



SAS[®] Viya[®] Platform: Configuration Properties

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Configuration Properties: Overview

IMPORTANT In a multi-tenant deployment, certain configuration properties are available only to an administrator on the provider tenant.

You manage configuration properties for the SAS Viya platform servers, services, and applications using the **Configuration** pages in SAS Environment Manager and command-line interface (CLI) commands.

See [“Configuration Page” in SAS Environment Manager: User’s Guide](#) for information about managing configuration properties using SAS Environment Manager.

Note: The `sitedefault.yaml` file, which is located in the `$deploy/sas-bases/examples/configuration` directory, is used primarily for the bulk loading of configuration values. The `sitedefault.yaml` file can be used only to set new property values that have not already been set. However, after the initial deployment, the `sitedefault.yaml` file cannot be used to modify an existing value and to deploy the software again.

Therefore, SAS recommends that you do not use the `sitedefault.yaml` file for the initial deployment of your SAS Viya platform software, except where specifically described. However, you can use a `sitedefault.yml` file from a previous SAS Viya platform release. See [“Add a site default File to Your Deployment” in SAS Viya: Deployment Guide](#) for information.

Configuration Properties: Concepts

You can use the **Configuration** page in SAS Environment Manager or the `sas-viya configuration` command to manage the configuration of the various SAS Viya platform services and servers.

Configuration Management Using SAS Environment Manager

See [“Configuration Page” in SAS Environment Manager: User’s Guide](#) for information about using SAS Environment Manager to view and change configuration information.

Configuration Components

A service’s configuration consists of the following components:

- **configuration definition:** A schema that describes a type of configuration. You create configuration instances from a configuration definition. Some examples of configuration definitions are: `jvm`, `spring`, and `sas.reportdata`.

Note: Configuration definitions that apply to one or a small set of services are referred to as service configuration definitions. System configuration definitions can apply to any service.

- **configuration instance:** A collection of name-value pairs (a property) that a service uses. (These name-value pairs can sometimes be nested.)

How Configuration Definitions and Instances Are Displayed

The Configuration window in SAS Environment Manager contains two views: **All services** and **Definitions**.

The **All services** view lists all SAS Viya platform services that are currently deployed and those that an administrator has not manually stopped. A SAS Viya platform service can be affected by one or more configuration instances. Most services have a one-to-one relationship with a configuration instance. However, some services are associated with more than one configuration instance. It is important to note that some services do not have any configuration instances, but you can specify configuration properties for any of these services.

The **Definitions** view lists all the SAS Viya platform configuration definitions.

SAS Viya Platform Microservices

For SAS Viya platform microservices, property changes are made in SAS Environment Manager and stored in SAS Configuration Server. For services written in Java, changes trigger a refresh, and the new property values are applied to the service. In most situations, no restart of the service is required. A restart is required for services written in Go. The restart occurs automatically after configuration changes are applied.

For a list of Java services, use this command:

```
kubectl -n namespace get deployments --selector='sas.com/deployment-base=spring'
```

For a list of Go services, use this command:

```
kubectl -n namespace get deployments --selector='sas.com/deployment-base=golang'
```

Server Configuration Instances

The configuration for SAS Viya platform compute, SAS/CONNECT, SAS batch, and CAS servers is specified in configuration instances. These configuration instances contain configuration options or SAS code that is executed when the associated service starts.

You can modify these server configuration instances:

- sas.compute.server: autoexec_code
- sas.compute.server: configuration_options
- sas.compute.server: restricted_options
- sas.compute.server: startup_commands
- sas.connect.spawner: startup_commands
- sas.connect.server: autoexec_code
- sas.connect.server: configuration_options
- sas.connect.server: restricted_options
- sas.connect.server: startup_commands
- sas.cas.instance.config: config
- sas.cas.instance.config: delete

- `sas.cas.instance.config: logconfig`
- `sas.cas.instance.config: sessionlogconfig`
- `sas.cas.instance.config: settings`
- `sas.cas.instance.config: startup`
- `sas.batch.server: configuration_options`
- `sas.batch.server: restricted_options`
- `sas.batch.server: autoexec_code`
- `sas.batch.server: startup_commands`

See [“Edit Configuration Instances”](#) in *SAS Environment Manager: User’s Guide* for information.

Configuration Management Using the Command-Line Interface (CLI)

See [“How to \(CLI\)”](#) on page 5 for information about using the CLI to manage configuration information.

Although the `sas-viya configuration` command provides subcommands to enable you to view several types of configuration information, most of the information is not used when administering your SAS Viya platform. The command enables you to work with these types of configuration information:

definition

It is a schema that describes the configuration for a service. Here is the definition for the search index service:

```

Id          : e20293da-2f8f-4bf9-891e-bf78c1600d68
Name        : sas.search
Label       :
Description : The set of configuration properties for search index service.
DefinitionVersion : 1
Services    : [search]
AddressByName : false
AddressByTenant : false
AllowUserProperties : false
Properties   :
  casExceptionTimeInterval:
    Label       :
    Description : Interval in hours for delay in displaying detail exception trace in log.
    Type        : integer
    DefaultValue : 6
    Values      : []
    AddressByName : false
    AllowUserProperties : false
    AllowUserValue : true
    List         : false
    Required     : true

```

configuration

It is a collection of name-value pairs containing configuration properties and associated values. The values in a configuration are the only information that you should use the CLI to modify. This is

equivalent to an instance in SAS Environment Manager. Here is the configuration for the search index service:

```
id : 118f325e-3613-48e0-a7eb-3e5c96f886cd
metadata.isDefault : true
metadata.mediaType : application/vnd.sas.configuration.config.sas.searchindex+json;version=2
metadata.services : [searchIndex]
casExceptionTimeInterval : 6
casRecordPushSize : 5000
indexingDelay : 15
newTypeIndexingExceptionInterval : 12
newTypeIndexingInterval : 20
notificationCasExceptionInterval : 12
pushInterval : 5
pushLimit : 3000
scheduledEnabled : true
```

fact

It is a set that consists of a service, name, and value, which is used to describe a static aspect of the service. Here is the fact for info.service.description for the search index service:

```
Id : daae6fa1-9b96-4502-98ee-5d1664355dba
Service : searchIndex
Name : info.service.description
Value : Creates an index of SAS content that is tagged as indexable, to enable access by the Search service.
```

How to (CLI)

List and View Configuration Instances

Note:

SAS does not support the use of the configuration plug-in to the sas-viya command-line interface (CLI) to apply configurations from one environment to another.

The following examples assume that you have already signed in to SAS Viya platform on the command line. See [“Command-Line Interface: Preliminary Instructions” in SAS Viya Platform: Using the Command-Line Interface](#).

Use this command to list all configuration instances.

```
sas-viya configuration configurations list
```

The command returns the ID, name, and number of instances of the definition.

Here is an example of the information returned by the command:

```
351b923c-1918-4dfc-97ef-f466a7de391d sas.cache.config
b3faf863-d857-47fe-bef4-bcffd33313ac sas.cache.locator
1273aa11-a073-46ae-93ea-8b3cfc8835f7 sas.cache.server
953314b1-885f-4e86-bb38-98c48ba344f2 sas.casmanagement
```

4598c8c1-3ecb-481b-b39c-8a34ad63efe2	<code>sas.casmanagement.global</code>
4b4f5f4e-9e95-4ba0-bf85-3ea2c8831762	<code>sas.casproxy</code>
29c446d7-aa4d-4dd2-aa1d-658c2d3368f9	<code>sas.common.web.security.cors</code>
72bc3acb-4e5e-4bc0-88cd-21e23961e31b	<code>sas.common.web.security.cors</code>
d7261e80-7fe6-41fa-868c-072860d57c5e	<code>sas.compute</code>
d6107cc5-a08d-43f4-bad2-86dbbba128ac	<code>sas.crossdomainproxy</code>
8c72d8a7-30a8-44b8-8500-3e0da0e664bf	<code>sas.datadiscovery</code>
7a5642da-07a5-46ba-a325-d7546c12f467	<code>sas.dataexplorer</code>
073d0456-8d69-4b09-864e-90ca9c8b4df3	<code>sas.datamanagement</code>

Use the configuration ID to run a command to show the contents of a specified configuration instance. This example shows the configuration for the `sas.cache.server`. It uses the ID from the list that was displayed in the previous example.

```
sas-viya configuration configurations show --id 71273aa11-a073-46ae-93ea-8b3cfc8835f7
```

Here are the command results:.

```
id                : 1273aa11-a073-46ae-93ea-8b3cfc8835f7
metadata.isDefault : true
metadata.mediaType  : application/vnd.sas.configuration.config.sas.cache.server+json;version=2
metadata.services   : [cacheserver]
autoStartup         : true
host                : localhost
maxTimeBetweenPings : 15000
port                : 14443
```

Download Configurations

If you want to make changes to the configuration properties for a service, you must first download the configuration.

Download the configuration for the `sas.reportdistribution` service to the `/usr/defs/reportdistribution.json` file:

```
sas-viya configuration configurations download --service-name sas.reportdistribution
--target /usr/defs/reportdistribution.json
```

Apply Configuration Update

After you have modified the configuration properties in a configuration file, you can upload the file to apply the configuration to the service.

Upload the configuration for a service from the `/usr/defs/reportdistribution.json` file:

```
sas-viya configuration configurations update --file /usr/defs/reportdistribution.json
```

The `sas-configuration-cli` provides a command to update configurations, but not to update a definition.

A configuration is an instance of a definition with the values filled in. In this case, you just want to change the values in the configuration.

The definition identifies values that make up the configuration. In some cases, the definition contains allowable values to select from. Typically, a user does not need to change or create definitions. But users might want to change the values in a configuration.

Create a Server Configuration

Use the following sample JSON file to create a new server configuration with the properties required to set the time-out value for a SAS web application.

Specify the name of the JSON file on the `--file` option in the command below the code sample.

```
{
  "version": 2,
  "accept": "application/vnd.sas.configuration.config+json",
  "name": "configurations",
  "items": [
    {
      "metadata": {
        "isDefault": false,
        "mediaType": "application/vnd.sas.configuration.config.server+json;version=1"
      },
      "version": 1,
      "servlet.session.timeout": "60m",
      "http.session.maxAge": "3600"
    }
  ]
}
```

Use this command to create the new server configuration to change the time-out for SAS web applications:

```
./sas-viya --output json configuration configurations create --file path_to_JSON_file/
filename.json
```

Configuration Properties: Troubleshooting

Service fails to start

Explanation:

A service might fail to start for many reasons. One error that can cause start failure is if you recently modified a configuration instance on which the service depends, and either the property name is misspelled or its value is incorrect.

Resolution:

Check any recently modified configuration instances, looking for a property misspelling or incorrect value. To do this, from the Configuration window in SAS Environment Manager, choose **Definitions**. Select the name of the configuration definition that you modified and look for any problems.

