What Is SAS Environment Manager?

SAS Environment Manager is a web application for managing a SAS Viya environment. It includes a dashboard view, which provides a quick overall look of your environment’s health and status, as well as detailed views that enable you to examine and manage your environment in detail.

Note: If you have deployed SAS Viya in a Cloud Foundry environment, the dashboard and machines and services views are not available.

You can use the application to manage these areas of your environment:

User information
- users and groups from your directory service and SAS groups

Data
- CAS tables, caslibs, and servers

User content
- saved reports and data, favorites, and history

Machines and services
- information and metric data for the machines and services

Configuration
- configuration data for SAS Viya microservices

Authorization
- access controls and rules that control who can access resources and content in your system

Domains
- authentication domains (for providing a user ID and password), encryption domains (for providing an encryption key), and connection domains (for providing a user ID without a password)

Mobile device access
- lists that allow or prevent access to the system by specific mobile devices.

Use SAS Environment Manager 3.1 to manage version 3.2 of SAS Viya.

Note: If you are using only the SAS Viya programming interface, SAS Environment Manager is not deployed. See “Deployment Types” in SAS Viya Administration: Orientation for more information.
Accessing SAS Environment Manager

To access SAS Environment Manager open SAS Home. You can click the SAS Environment Manager tile, or in
the side menu under SAS Environment Manager, select Dashboard.

Note: If you are using only the SAS Viya programming interface, SAS Environment Manager is not deployed. See “Deployment Types” in SAS Viya Administration: Orientation for more information.

When you log on to SAS Environment Manager, if you are a member of the SAS Administrators group, a prompt appears, asking you whether you want to opt in to your assumable groups. If you select Yes, your membership in the SAS Administrators group is in effect. See “Assumable Custom Groups” in SAS Viya Administration: Identity Management for more information.

To sign out of SAS, use the application bar. Click your name, and then click Sign out. When you click Sign out, you sign out of all SAS web applications.

Using the Dashboard

The Dashboard provides a quick view of the state of your system. It displays a set of tiles, each of which summarizes an aspect of system status. Click on any of the tiles to refresh the data. The message Refresh completed appears at the bottom of the dashboard when you successfully manually refresh the data. Some tiles are also automatically refreshed, as noted in the tile’s description on this page.

Note: If you have deployed SAS Viya in a Cloud Foundry environment, the Dashboard is not available.

The Dashboard displays these tiles:

CAS System Health

- displays graphs that give you a quick view of the state of the nodes (machines) in your SAS Viya cluster. Use the buttons at the top of the tile to select the graph that you want to view.

If your environment contains more than one CAS server, a menu above the graph enables you to select the server to view. When you display the dashboard, this tile attempts to connect to the default CAS server. If the default server cannot be found, the tile displays information for the first server to which it can connect. If it can connect to the default server, but the server does not respond within five seconds, the tile displays a message. You can then retry the server or choose another server. See “Architecture” in SAS Cloud Analytic Services: Fundamentals for more information on CAS servers.

You define the default server in the default casServer property. This property is one of the sas.casmanagement.global properties for the CAS Management service. See “Configuration Properties: How To” in SAS Viya Administration: Configuration Properties for more information.

The CPU Load graph displays the one-minute CPU load average over the past five minutes for the nodes in your cluster. The chart updates every ten seconds. Each node is represented by a separate line on the graph. The vertical scale of the graph changes depending on the largest value being displayed in the chart.

The Node Memory Usage graph displays the memory usage for each node in your cluster. Each bar represents a separate node. Position your pointer over a bar on the graph to view the name of the node and its memory usage. The vertical scale of the graph changes to match the memory usage of the most heavily used node.

The graphs update every ten seconds.
If you have the proper authorization, click to display the **Services** view for the selected CAS server on the **Machines and Services** page.

**Note:** If you have more than one server connected to the same SAS Viya cluster, this chart displays metrics from the default CAS server. If the servers are defined to use different numbers of nodes, the number of nodes displayed in this chart will differ, depending on which server’s metrics are being displayed. See “Architecture” in SAS Cloud Analytic Services: Fundamentals for more information.

**Custom Groups**

Displays the name and number of members for each custom group. Custom groups are created to control access to SAS Viya features. If you have a sufficient authorization level, you can use the **Users** page to manage custom groups. See “Manage Custom Groups” in SAS Viya Administration: Identity Management. This tile refreshes whenever the Dashboard is reloaded.

If you have the proper authorization, click to display the **Users** page.

**Services**

Displays the availability and total of each category of service in your system. Services can be available (✔), partially available (⚠), or unavailable (🚫). If you have a sufficient authorization level, you can use the **Machines and Services** page to view detailed information about the services. See “Monitor Services” in SAS Viya Administration: Monitoring. This tile refreshes every ten seconds.

If you have the proper authorization, click to display the **Services** view on the **Machines and Services** page.

**Note:** If you are using a clustered SAS Infrastructure Data Server, the **System** services are always listed as partially available. Because the standby servers are not actively responding, their availability is unknown.

**Servers**

Displays a table of servers, associated hosts and ports, and the current status of the server. The server host is listed in the form `hostname:port_number`. If you have a sufficient authorization level, you can use the **Machines and Services** page to view detailed information about servers. See “Monitoring: How to (SAS Environment Manager)” in SAS Viya Administration: Monitoring. This tile refreshes every ten seconds.

Click to display the **Servers** view on the **Data** page.

**Top 10 Tables: SAS Infrastructure Data Server**

Displays a graph of the ten largest tables in the system’s SAS Infrastructure Data Server database. The SAS Infrastructure Data Server tables contain information that defines your SAS Viya system. Position your cursor over a bar in the graph to display the name of the table and its size. This tile refreshes whenever the Dashboard is reloaded.

If you have the proper authorization, click to display the **Services** view for the SAS Infrastructure Data Server on the **Machines and Services** page.

**Mobile Device Access**

Displays the type of mobile device access control in use and the number of successful and unsuccessful logon attempts. You can use the **Mobile Devices** page to manage mobile device access and view detailed information about access attempts. See “Mobile Devices: How To” in SAS Viya Administration: Mobile Devices. This tile refreshes whenever the Dashboard is reloaded. If you do not have a sufficient authorization level, this tile does not appear.

If you have the proper authorization, click to display the **Mobile Devices** page.
SAS Environment Manager Functions

Accessing the Functions
To access a SAS Environment Manager page, select it from the side menu ⬅️. The side menu lists all of the SAS Environment Manager pages, as well as entries for other SAS applications (such as SAS Visual Analytics). Some pages are listed under category entries. For example, selecting the Resources entry enables you to select the Machines and Services and Configuration pages.

Depending on your organization’s authorization policies, you might not have access to all pages. If you are a member of the SAS Administrators group and opt in to the group when you sign in, you can access all of these pages. If you are not a member of the SAS Administrators group, or you do not opt in to the group, you can access only the Dashboard, Data, and Content pages. Your organization might also use other groups that could restrict your ability to access certain pages. See “Assumable Custom Groups” in SAS Viya Administration: Identity Management for more information.

Users
Select Users to view information about users and groups, and to manage custom groups. The information displayed for users and groups comes from your organization’s directory service (such as LDAP or Microsoft Active Directory). Because this information is managed by your identity provider, it is displayed as read-only data in SAS Environment Manager.

You can also manage custom groups on the Users page. Custom groups enable you to manage special permissions for groups of users.


Data
Select Data to view and manage the tables, libraries and servers that contain your data. You can select three views of your data from the View menu.

The Loaded Tables view displays information about all of the data tables that have been loaded into CAS memory. The window displays basic information about each table, such as the state (loaded or unloaded), server location, size, and the dates when the table was created and modified. From this view, you can also unload or delete tables, manage authorization for each table, view table properties, and view information about a table’s columns. You can edit the path and description for path-based libraries.

The Libraries view displays information about the libraries defined for the current servers. The window displays basic information about each library, such as the associated server, path for the data source, and status. While in the Libraries view, you can also view a library’s properties, manage authorization for a library, view a list of all tables (loaded and unloaded) associated with a library, add or delete a library, view tables that are included in a library, and import data into a library. You can also change the path and description for a library.

The Servers view displays information about the SAS Viya servers. The window displays basic information about the servers, such as the status, host, and port. While in the Servers view, you can also view detailed properties for the server, including the libraries in the server and the users and groups that are superusers for the server. If you have the proper authorization, you can also assume the superuser access for the server, which enables you to edit the server properties.

See “Data Administration: Reference” in SAS Viya Administration: Data for more information.
Content
Select Content to display folders that contain items that users have saved. When you open the Content page, you have access to your own data in the My Folder folder. If you have administrative access, you can also view the folders of other users. From this page, you can create, delete, move, and rename folders, create shortcuts, and manage the authorization for any folder or item that you select (if you have sufficient authorization).

Each user’s folder contains several subfolders:

- **My Folder** contains saved items, as well as the subfolders My Favorites, My History, and Application Data.
- **My Favorites** contains references to items identified as favorites that enable quick access to often-used reports and data.
- **My History** contains a list of the most recent items that you have accessed. You can select entries in this folder to quickly return to items that you have worked with recently.

See “Content Management: How To” in SAS Viya Administration: Content Management for more information.

Machines and Services
Select Resources ⇒ Machines and Services to monitor the machines in your environment and the services running on those machines. In the Machines view, you can view information such as the machine’s address and ID, and can also view a table of the service instances running on each machine. The Services view provides information about all possible services, and indicates whether the service is currently available.

From both views, you can view information about all of the instances of each service. From the list of service instances, you can view metric data for the machine that is running each service. For CAS service instances, you can view a list of sessions and metric data for the nodes that are running the sessions.

See “Monitoring: How to (SAS Environment Manager)” in SAS Viya Administration: Monitoring for more information.

Note: If you have deployed SAS Viya in a Cloud Foundry environment, Machines and Services is not available.

Configuration
Select Resources ⇒ Configuration to manage the configuration settings for SAS Viya services. You can select from a list of basic services, all services, or definitions. When you select a service, the service’s configuration properties are displayed on the right side of the window. Click to change any of the displayed properties.

See “Configure Services” in SAS Viya Administration: Configuration Properties for more information.

Rules
Select Security ⇒ Rules to manage access to specific locations and content.


Domains
Select Security ⇒ Domains to manage domains used for authentication, encryption, and connection.

See “About the Domains Page” in SAS Viya Administration: External Credentials for more information.
**Mobile Devices**

Select **Security ➔ Mobile Devices** to manage how mobile devices access certain reports. You can use either a blacklist or a whitelist. If you use a whitelist, all mobile devices are blocked except for those listed in the whitelist. If you use a blacklist, all mobile devices are allowed except for those listed on the blacklist. The **Mobile Devices** page displays a table of recent access attempts by mobile devices, the devices listed in the blacklist, and the devices listed in the whitelist. The page indicates whether the blacklist or the whitelist is being enforced, and enables you to select which list to use. You can also add devices to either list.


**How To**

**Work with Information Displayed in Tables**

When viewing information that is displayed in a table in SAS Environment Manager, use these tips to control how data is displayed:

- To sort a table, right-click a column header and select **Sort**. You can sort the table by the contents of the column, or add the column as a secondary sort criteria.

- To reorder the columns in a table, click the column heading and drag the header to the new location.

- To prevent a column from being reordered, right-click the column heading and select **Freeze**. The column is moved to the left of the table and cannot be reordered. To enable the column to be moved, right-click the header and select **Unfreeze**.

- To select which columns are displayed, click the column icon on the right side of the table header. The **Columns** window displays a list of hidden columns and displayed columns. Select the columns that you want to display and click **OK**.

**Note:** Not all of the tables in SAS Environment Manager use all of these features.

**Manage Settings**

**Access Settings**

To access the Settings window, select your user name in the upper right of the SAS Environment Manager window. Select **Settings** from the pop-up menu.

**Set Locale**

The locale specifies the language that is used for SAS Environment Manager text. It also specifies how text is sorted and the format used for displaying numbers and dates.

To specify the locale, select **Global ➔ General ➔ User locale**. The default value is **Browser locale**, which specifies that the locale setting is inherited from the web browser that you use to display SAS Environment Manager. To select a different locale, select it from the **User locale** menu. The new locale setting takes effect after you sign out and sign back in to all of the SAS applications that are running.
Choose a Theme

The theme is the collection of colors, graphics, and fonts used in SAS Environment Manager. Use the Theme options to select the default theme (as chosen by your system administrator) or another available theme. The theme that you choose takes effect after you close the Settings window.

Reset Messages

In SAS Environment Manager, some warning and confirmation messages include an option to not see the message again in the future. Click Reset Messages to clear all of those settings and to view all warning and confirmation messages.

Manage Accessibility Settings

Accessibility features are part of the global settings, which are applied to all SAS web applications. Accessibility features are not specific to SAS Environment Manager.

The following accessibility features are available:

Enable sounds
   Issue sounds for actions in the application

Enable visual effects
   Enable visual effects such as fades and wipes.

Rearrange column content when space is limited
   Rearrange the information in a column if there is not enough space to display all of the information. If you are using a screen reader, clear this check box. Clearing the check box prevents data from flowing into adjacent columns, and enables screen readers to navigate tables more consistently.

Invert application colors
   Use light-colored text on a dark background, which makes the user interface easier to see.

Customize the focus indicator settings
   Makes the focus indicator easier to see by adjusting the color, thickness, and opacity.