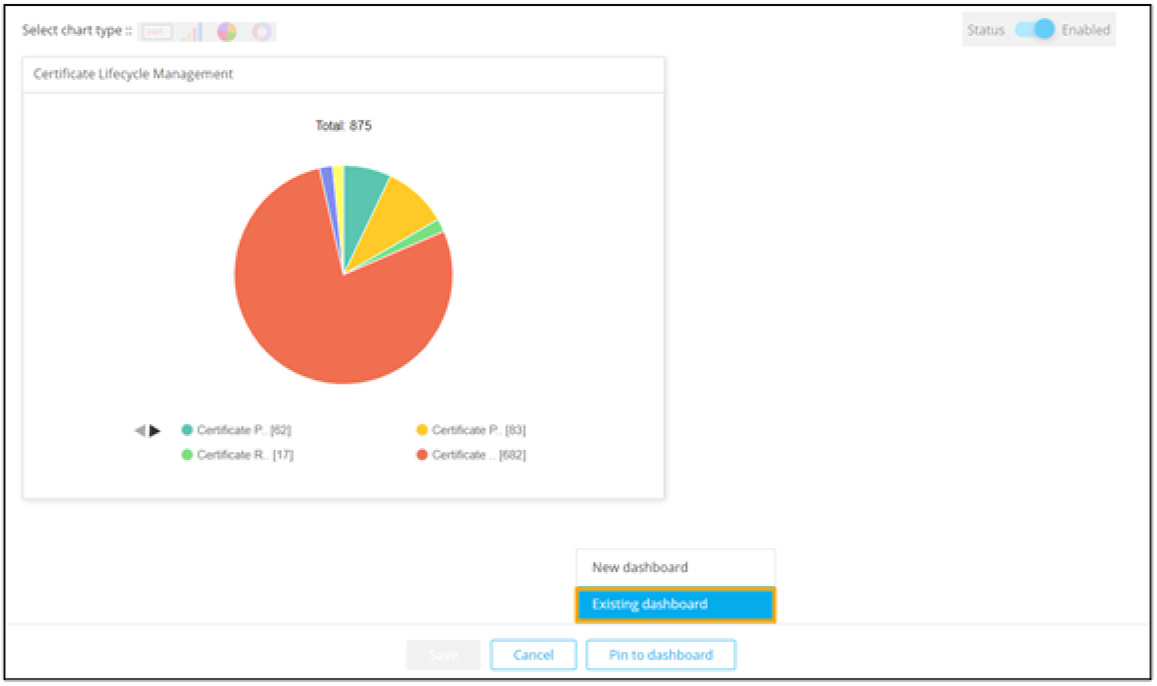
Once a widget has been created and saved, it can be pinned to a dashboard.

To pin a widget to a dashboard:

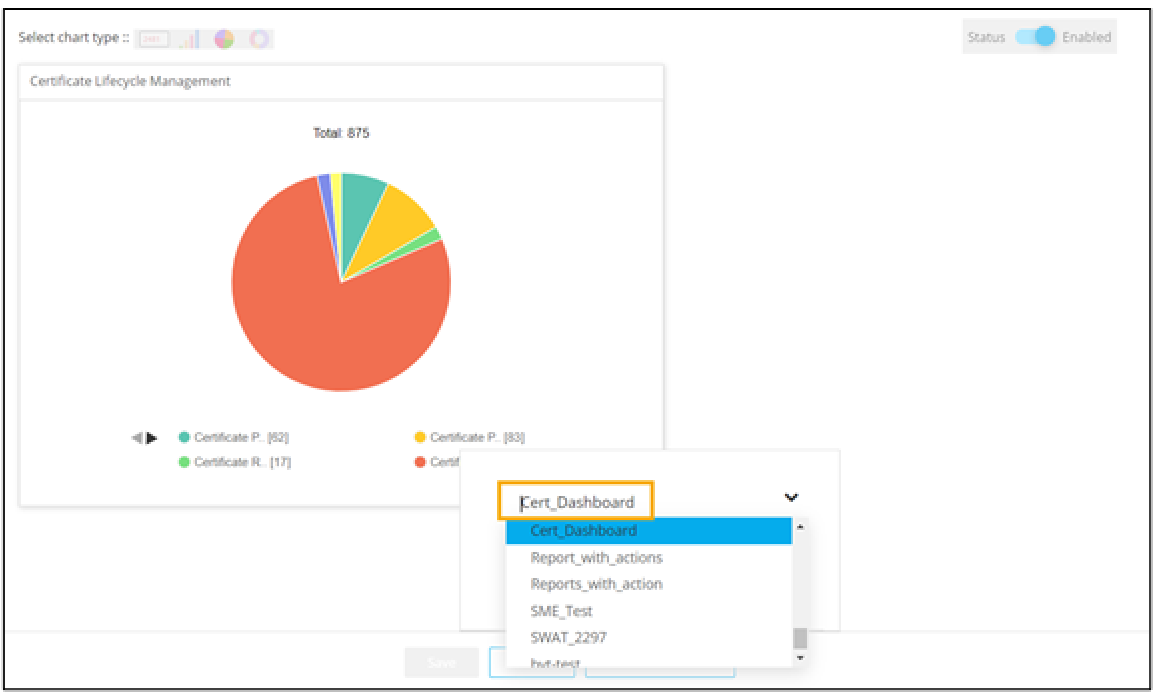
1. On the Report :: Canvas page, click on the widget to be pinned.
2. Click **Pin to dashboard**.



3. To pin the widget to an existing dashboard, click **Existing dashboard**.

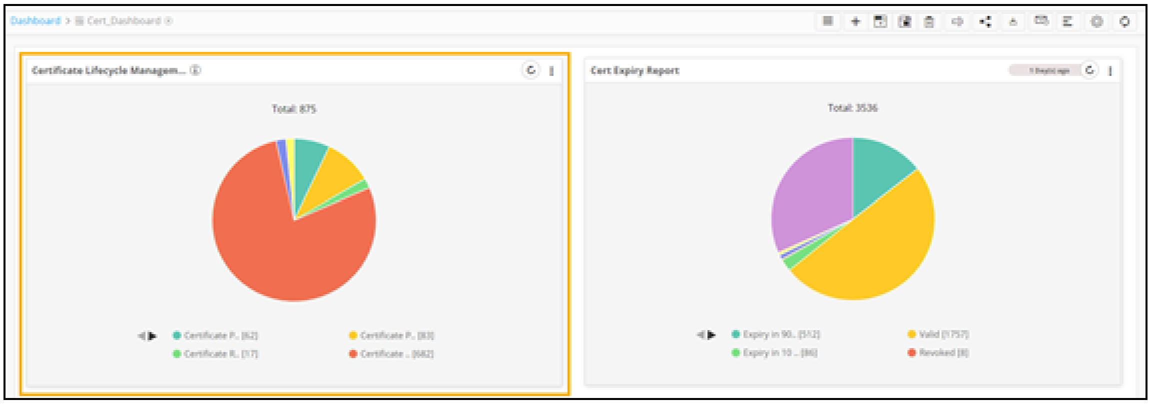


4. From the list of dashboards in the dropdown menu, select a dashboard.



5. To pin this widget to the selected dashboard, click **Save**.
6. On the **Dashboard Inventory** page, click on the required dashboard name.

   The widget is displayed on the dashboard.


Dashboard > Cert_Dashboard
Certificate Lifecycle Managem...
Total: 875
Certificate P.. [62]
Certificate P.. [83]
Certificate R.. [17]
Certificate .. [682]
Cert Expiry Report
Total: 3536
Expiry in 90.. [512]
Valid [1757]
Expiry in 10 .. [86]
Revoked [8]

Chapter 12: Downloading Reports

Overview

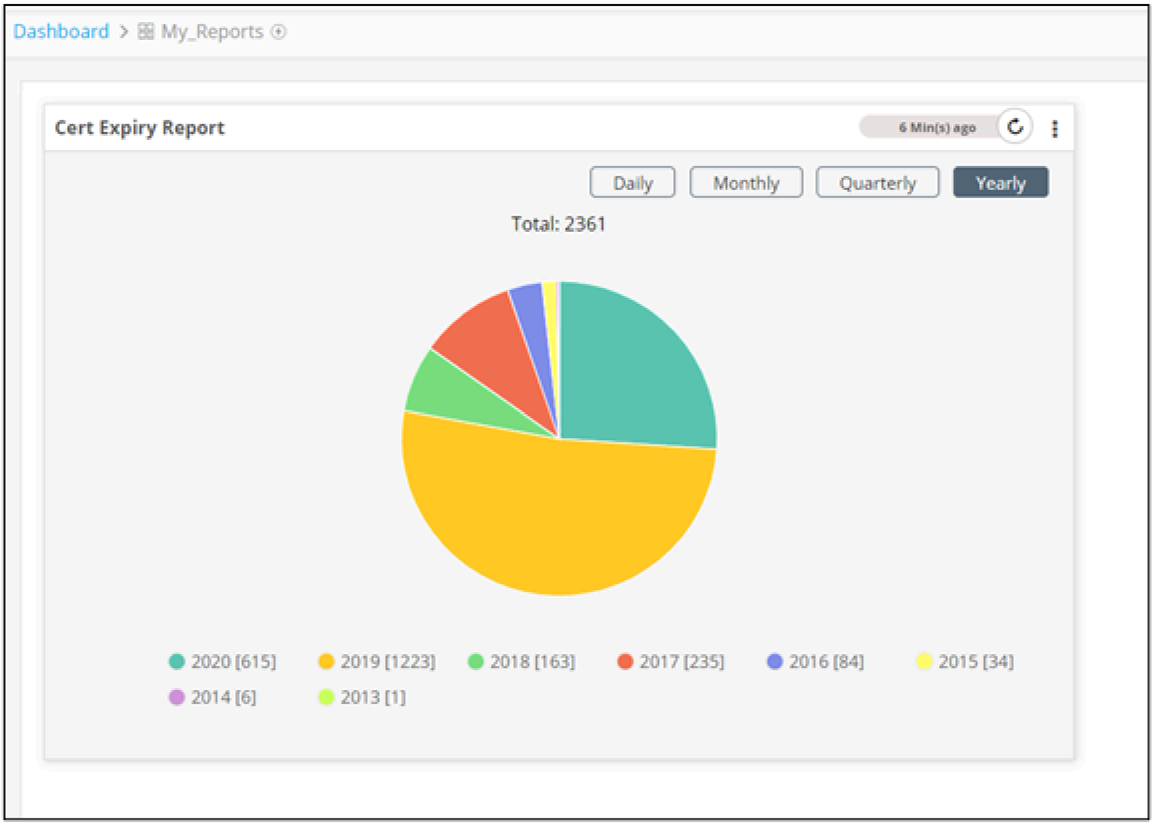
Once a report has been generated and pinned to a dashboard it can be downloaded in multiple formats (.pdf, .csv, .xls).

How to Download a Report in the PDF Format

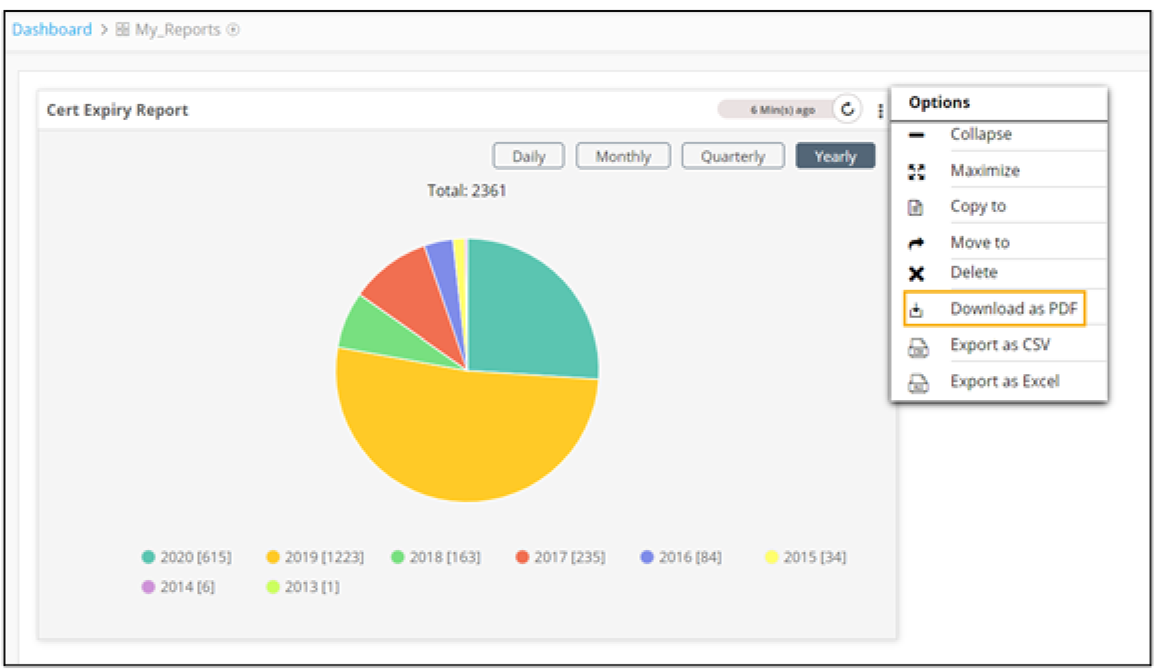
1. From the **Dashboard** inventory page, select the dashboard on which the report that you wish to download has been pinned.

   > **Note:** For more information on how to search for a dashboard in the inventory, click here.

   The pinned report can be seen on the dashboard.



2. To download the report to your device as a PDF file, from the top right corner of the report, click ⋮ .
3. From the **Options** dropdown menu, select **Download as PDF**.

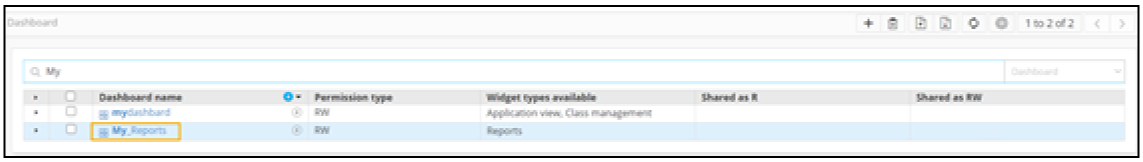


The report will be downloaded to your machine as a PDF file.

Note: In the case of **Grid** reports, the PDF download only supports up to 1000 rows.

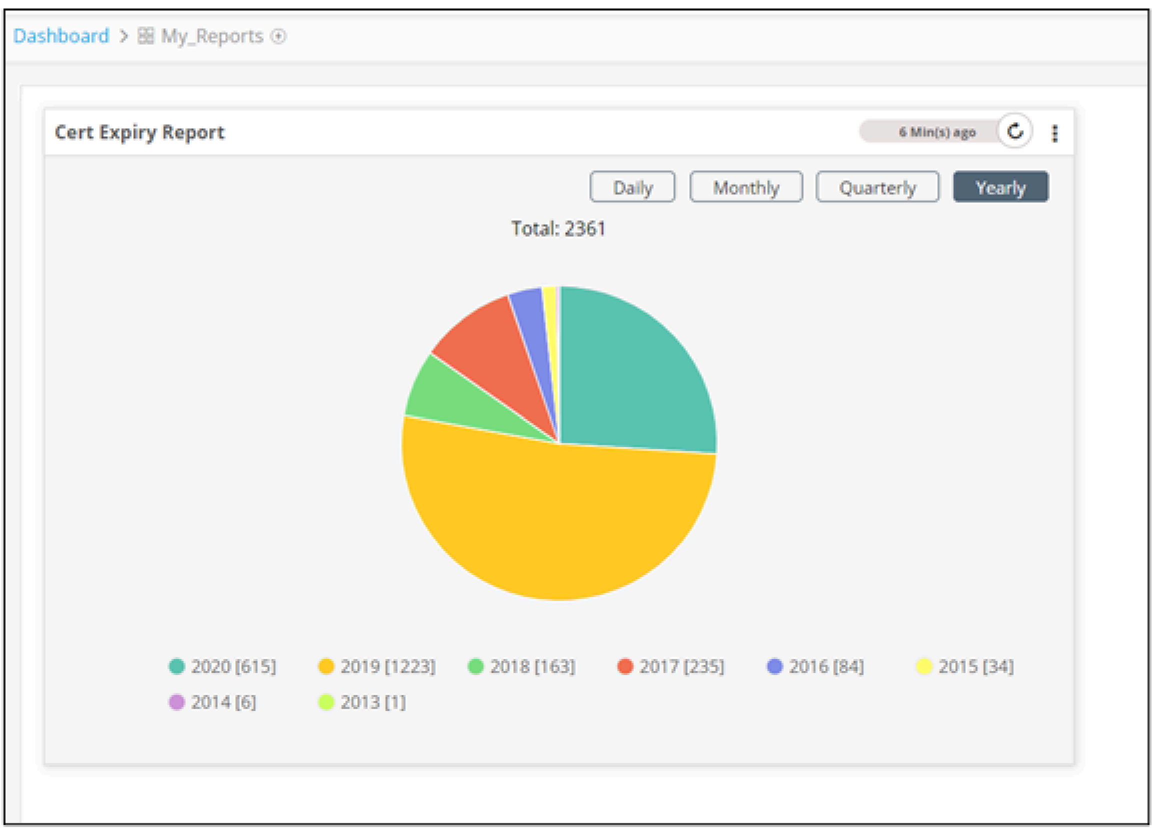
How to Download a Report in the CSV Format

1. From the **Dashboard** inventory page, select the dashboard on which the report that you wish to download has been pinned.

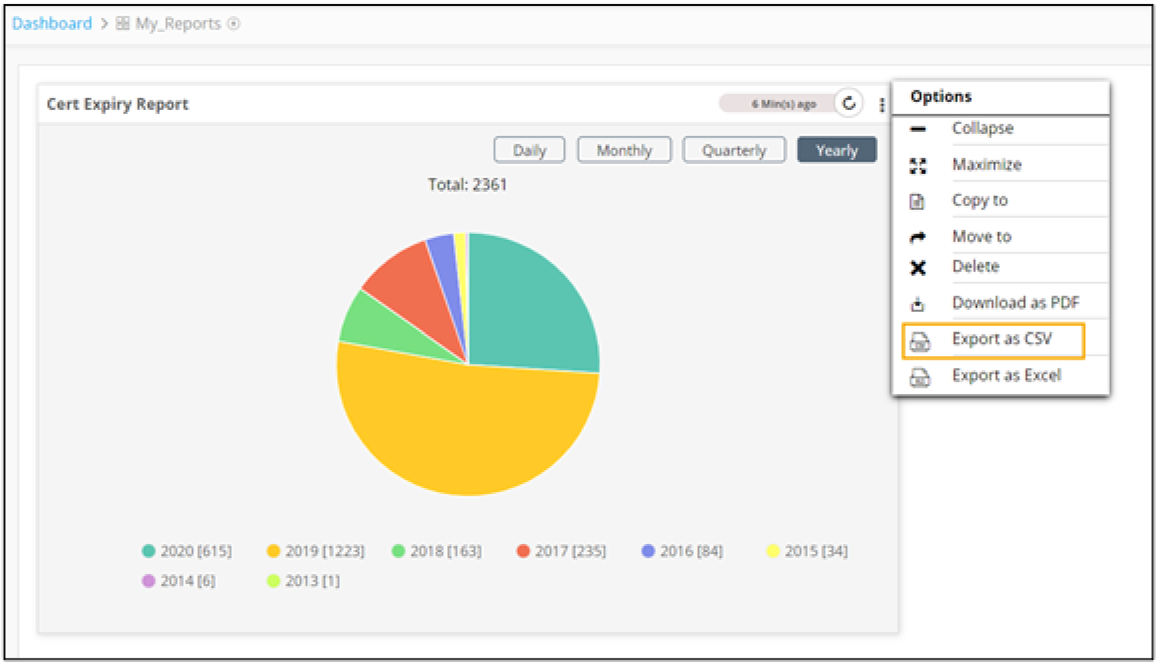


Note: For more information on how to search for a dashboard in the inventory, click here.

The pinned report can be seen on the dashboard.



2. To download the report to your device as a PDF file, from the top right corner of the report, click ⋮ .
3. From the **Options** dropdown menu, select **Export as CSV**.

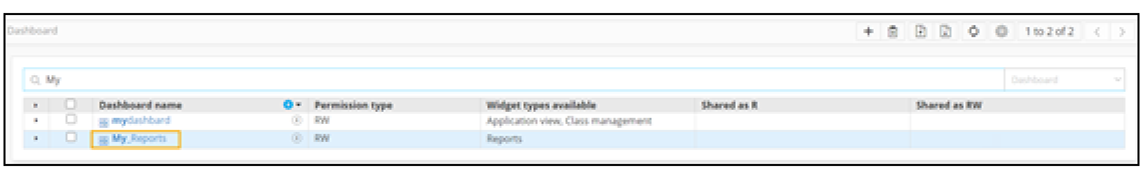


The report will be downloaded to your machine as a .csv file.

Note: In the case of **Grid** reports, the .csv file only supports up to 1,00,000 rows.

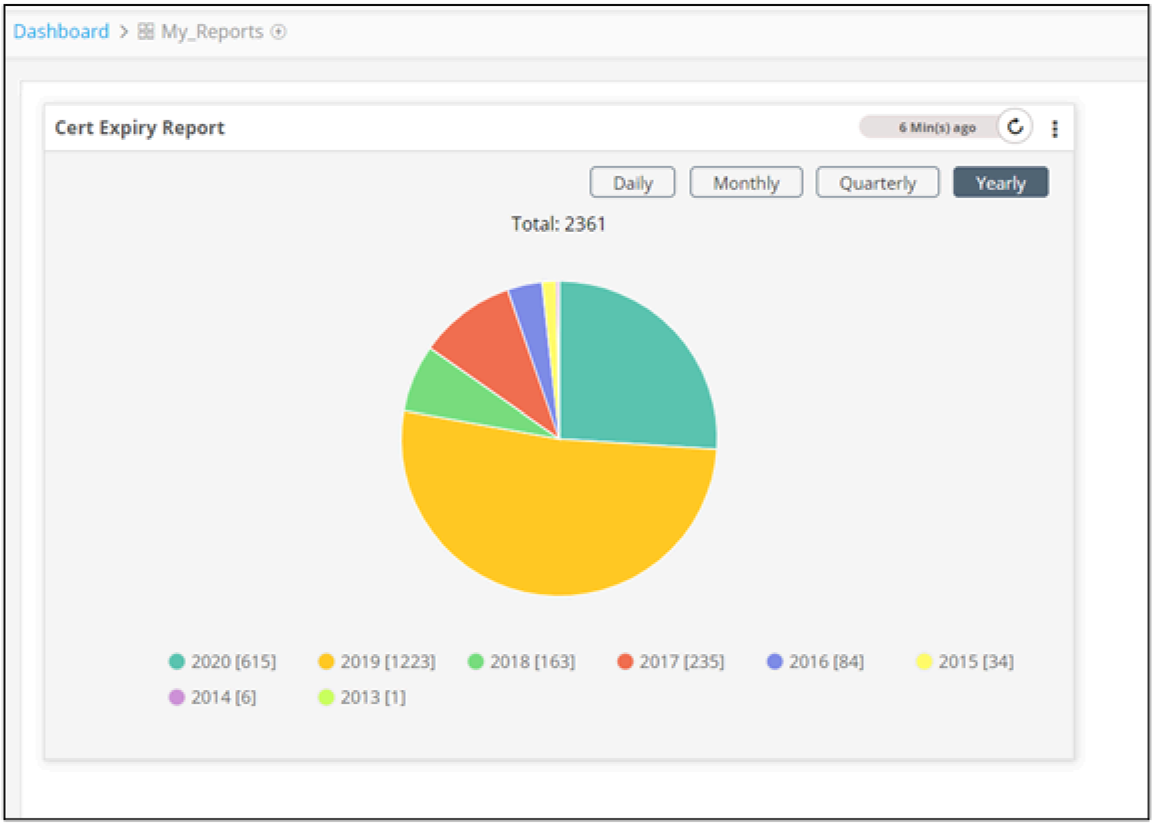
How to Download a Report as an Excel sheet

1. From the **Dashboard** inventory page, select the dashboard on which the report that you wish to download has been pinned.

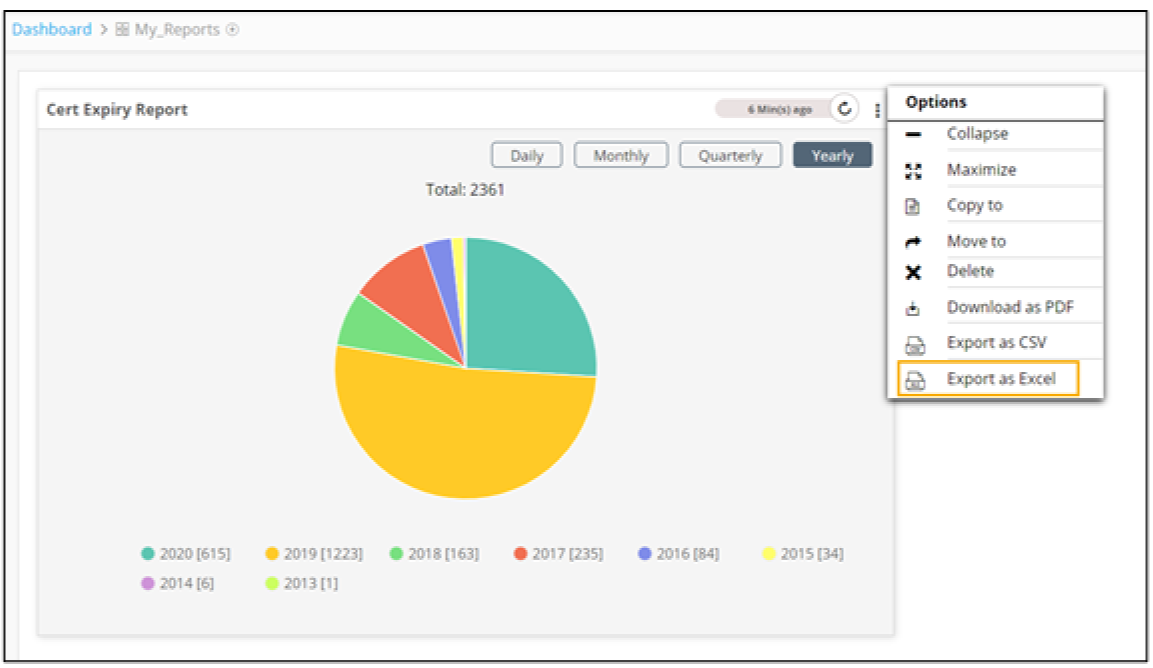


Note: For more information on how to search for a dashboard in the inventory, click here.

The pinned report can be seen on the dashboard.



2. To download the report to your device as a PDF file, from the top right corner of the report, click ⋮ .
3. From the **Options** dropdown menu, select **Export as Excel**.



The report will be downloaded to your machine as a .xls file.

Note: In the case of **Grid** reports, the .xls file only supports up to 1,00,000 rows.

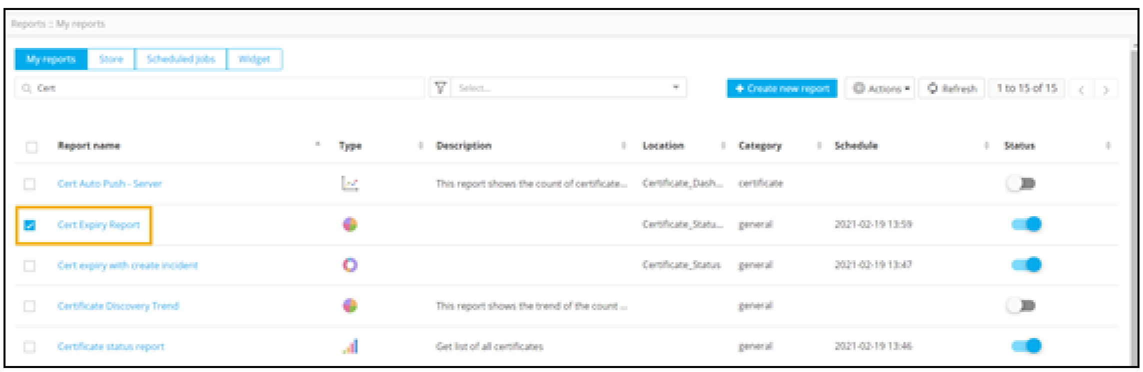
Chapter 13: Performing Actions on Reports

How to Pin Reports

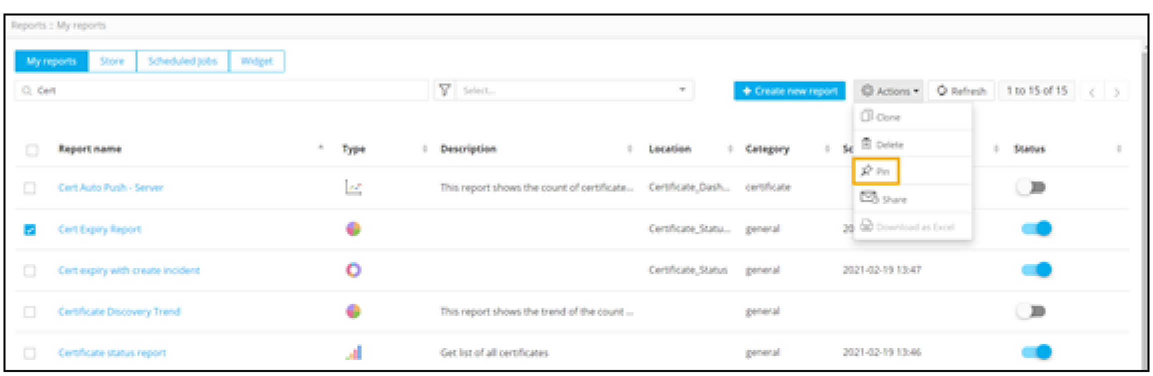
You can pin reports to a dashboard from the **My Reports** page. A maximum of 20 reports can be pinned to a dashboard. Pinning a report to the dashboard allows you to visualize different reports in the same place.

To pin a report to dashboard:

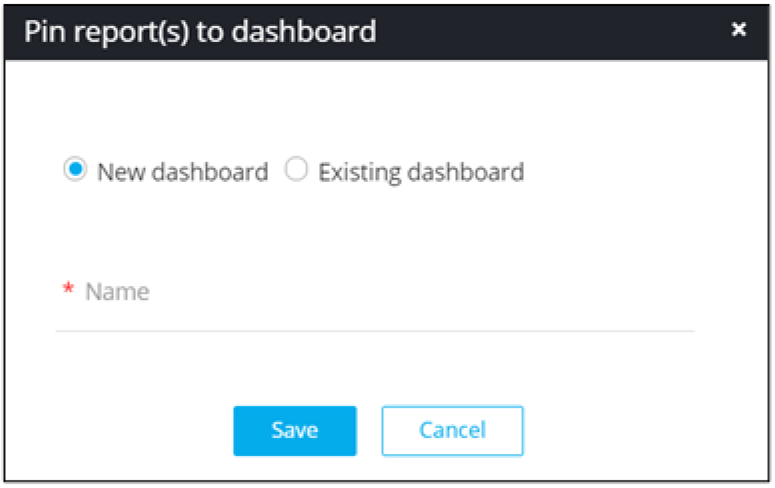
1. On the **Reports: My reports** page, under **My reports**, select the report to be pinned.



2. To see the list of available actions, click **Actions**.
3. From the list of available actions, select **Pin**.



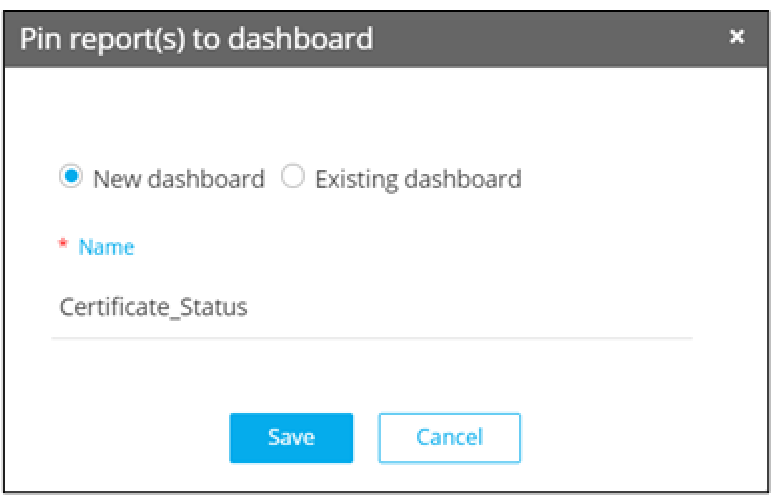
4. In the **Pin report(s) to dashboard** window, select if the report is to be pinned to a new or existing dashboard.



- How to Pin a Report to a New Dashboard
- How to Pin a report to an Existing dashboard

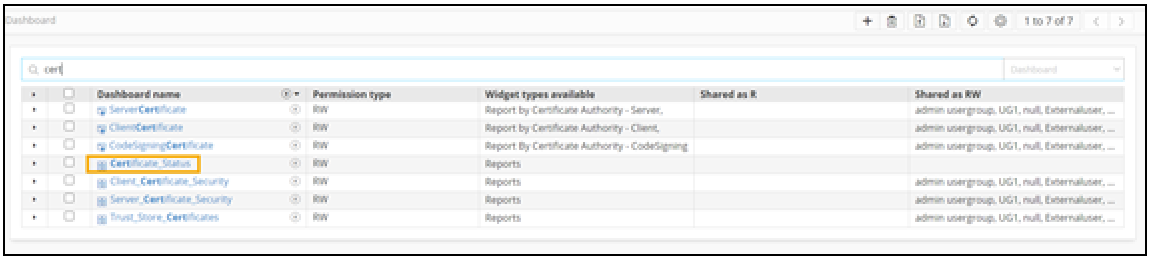
How to Pin a Report to a New Dashboard

1. In the **Pin report(s) to dashboard** window, select the **New dashboard** option.
2. Enter a name for the dashboard.

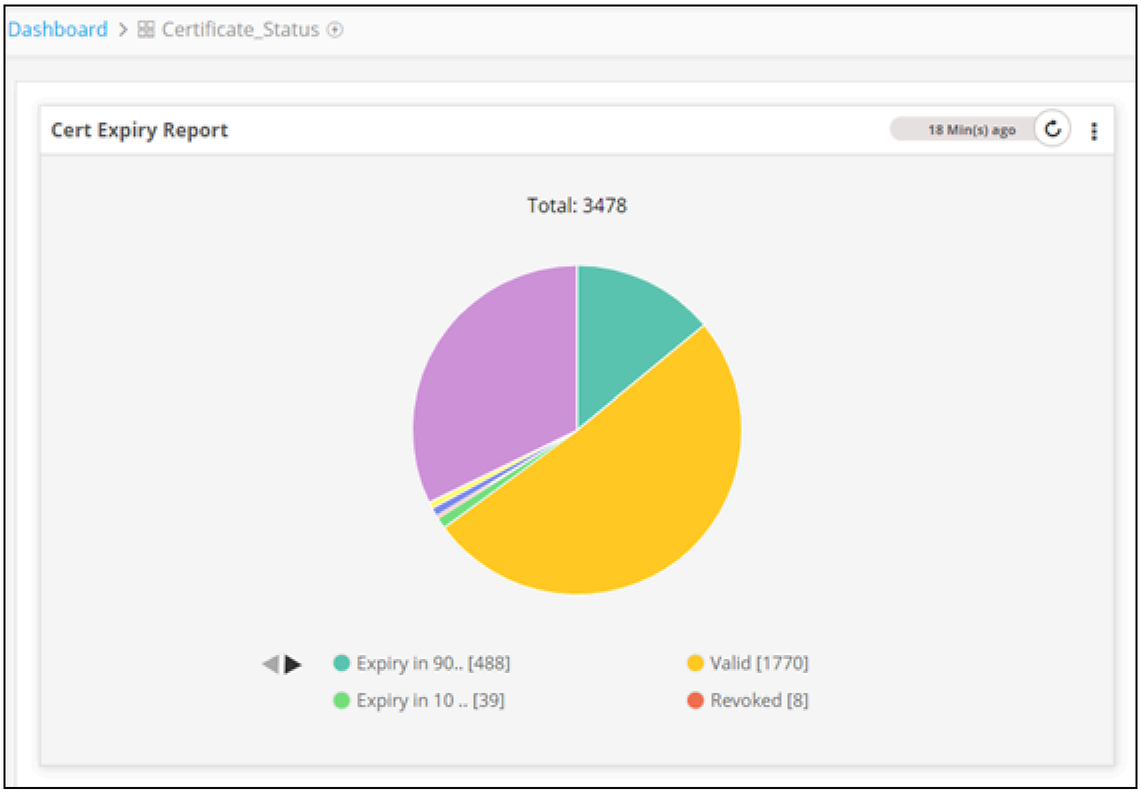


3. To pin the report to the new dashboard, click **Save**.

   The new dashboard is listed on the **Dashboard Inventory** page.

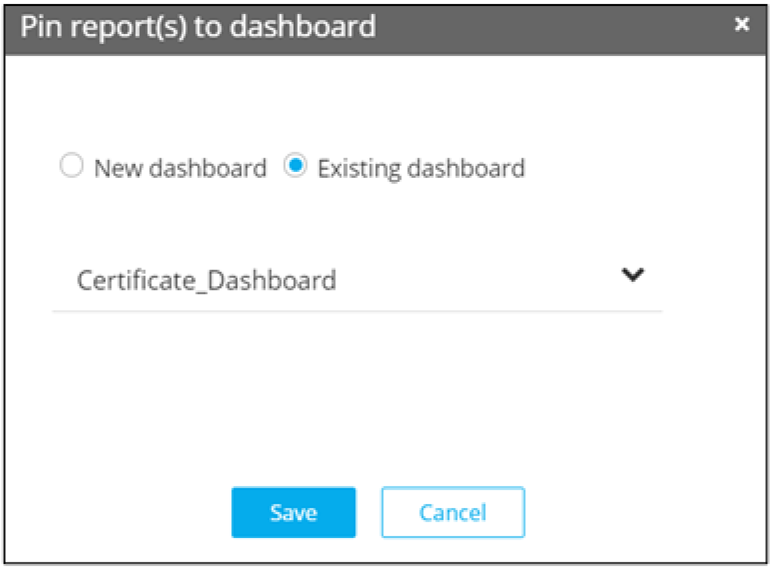


4. To view the pinned report, click on the dashboard name.

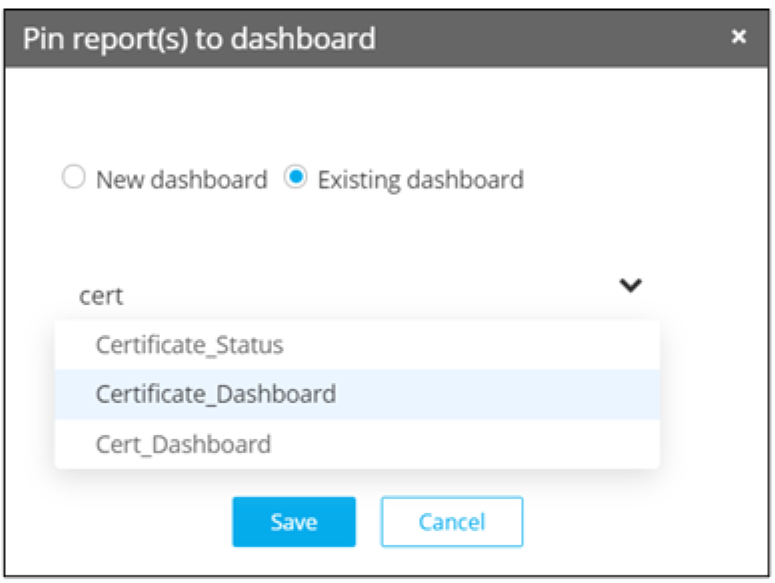


How to Pin a report to an Existing dashboard

1. In the **Pin report(s) to dashboard** window, select the **Existing Dashboard** option.

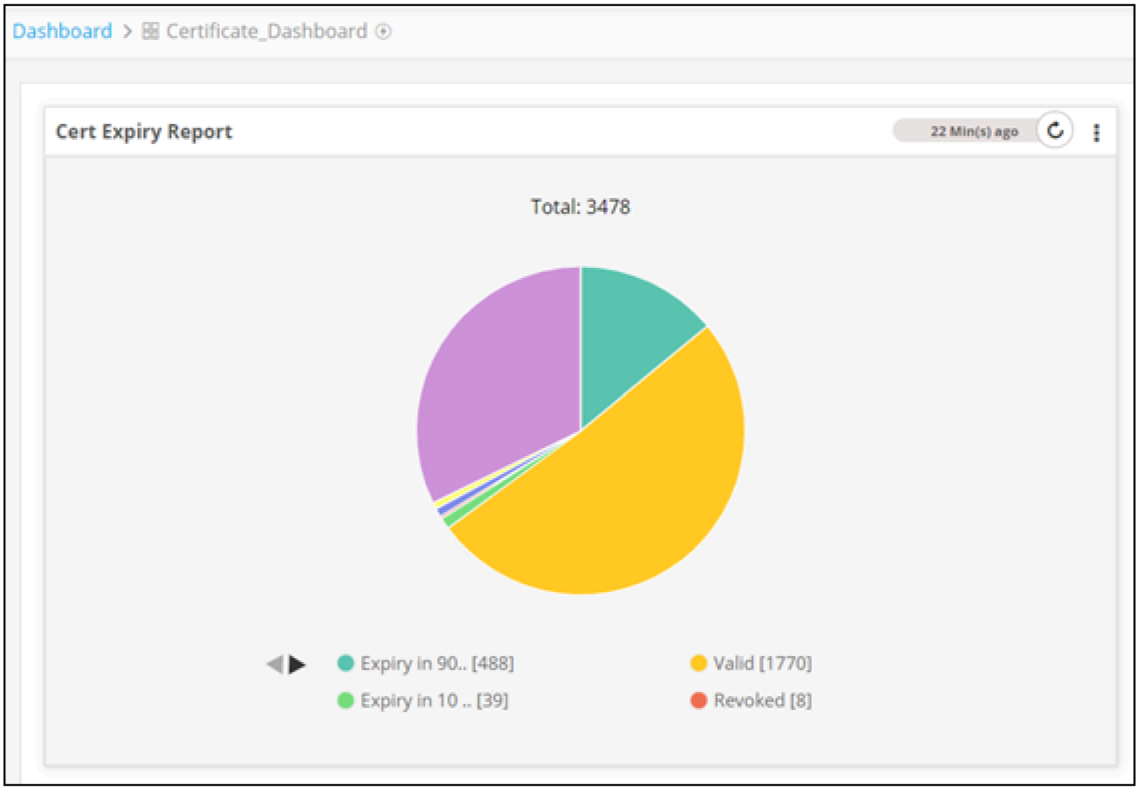


2. Select the dashboard from the dropdown menu.



3. To pin the report to the selected dashboard, click **Save**.

   The report is displayed on the selected dashboard.

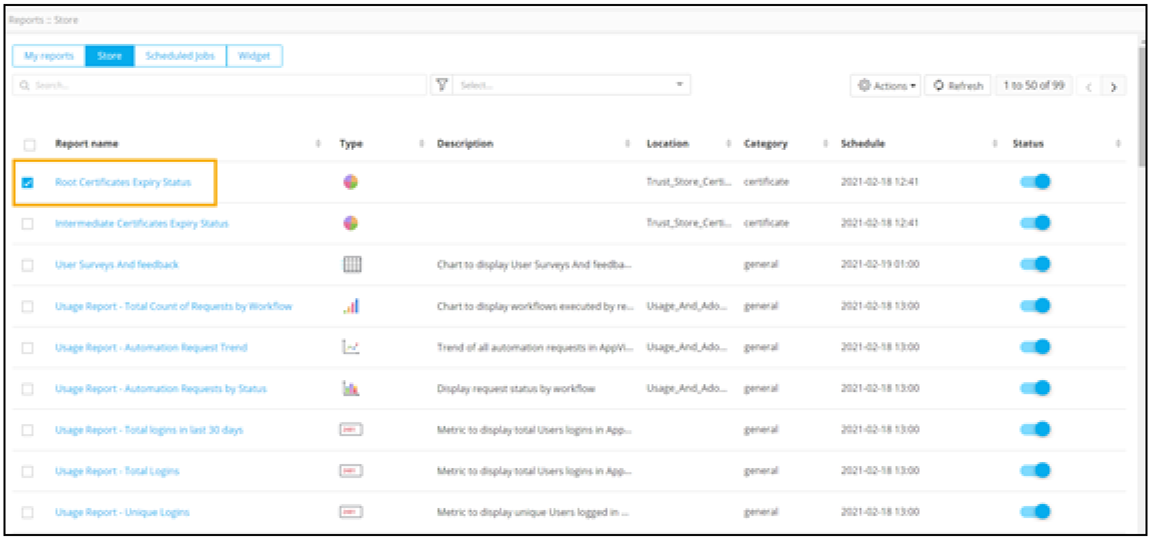


How to Clone Reports

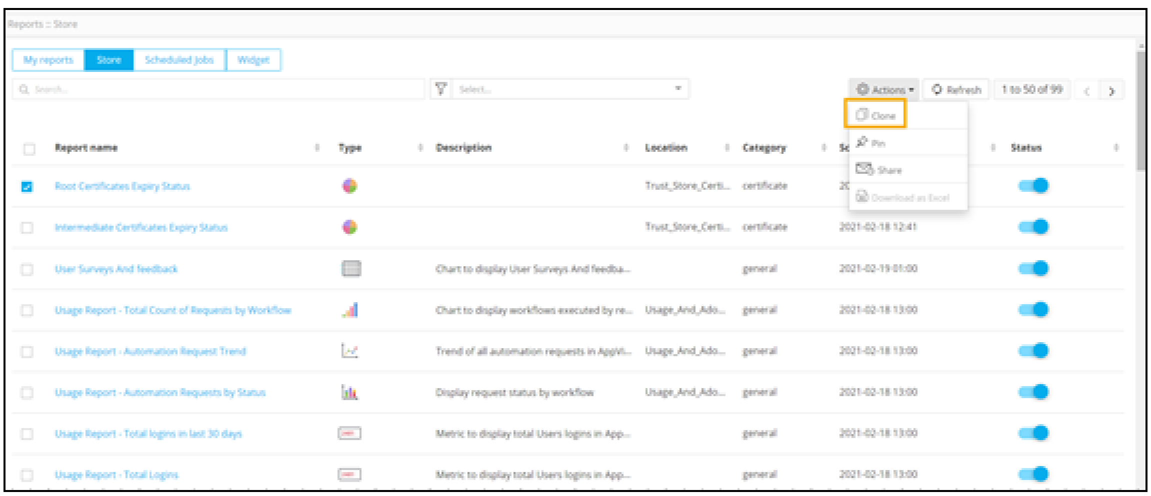
AppViewX's report builder allows you to clone a report. You can clone a report to make modifications, display additional data, and create additional levels of drilldown if not available in the previous report. Instead of creating a second report from scratch, you can clone an existing report and make the necessary changes.

To clone a report:

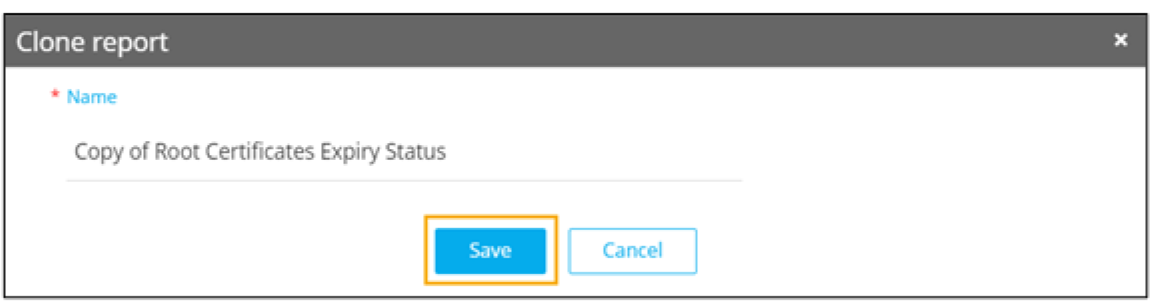
1. From the **Reports :: Store** page, select the report to be cloned.



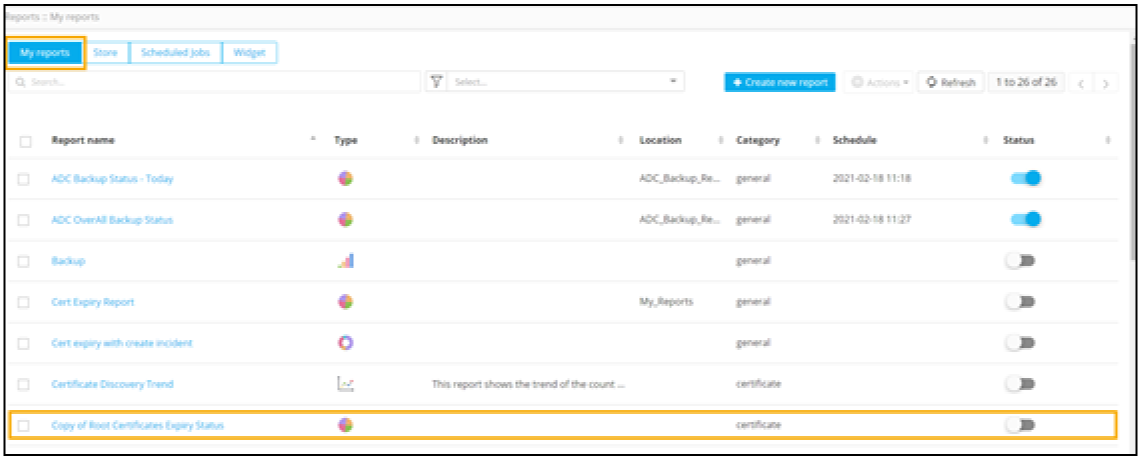
2. To see the list of available actions, click **Actions**.
3. From the list of available actions, select **Clone**.



4. In the **Clone report** pop-up window, change the name of the report (if required) and click **Save**.



The cloned report is displayed on the **Reports :: My reports** page.



How to Share Reports

Once a report is generated, it can be emailed either as inline content or as a PDF attachment to other users or user groups.

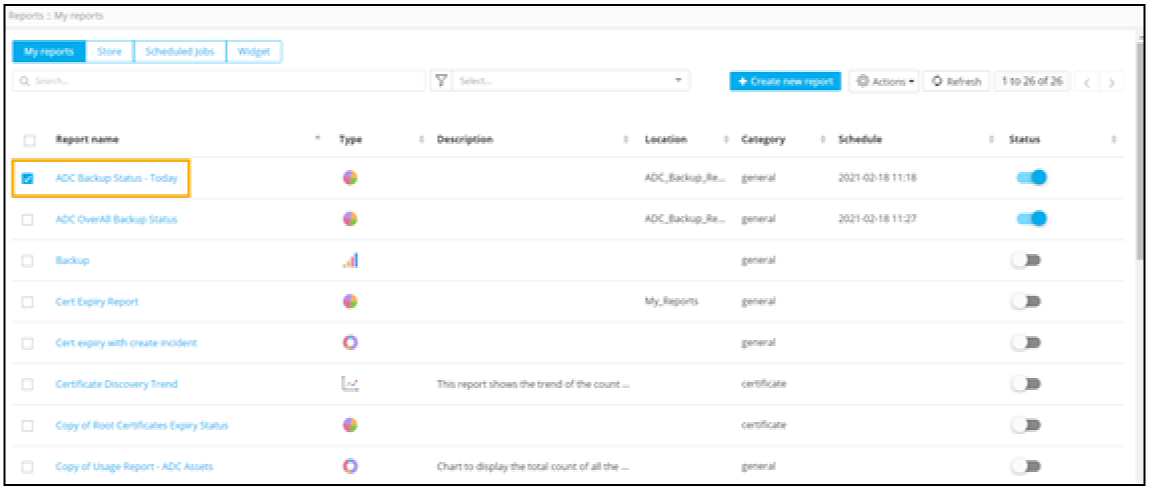
Note: For more information on sharing reports, click here.

How to Delete Reports

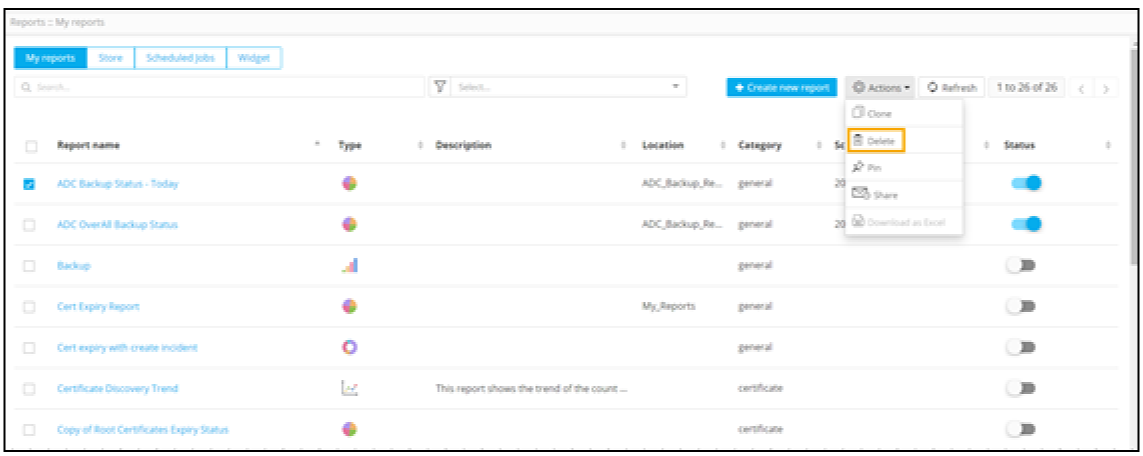
AppViewX's report builder also allows you to delete reports.

To delete a report:

1. On the **Reports :: My Reports** page, select the report to be deleted.



2. To see the list of available actions, click **Actions**.
3. From the list of available actions, select **Delete**.



4. To delete the selected report, click **Yes** in the **Confirm delete** pop-up window.

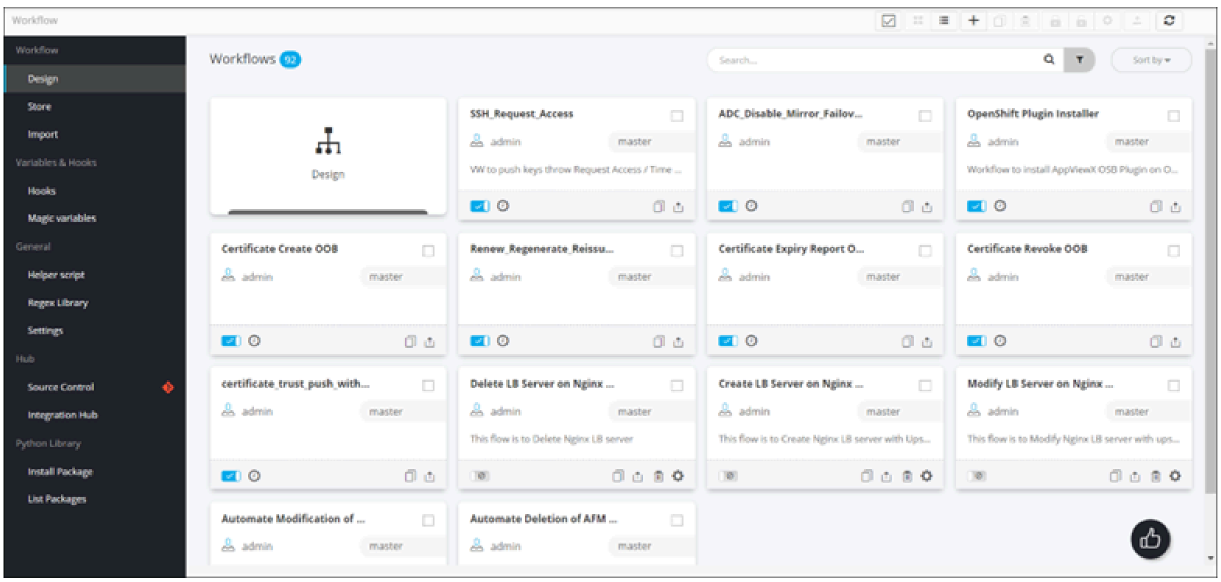
Chapter 14: BYOR with Actionable Workflow

You can build customized reports, pin them to the dashboard, and assign one or more closed loop workflows for quick actions. These workflows can be triggered at specific time intervals to gather data and integrate it into the reports. Assigning a workflow to your reports aids in elimination of redundant tasks, reduces processing time, improves efficiency, and gives greater visibility.

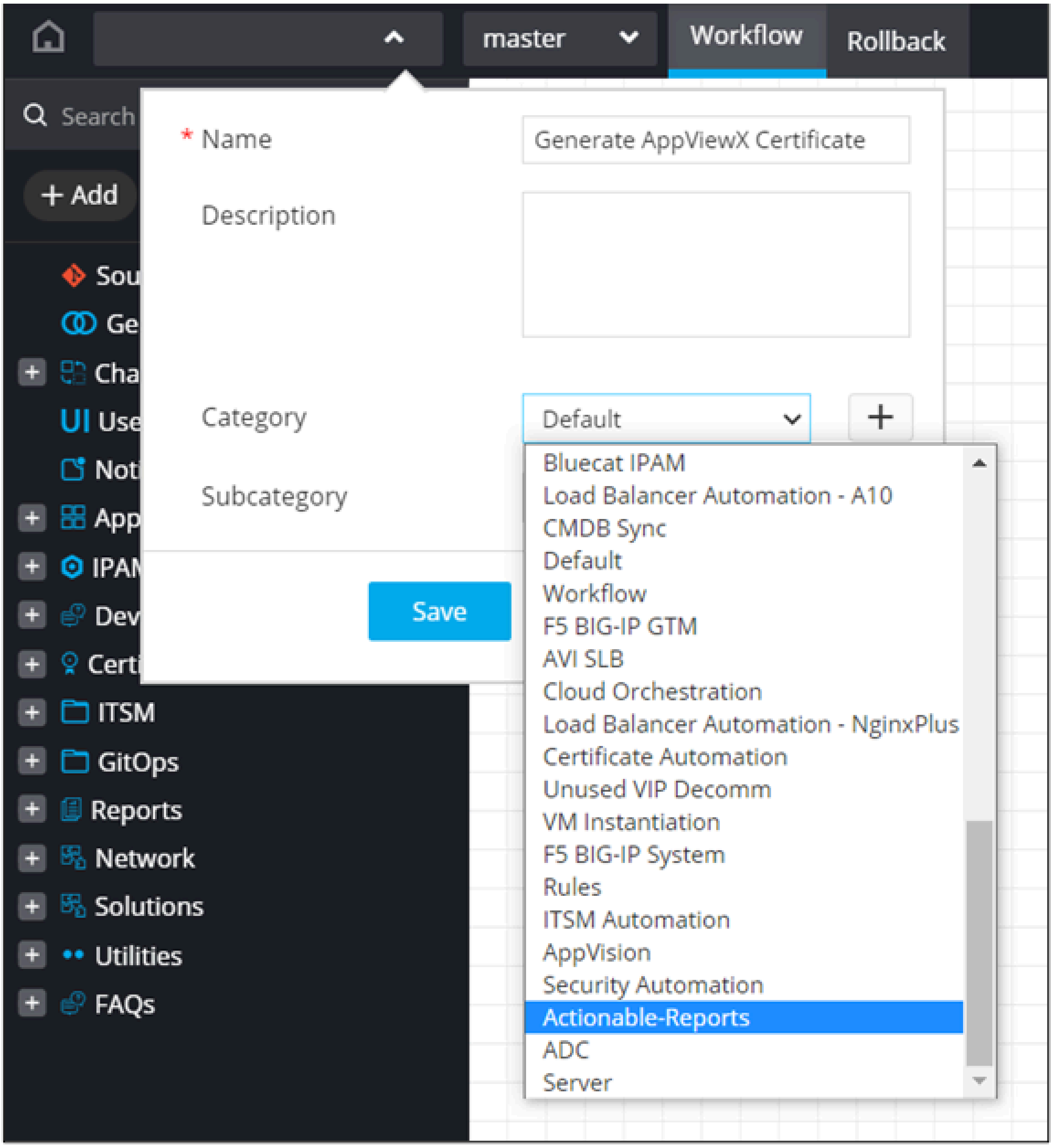
To assign an actionable workflow to your report:

1. From the top left corner of the screen, click .
2. From the menu displayed, select **Studio** > **Workflow**.

   The **Workflow** inventory is displayed.

3. To create a new workflow, click **Create New**.
4. Enter or select the field information.

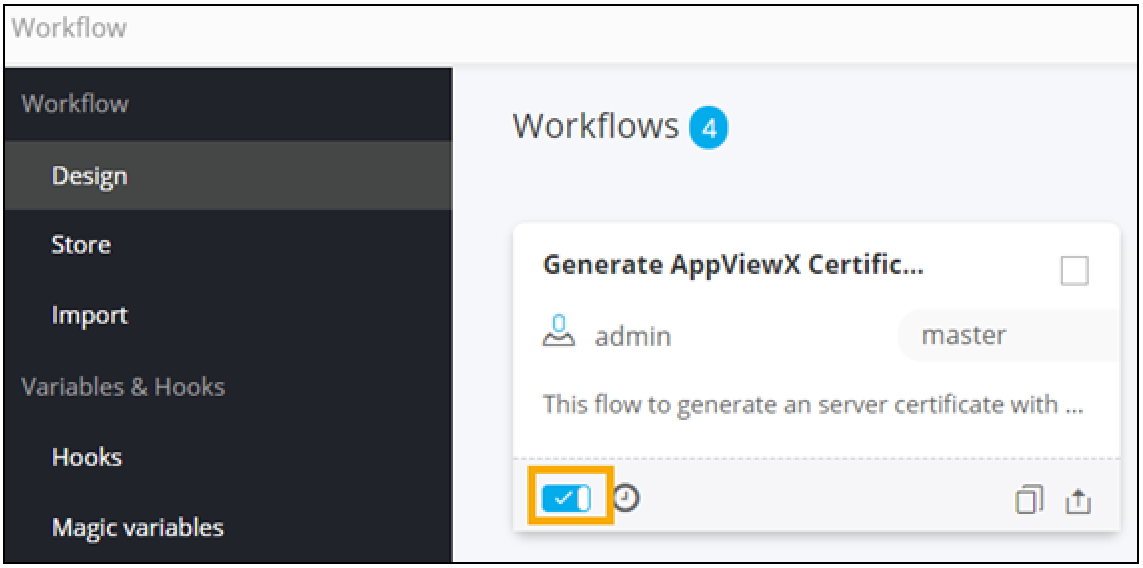


The following table describes the various fields in this section:

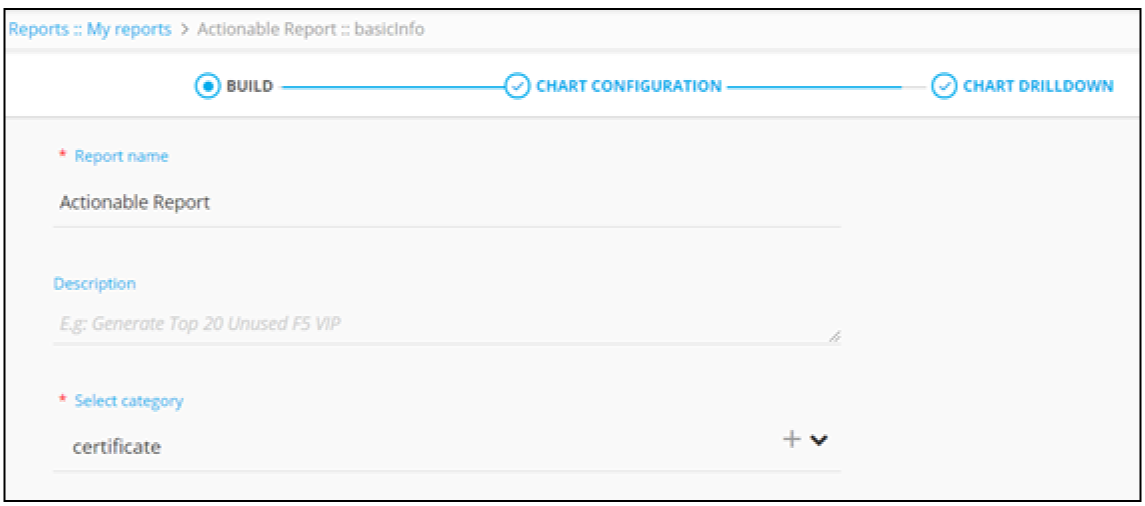
Field	Description
***Name**	Enter a valid name for the workflow. For example: **Generate AppViewX Certificate.**
Description	Enter a description for the workflow.
Category	Select the category as **Actionable-Reports** from the dropdown list.
Subcategory	The subcategory is set to **default**.

Field	Description
The asterisk (*) indicates mandatory fields.	

5. To enable the workflow, on the **Workflow** Inventory page, turn on the toggle.



6. On the Reports :: My Reports page, click **Create new report**.
7. Under the **BUILD** section, enter or select the field information.

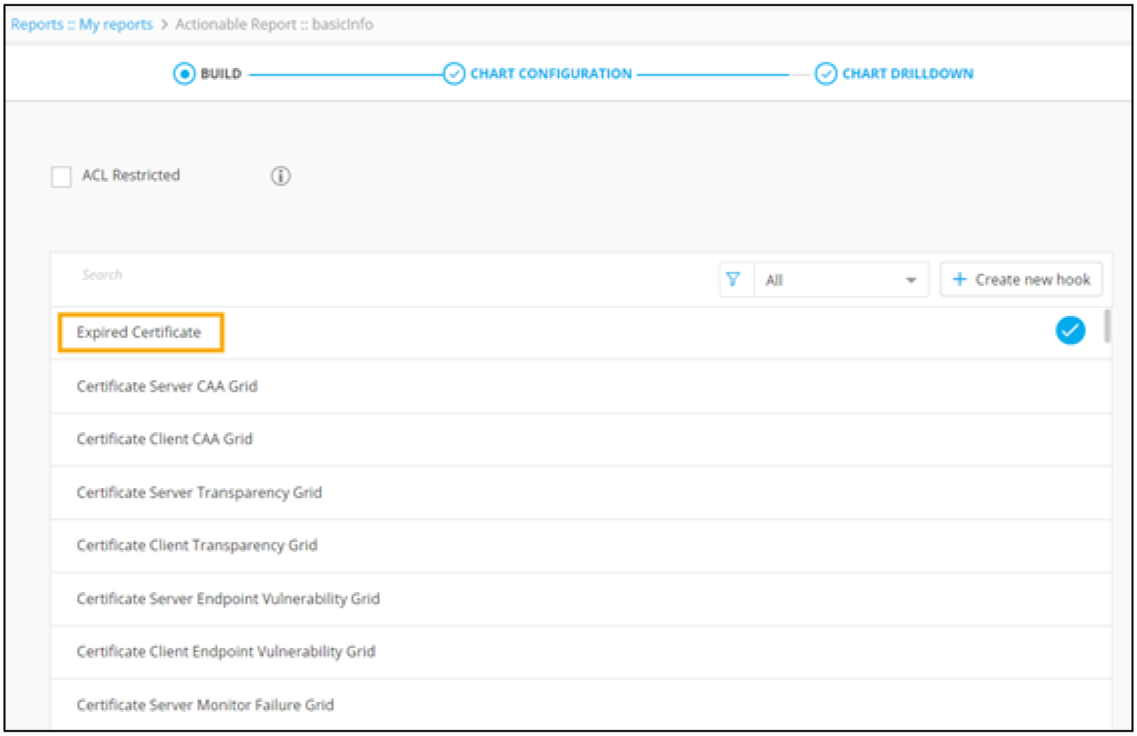


The following table describes the fields under this section:

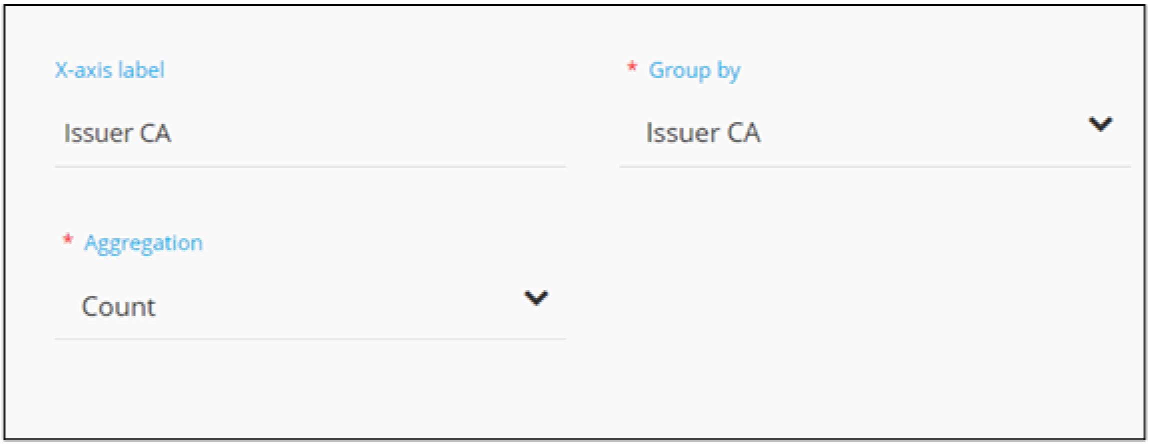
Field	Description
***Report name**	Enter a valid report name. For example: **Actionable Report.**

Field	Description
Description	Enter a description of the report.
***Select category**	Select the category as **certificate** from the dropdown.
All asterisk (*) marked fields are mandatory.	

8. Select the hook from the list.



9. To save your selections, click **Next**.
10. Under the **CHART CONFIGURATION** section, select the chart type as **BAR**.
11. Select the field information for creating the chart.

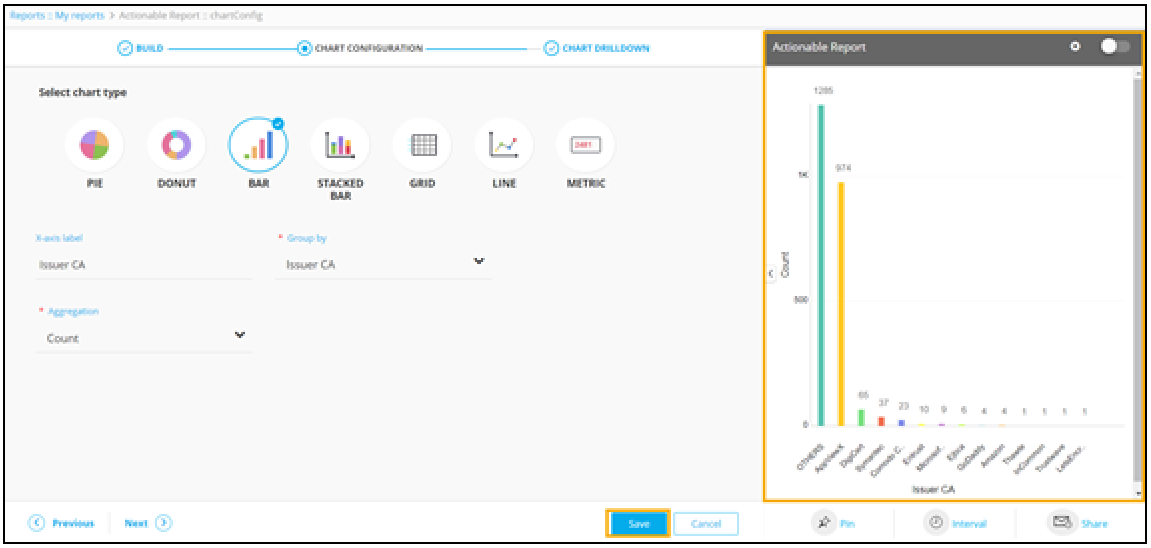


This table describes the field information in this section:

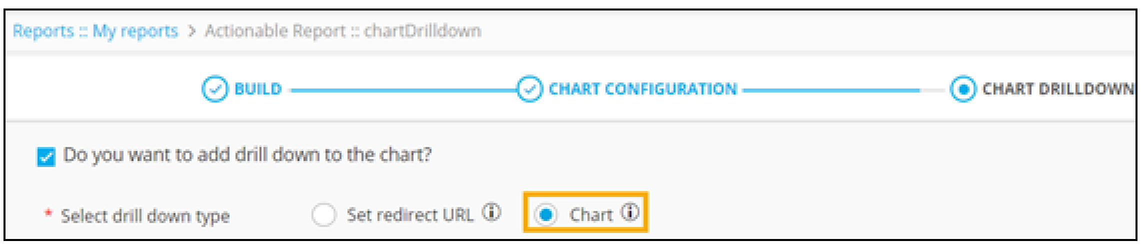
Field	Description
X-axis label	Enter the criteria for the X-axis label. For example: **Issuer CA.**
***Group by**	Select a value from the dropdown list on the basis of which report data will be grouped. For example: **Issuer CA.**
***Aggregation**	Select the calculation to be done on the report data for the dropdown. The following options are available: • **Average**: Calculates the average value of a given set of data. • **Sum**: Calculates the sum of all values in a given set of data. • **Count**: Calculates the total number of items in a given numeric field. • **Maximum**: Displays the maximum value in a given set of data. • **Minimum**: Displays the minimum value in a given set of data.
All asterisk (*) marked fields are mandatory.	

12. Click **Save**.

    A preview of the chart is generated on the right side of the screen.



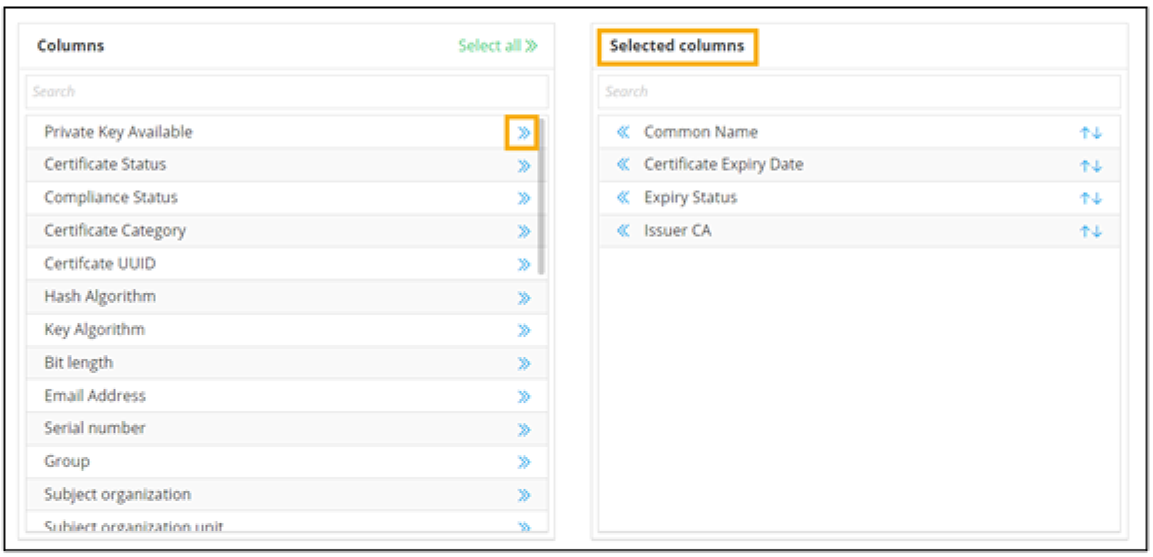
13. To add **Chart Drilldown**, click **Next**.
14. Select drilldown type as **Chart**.



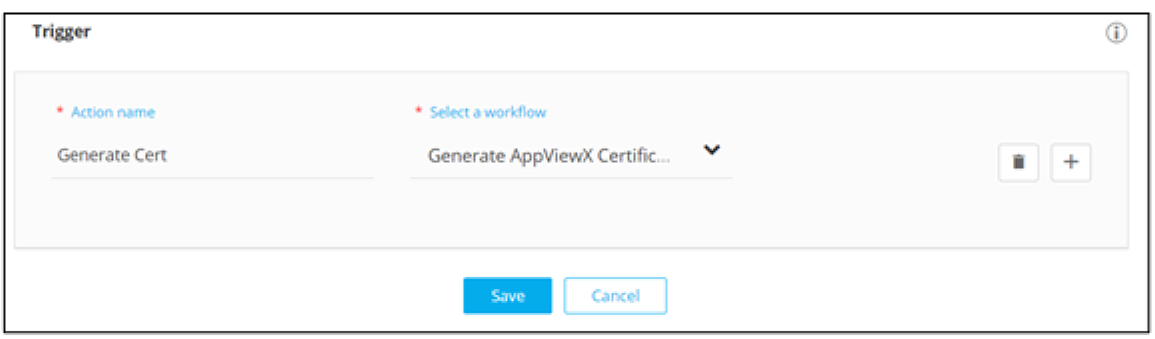
15. Select the chart type as **GRID**.

16. Enter the Chart **title** as **Generate Certificate**.

17. To seelct the column headers to be displayed within the grid, click .
    Selected columns are displayed on the right.



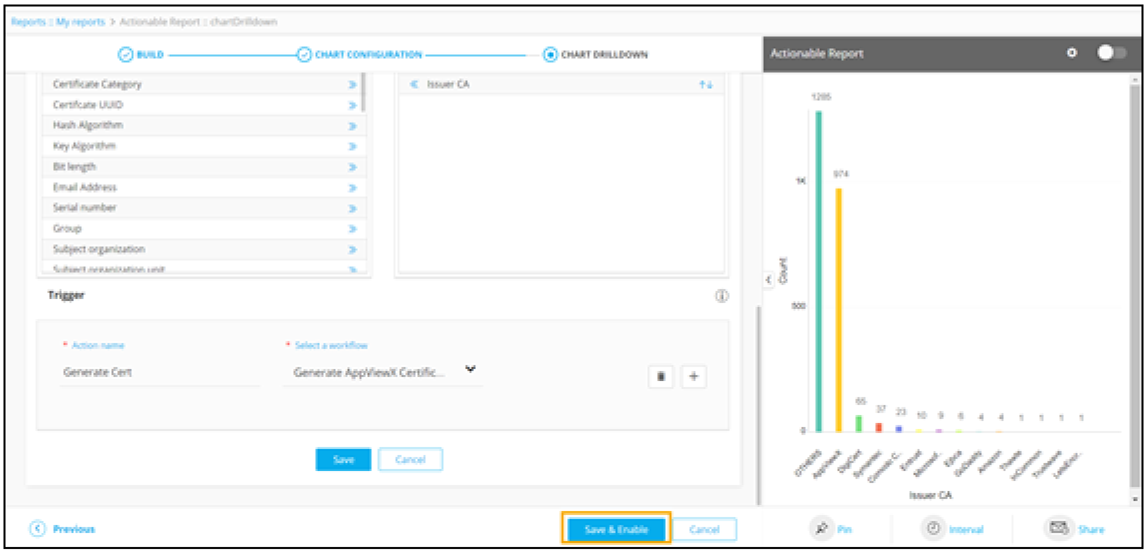
18. Enter or select the field information to associate a workflow with the report.



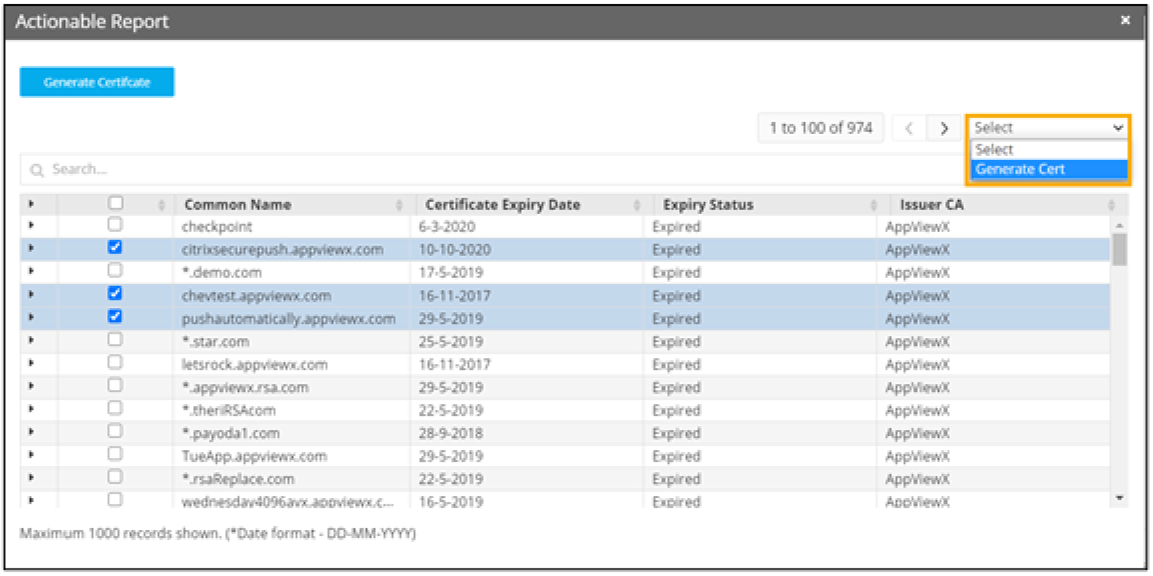
This table describes the field information in this section:

Field	Description
***Action name**	Enter a valid action name. For example: **Generate Cert**.
***Select a workflow**	Select the workflow that was created (Generate AppViewX Certificate) from the dropdown menu.
The asterisk (*) indicates mandatory fields.	

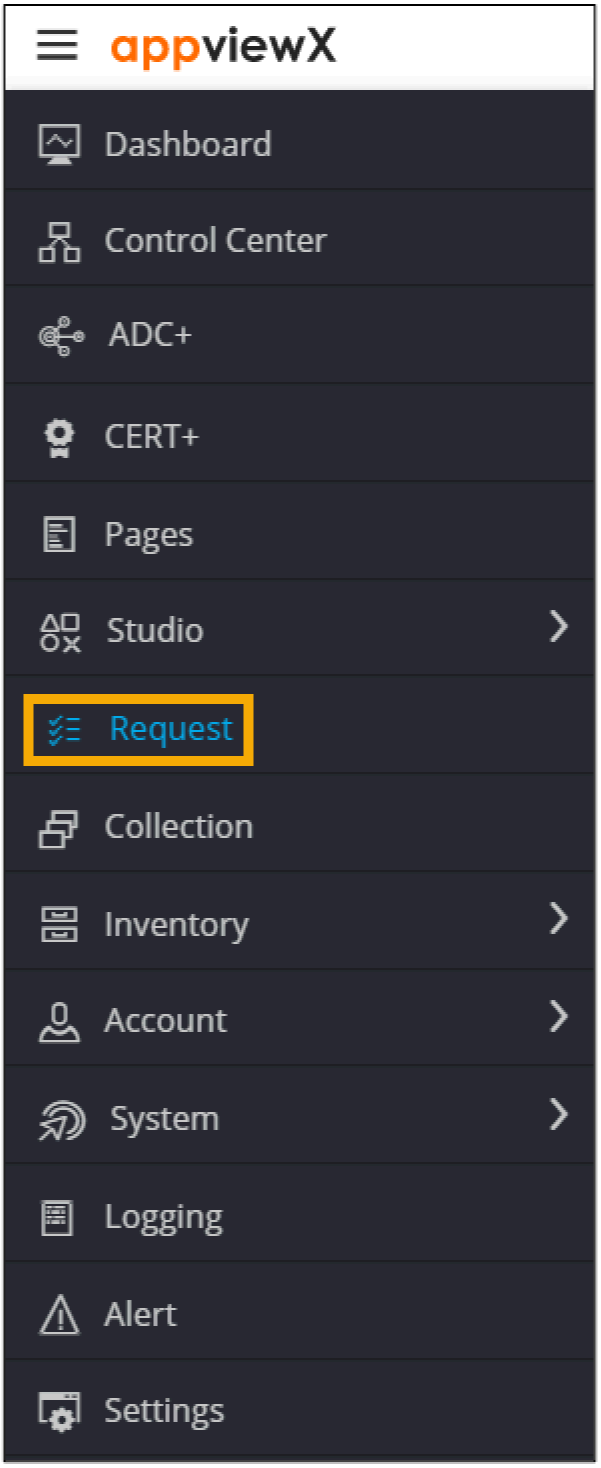
19. To enable the workflow, click **Save & Enable**.



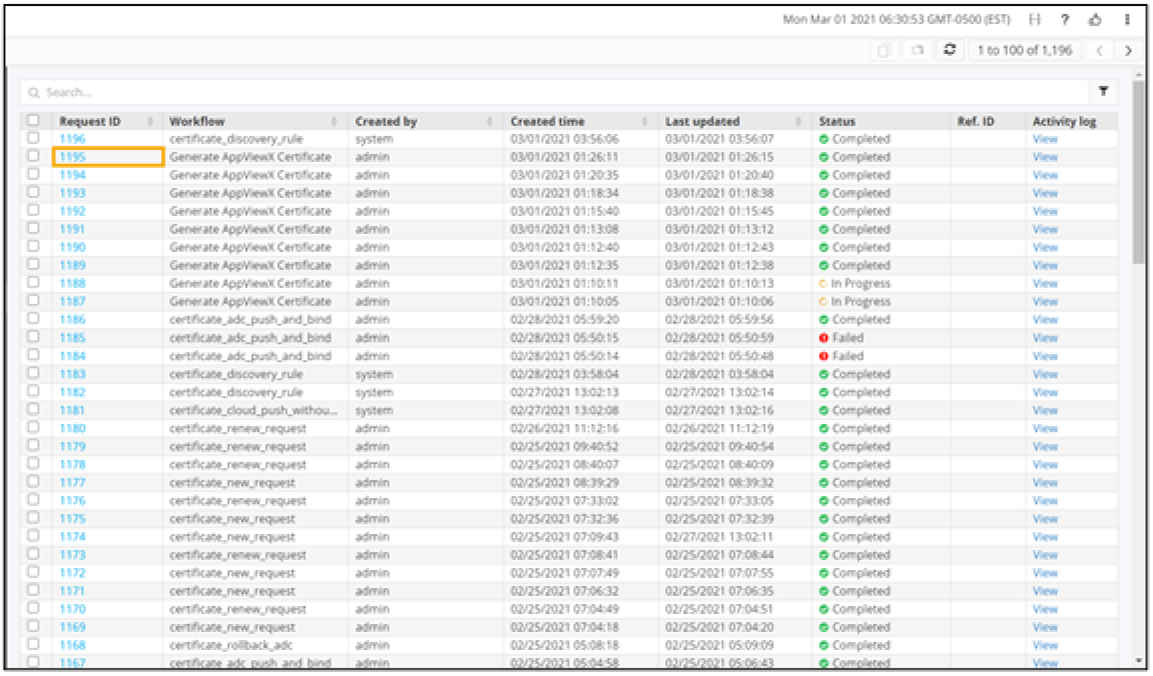
20. To display the chart drilldown, click any of the bars in the graph.
21. Select the **Common Name** for the actionable workflow.
22. To trigger the workflow, select the workflow from the dropdown menu.



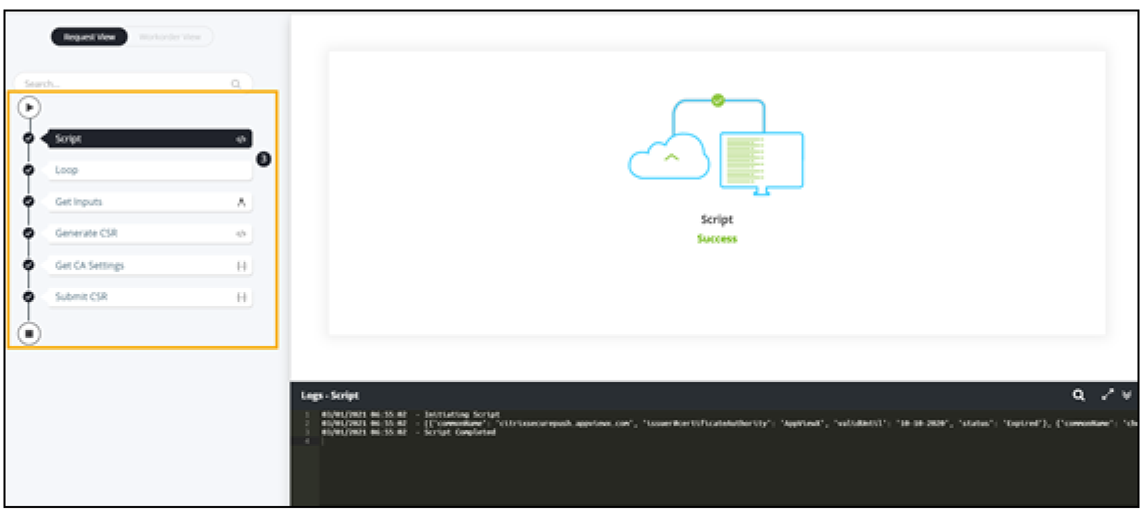
23. From the top left corner of the screen, click .
24. From the menu displayed, click **Request**.



25. On the **Request** page, from the navigation pane on the left, select **All**.
26. On the **Request :: All** page, select the workflow **Request ID**.



A stage-wise view of the workflow is displayed.



27. To view the payload that was passed for the actionable workflow, click **Script**.
28. To see successful completion of the workflow, click **Submit CSR**.

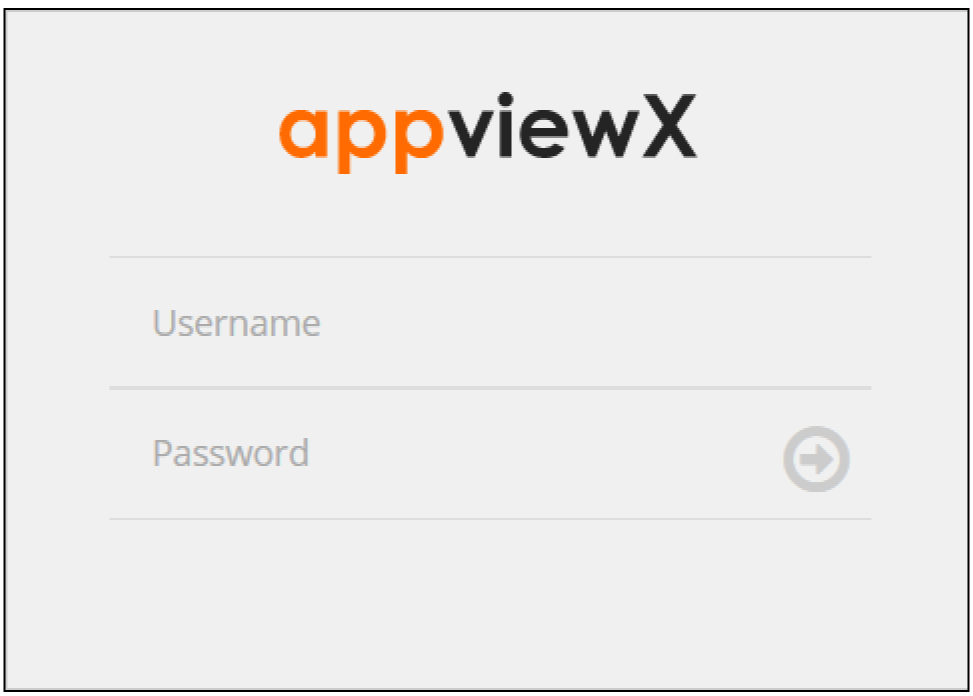
Chapter 15: User Feedback and Survey Reports

Overview

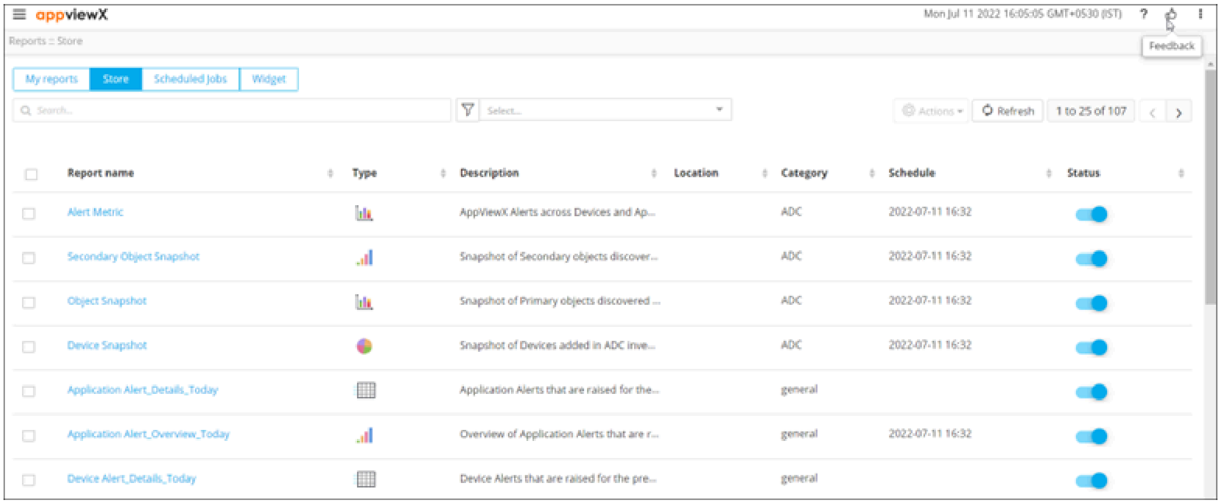
AppViewX hosts a user feedback feature on its report building platform, where users can rate their experience with the report builder and also submit a descriptive comment on the tool. This feedback can then be used to create reports to track customer experience.

Submitting a Feedback

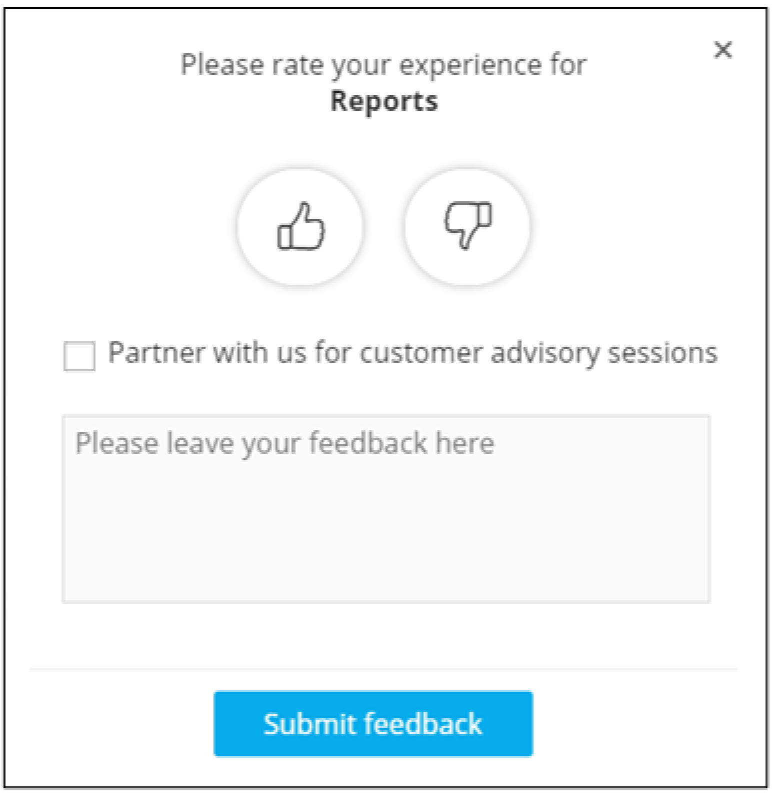
1. Log into AppViewX.



2. From the top right corner of the screen, click .

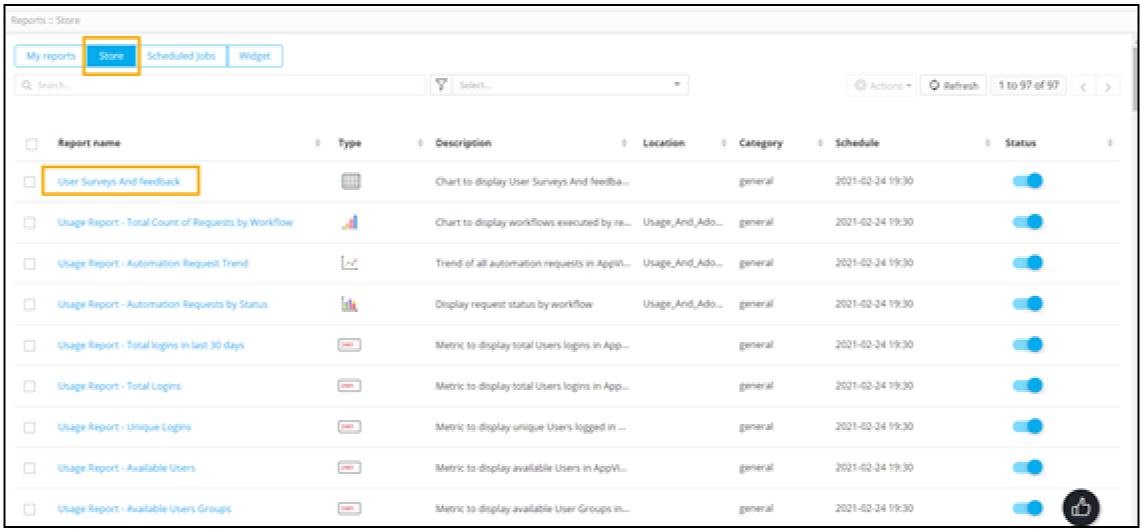


3. Enter feedback comments in the popup window.



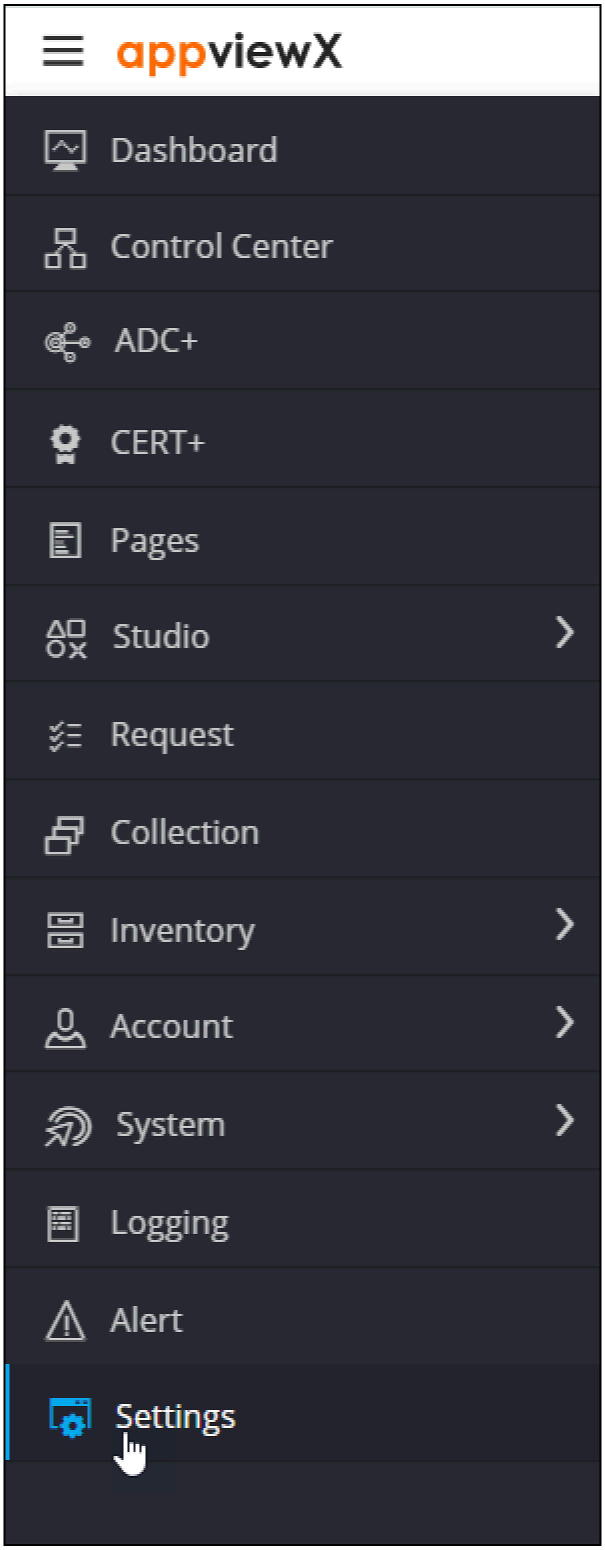
4. Click **Submit feedback**.

   The **User Surveys and feedback** report on the **Store** page gives detailed information on user feedback.

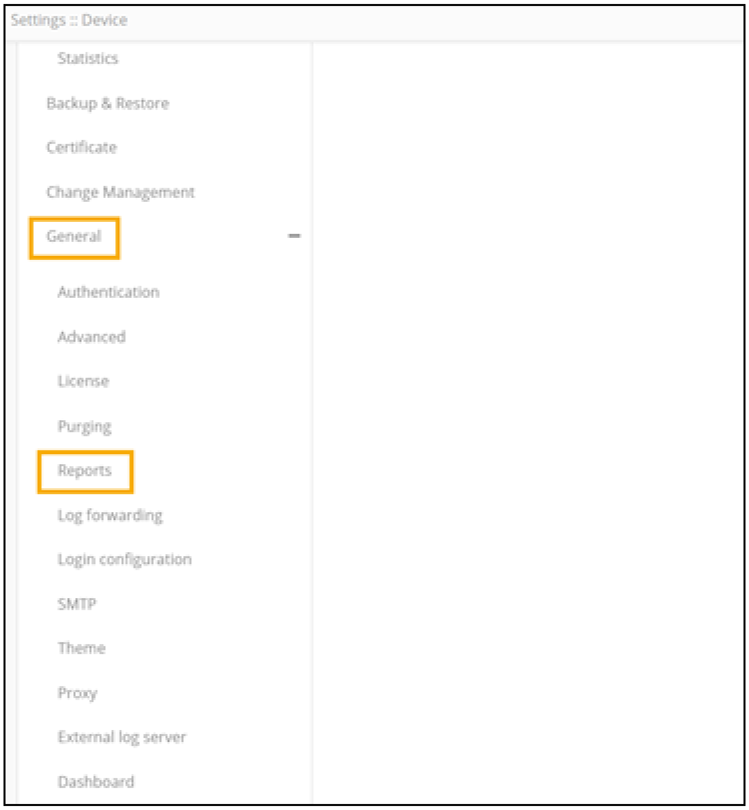


Enabling/Disabling the Feedback Option

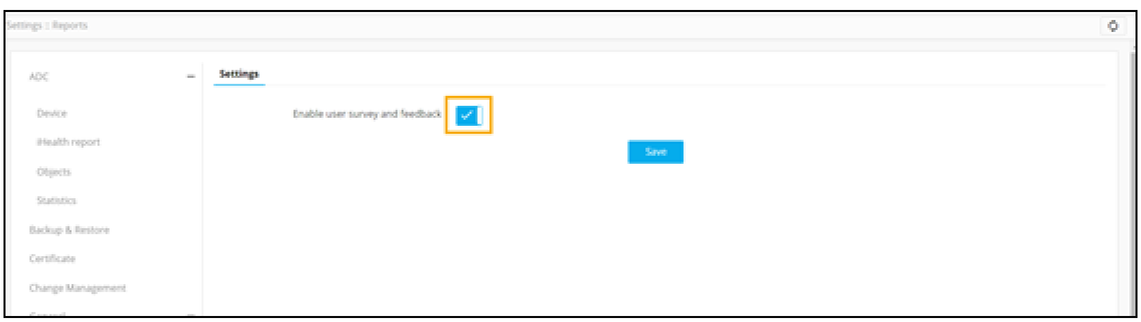
1. From the top left corner of the screen, click ☰ .
2. From the menu displayed, click **Settings**.



3. On the **Settings** page, under **General**, select **Reports**.



4. To enable feedback, turn on the toggle. To disable feedback, turn off the toggle.



5. Click **Save**.

Chapter 16: Best Practices

Listed here are some best practices that will help you build visually engaging, insightful and effective reports:

- **Identifying target audience and their requirements**

  Before you even start building reports, it is important to know who the target audience or end user is. Meeting with them to know about their specific requirements is crucial to build comprehensive reports that display complete and accurate information.

- **Choosing the right chart**

  The right chart or graph can help you display your data most efficiently and effectively. Pie charts can be used for fewer data points, while bar graphs can be used to show comparison among categories. Line charts, on the other hand, are most useful for showing changes over a period of time. Choosing the wrong chart can create confusion and the data might even be interpreted incorrectly. The Reports module offers seven different chart types to choose from.

- **Highlighting key areas**

  Using colors to highlight key areas is a powerful way to guide the end users to important data. However, the choice of colors is crucial and overuse of colors in your reports may be distracting. The **Reports** module offers color code mapping for pie charts, donut charts, bar charts, and stacked bar charts.

- **Grouping related metrics together on Dashboard**

  It is important to group related metrics together to help the end user quickly make connections between the data on a dashboard. The **Reports** module has a provision for moving widgets around on the dashboard so that you can keep related widgets/reports in one place.

- **Adding interactive elements**

  Using the **Chart Drilldown** feature in the **Reports** module is a great way to ensure that your reports are interactive. Displaying high level data first and allowing the user to drill down for further details keeps the user engaged.

- **Keeping it simple**

  Last, but not least, keep your reports simple. Do not clutter it with too much information and avoid using too many colors. Prioritize readability by making them visually appealing and easy to understand.

Chapter 17: Troubleshooting

Following are the common issues you may face when working with the **Reports** module:

Issue	Cause	Solution
There is something wrong with my Scheduled Job.	**Avx_platform_report_generator** plugin is disabled.	Check plugin status and enable it.
Report pinned to dashboard shows error message.	Report is not enabled.	Enable the report on My Reports page.
I am not able to edit a report in the **Store**.	Prebuilt reports in the **Store** cannot be edited .	Clone the report and customize it as per your need.
Schedule time elapsed error while defining the interval.	Time entered is the same as the current time.	Enter a time which is 1-2 minutes later than the current time.

In case of any other issues with the **Reports** module, users can access the following logs for further investigation:

- avx-subsystems log
- avx-commons log

