

**Paper SAS0575-2017**  
**Frequently Asked Questions about**  
**SAS® Environment Manager on SAS® 9.4**

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## **ABSTRACT**

SAS® Environment Manager is the predominant tool for managing your SAS® environment. Its popularity is increasing quickly as evidenced by the increased technical support requests from our customers. This paper identifies the most frequently asked questions from customers by reviewing the support work completed by the development and technical support teams over the last few years. The questions range across topics such as web interface usage; alerts, controls, and resource discovery; Agent issues; and security issues. Questions discussed in the paper include: What resources need to be configured after we install SAS Environment Manager? What Control Actions are available, what is their purpose, and when do I use them? Why does SAS Environment Manager show all resources as (!) (Down)? What is the best way to enable an alert for a resource? How do I configure HTTPs? Can we configure the Agents with certificates other than the default? What is the combination of roles needed to see the Resources Tab? This paper presents detailed answers to the questions and also points out where you can find more information. We believe that by understanding these answers, SAS® administrators will be more knowledgeable about SAS Environment Manager, and can better implement and manage their SAS environment.

## **INTRODUCTION**

SAS Environment Manager, with its rich set of functions, is the predominant tool used to manage your SAS environment. Its popularity is increasing quickly in recent years, as more customers come on board with SAS 9.4. This popularity is evidenced by the increased technical support requests from our customers. In this paper, we identify the most common and frequently asked questions from our customers through reviewing the support questions answered by the development and the technical support teams over the last few years. These questions range across topics such as SAS Environment Manager web interface usage, server functions such as alerts, controls, resource discovery, Agent issues; and security issues such as user management and SSL configuration. The specific questions include:

- What resources need to be configured after installing SAS Environment Manager?
- What Control Actions are available in SAS Environment Manager, what are their purpose, and when and how can you use them?
- Why does SAS Environment Manager show all resources as (!) (down)?
- What is the best way to enable an alert for a resource?
- Why can the SAS Environment Manager agents not connect to the SAS Environment Manager Server?
- Why does the SAS Environment Manager agent not successfully collect metrics or discover resources?
- How are HTTPs configured for the SAS Environment Manager web console?
- Can you configure Environment Manager Agents with certificates other than the default self-signed?
- What is the different combination of roles needed to see the Resources Tab?

The paper will present detailed answers for these questions and also point out where you can find more information. We believe that by understanding the answers to these questions from first-hand customer

support teams, you, as a SAS administrator, can have much better knowledge about SAS Environment Manager and can implement and manage your SAS environment with more confidence.

## RESOURCES NEED TO BE CONFIGURED AFTER INSTALLING SAS ENVIRONMENT MANAGER

After SAS Environment Management installation and configuration, most resources are configured properly and ready to be monitored and managed. However, some of the resources must be manually configured. Other resources might need to be manually configured only if you make certain changes during the installation and configuration. These manual configuration steps must take place before the resources can be monitored and managed by SAS Environment Manager.

PostgreSQL is one of the resources that must be manually configured. After the installation, you will need to navigate to PostgreSQL inventory page and specify values for the parameters postgresql.host, postgresql.port, postgresql.user, postgresql.pass, and postgresql.pgdata. You also need to specify a value for the parameter service\_name on Windows and specify a value for the parameter postgresql.program on UNIX and Linux.

SAS Messaging Engine is another resource that requires a change. Beginning with the third maintenance release of SAS 9.4, '11099' was set as the default JMX listen port for the ActiveMQ instance. This port is set using the property 'wrapper.java.additional.14=-Dcom.sun.management.jmxremote.port=11099' in the wrapper.conf file. However, the ActiveMQ plugin in the SAS Environment Manager still uses '1099' as the JMX listen port, so you must change the JMX port from '1099' to '11099' in the resource's Inventory page.

If you change the settings for the JMX port of SAS Web Application Server (tc Server) or set SAS Messaging Engine (ActiveMQ) to require JMX authentication, then you need to configure them manually after the installation and configuration.

By default, the SAS Web Application Server is configured using '6969' as the JMX listen port. This setting is defined in the property file '\$SASConfig/Lev1/Web/WebAppServer/SASServer1\_1/conf/catalina.properties' using the property 'base.jmx.port'. If this JMX listen port is changed, you must configure the JMX URL in the Inventory page for the SAS Web Application Server (tc Server), as shown in Figure 1.

The screenshot displays the 'Inventory Page for tcServer' in the SAS Environment Manager. The page is titled 'RDCEX07081 to Runtime SASServer1\_1'. It contains several sections for configuration:

- Configuration Properties:** Includes fields for 'jmx.url' (highlighted with a red box, containing 'sa.sas.com:6969/jmxrmi'), 'jmx.username' (admin), 'jmx.password' (\*\*\*\*\*), 'catalina.base' (C:\SAS\Config\Lev1\Web), 'process.username' (SYSTEM), and 'listen.ports' (2279,6969,53130,8080,5).
- Monitoring:** Includes checkboxes for 'server.log\_track.enable' and 'server.config\_track.enable', and text boxes for 'server.log\_track.level', 'server.log\_track.include', 'server.log\_track.exclude', and 'server.config\_track.files'.
- Control:** Includes text boxes for 'start.args' (start), 'stop.args' (stop), 'program' (C:\Program Files\SAS\), and 'timeout' (60).

At the bottom, there are 'OK', 'Reset', and 'Cancel' buttons.

Figure 1 - Inventory Page for tcServer

By default, the ActiveMQ servers are all configured without the JMX authentication, through the property 'wrapper.java.additional.15=-Dcom.sun.management.jmxremote.authenticate=false'. If you change the value of property '-Dcom.sun.management.jmxremote.authenticate' from 'false' to 'true', then you must provide the JMX credentials in the Inventory page for the ActiveMQ server, as shown in Figure 2.

**Figure 2 - Inventory Page for ActiveMQ Server**

SAS Cache Locator (GemFire) is not discovered automatically by SAS Environment Manager. You must perform manual steps if you want to monitor this resource . Consult SAS Technical Support for additional details.

## CONTROL ACTIONS - THEIR PURPOSE AND WHEN AND HOW TO USE THEM

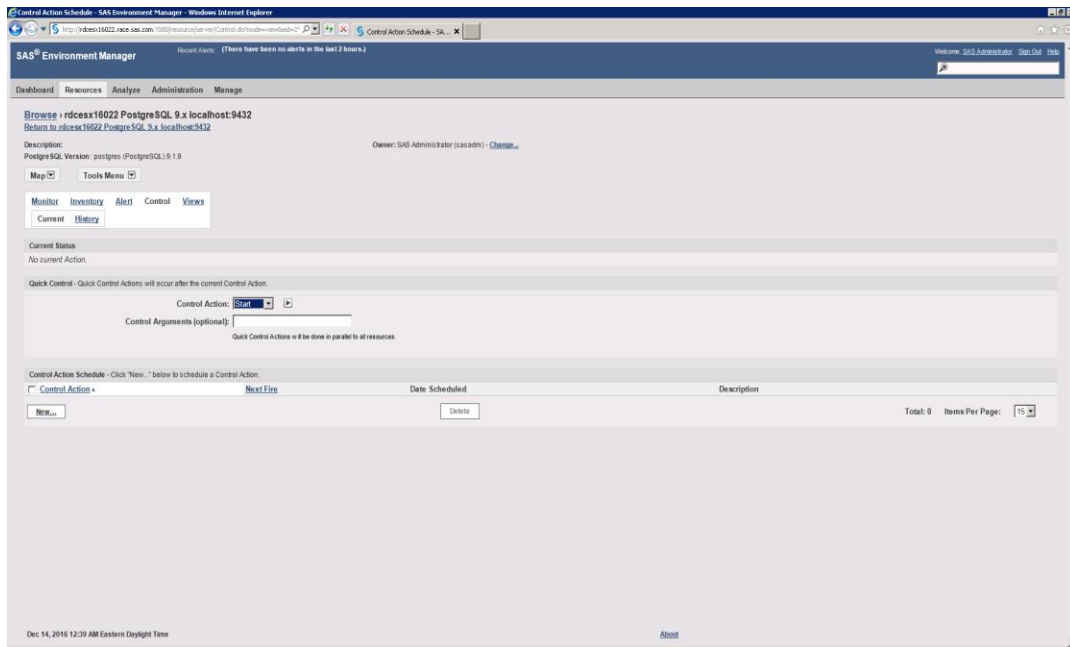
A control action is an action that applies to either an individual resource (usually a server type) or to a compatible group of resources.

SAS Environment Manager includes the control action functionality for a variety of resource types, generally servers and services. The functionality is implemented in the resource plugin that manages a resource type. Control actions might be different for different server types. For example, for the server PostgreSQL 9.x, there are four control actions for every database: “Analyze”, “Vacuum”, “VacuumAnalyze”, and “Reindex.” However, for most resources, three control actions are available: “Start”, “Stop”, and “Restart”. These resources include: Apache Tomcat 6.0; Pivotal Web Server 5.4 WebServer; PostgreSQL 9.x localhost:9432; tc Runtime SASServer1\_1.

If you are an authorized user, you can use SAS Environment Manager to invoke a control action, schedule an action for a future time, or schedule an action for periodic execution. You can initiate a control action as the result of an alert firing. You can also monitor the status and history of control actions. Here are two specific ways of running control actions.

**Run an on-demand control action** Go to the “Control” page by following the following steps:

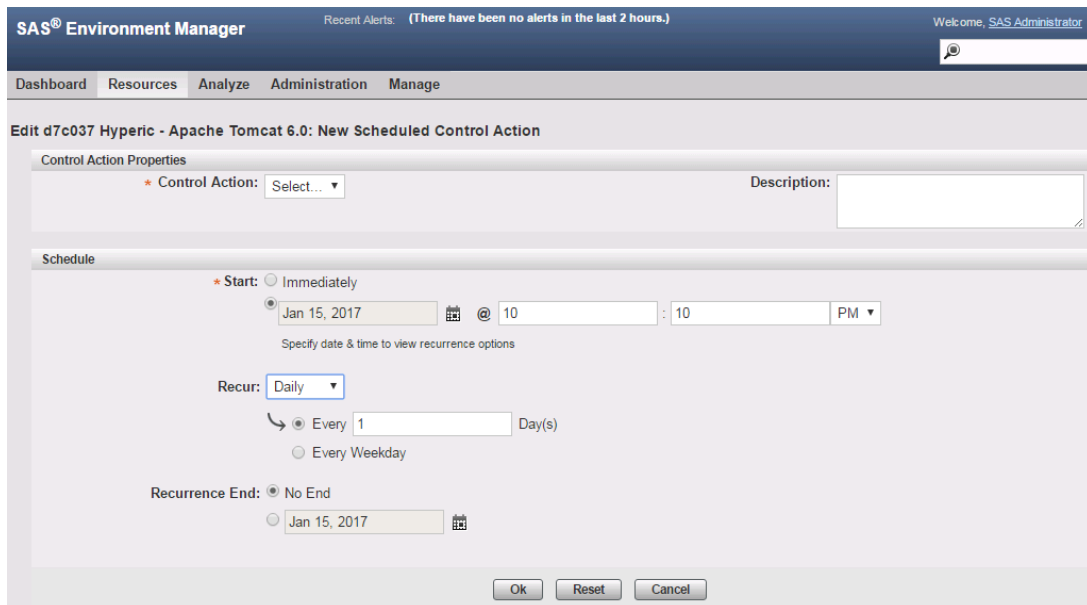
1. Select Resources -> Browse -> <Host Name> <Server Name> -> Control.
2. In the Quick Control section, choose a control action from the drop-down box. Choices are “start”, “stop”, or “restart”.
3. Click on the arrow icon to the right to the drop-down box to run the selected control action. See Figure 3.



**Figure 3 - Control Page**

### Schedule a control action

1. Use the steps in the previous procedure to go to the Control window.
2. Instead of selecting a “Control” action to run, click “New” under “Control Action Schedule”.
3. You can schedule the time to run the control action and how often to run the control action. See Figure 4.



**Figure 4 - Scheduling a Control Action**

## WHY DOES SAS ENVIRONMENT MANAGER SHOW ALL RESOURCES AS (!) (DOWN)?

If all resources are stopped, you should correctly see all resources as down in SAS Environment Manager. However, there are cases that the resources might actually be up, but they are shown as down.

SAS Environment Manager uses the server-agent mode for monitoring resources. There is one server and one or many agents. All the resource metrics are first collected by the agents and then sent from the agents to the server. In addition, every resource has an availability metric. If the availability metric is true, the resource is shown as running or up; if the availability metric is false, the resource is shown as stopped or down. The availability metric has a Boolean value similar as many other metrics. However, there is a difference. If we assume that the availability metric was true at some point and the server has not received any new availability metric data for a period of time, the resource will be shown as down even though the resource might be actually up.

Keep in mind that all the metrics are sent from the agents to the server. Further, each platform has only one agent, so, all metric data on that platform will be sent by this one agent. If all resources associated with this same agent are shown as down in the server, then it is likely that the server cannot receive data from the agent, rather than the resources actually being down.

There are various reasons why the server cannot get data from the agent. You would need to check these areas:

- The server
- The network between server and agent
- The agent platform
- The agent process.

In most cases, you need to check the log files to get details for further diagnosis. You can also delete the agent cache directory and restart the agent. The cache data file folder is typically located in the directory `<SAS_Config>/Lev1/Web/SASEnvironmentManager/agent-5.8.0-EE/data`

Because SAS Environment Manager treats the availability like a normal metric, it's possible that the resource is shown as down, but the other associated metrics are all valid. Hence, you might still be able to view other metrics for a Down resource.

## WHAT IS THE BEST WAY TO ENABLE AN ALERT FOR A RESOURCE?

The best way to define and enable an alert is through the SAS Environment Manager web interface. Follow the following steps to define a new alert:

1. Under the Resources tab, navigate to or search a resource by resource name or type.
2. Go to the Detail page by clicking the resource name.
3. Go to the Alert List page by clicking the 'Alert' button.
4. Go to the Alert Definition List page by clicking the 'Configure' button.
5. Go to the New Alert Definition page by clicking the 'New...' button.
6. Enter all information and click the 'OK' button to create a new alert definition

Follow the following steps to enable an inactive alert definition:

1. Go to the Alert Center page by clicking the 'Alert Center' button from the 'Analyze' drop-down menu.
2. Go to the Alert Definition List page by clicking the 'Definition' button.
3. Find the specified alert definition and click its name to go into the detail page.
4. Edit the alert definition to activate the alert definition.

## THE AGENT CANNOT CONNECT TO THE SERVER

Typically, this problem is due to the incorrect setup of the environment, which results in the SAS Environment Manager agent failing to start up or failing to connect to the Environment Manager server. It is rarely caused by the application errors. Five of the common specific causes are listed below.

**Permission issue** The SAS Environment Manager agent registers and connects to the server by using the SAS Environment Manager Service Account user account. If you have not assigned proper roles in SAS Environment Manager, the agent will fail to start up and connect to the Server. If this happens, a “Permission denied” error message will be displayed in the agent start up console or in the Agent log file. See Figure 5 for an example.

```
sgm001.unx.sas.com> bin/hq-agent.sh start
Starting HQ Agent..... running (13134).
[ Running agent setup ]
Should Agent communications to HQ be unidirectional [default=no]: yes
What is the HQ server IP address: sgm003.unx.sas.com
Should Agent communications to HQ always be secure [default=yes]: no
What is the HQ server port [default=7080]: 7080
- Testing insecure connection ... Success
What is the HQ server SSL port for unidirectional communications [default=7443]: 7443
- Testing secure connection ... Success
What is your HQ login [default=hqadmin]: sasevs@saspw
What is your HQ password: **Not echoing value**
What is the agent IP address [default=10.12.10.161]: sgm001.unx.sas.com
- Received temporary auth token from agent
- Registering agent with HQ
- Unable to register agent: Permission denied
```

**Figure 5 - Agent Start Up Error**

The SAS Environment Manager Service Account (sasevs@saspw) user account should be assigned the Super User Role in SAS Environment Manager by default. If the account is not assigned to the proper role (for example, it's assigned to only the Guest Role), then the SAS Environment Manager server will not accept the agent's connection request and it will report the permission exception.

You can check the user role in SAS Environment Manager or examine the logs to confirm the reason. If the user is not assigned to the Super User Role, you can assign the proper role to the user by using the SAS Environment Manager web interface.

**Incorrect machine host and port setup** The agent and the server IP addresses and the ports must be configured correctly. Especially in a multiple server-multiple machine environment, the IP addresses and ports for both SAS Environment Manager server and the agents should always be available on the network. Figure 6 is an example agent configuration properties file, which is typically located at <SAS\_Config>/Lev1/Web/SASEnvironmentManager/agent-5.8.0-EE/conf/agent.properties.

```
agent.listenPort=2144

# Use the following if you'd like to have the agent setup
# automatically from these properties. The values for these
# properties are used to answer the setup questions
#
# If any of these properties are left undefined, the setup
# process will prompt for their values
#
# If the value that should be used is the default when interactive
# setup is done, use the string *default* as the value for the option

agent.setup.camIP=rdcesx16043.race.sas.com
agent.setup.camPort=7080
agent.setup.camSSLPort=7443
agent.setup.camSecure=no
agent.setup.camLogin=sasevs@saspw
agent.setup.camPword=ENC (RW5QgQU7bJgCEXtGxgcK16UBGgqzEGe)
agent.setup.agentIP=rdcesx16043.race.sas.com
agent.setup.agentPort=2144
agent.setup.resetupTokens=no
agent.setup.acceptUnverifiedCertificate=yes

#
# enables unidirectional communications between HQ Agent
# and HQ Server in HQ Enterprise Edition
#
agent.setup.unidirectional=yes
```

**Figure 6 – Agent Configuration Properties File**

If the SAS Environment Manager agent or server listening ports are changed, the properties should also be changed accordingly.

**Cache data expired or not valid anymore** The agent will create a data cache file when it starts up and connects to the server. Afterward, it will use the content in the file for the future communication to the server. There are cases where the agent has been changed (for example, during an upgrade in place or an agent upgrade), but the cache data file did not get updated accordingly. This mismatch can cause a connection failure between the agent and the server.

A common solution to fix this problem is to clear the cache data folder and then restart the agent. The cache data file folder is typically located at `<SAS_Config>/Lev1/Web/SASEnvironmentManager/agent-5.8.0-EE/data`

This is also the first recommendation to resolve any connection failure issues between the agent and the server.

**JAR version mismatch** When the agent starts up, it needs to interact with the native code implemented by the open-source third party JAR files. If the system environment changes, such as through a patch being applied, but the corresponding JAR files are not updated, the agent might fail to connect to the server.

For example, one customer ran into the connection issue after applying a new security patch. We found out there was a problem with the version of the sigar.jar file that was used. After upgrading the JAR file to the newer version, the problem was resolved.

**Upgrade non-SSL to SSL environment** If you change from a non-SSL to an SSL implementation, then the existing connection data for the agent will not work anymore. In this case, you should delete the SAS Environment Manager agent data file and restart the agent to generate the new SSL connection data for the agent and server communication.

**Decryption error** Several agent properties are encrypted after the first successful start up. The key that is used to encrypt the values is saved in the file `<SAS_Config>/LevX/Web/SASEnvironmentManager/agent-5.0.0-EE/conf/agent.scu`. The next time an agent starts, it attempts to use this file to decrypt those encrypted properties. However, the error “org.jasypt.exceptions.EncryptionOperationNotPossibleException” will be returned if the process failed to decrypt the values. This seems to be an agent start up error, rather than an error with the connection to the Server. However, you might see the following errors at the console: “Error contacting agent: error sending argument: unable to connect to 127.0.0.1:2144: connection refused, retried 5 times, cmd=agent:ping”. The error includes the word “connection”, so we are including it with other connection errors. To fix the problem, use the following workaround:

1. Stop your SAS Environment Manager agent.
2. Delete or rename the data directory `<SAS_Config>\LevX\Web\SASEnvironmentManager\agent-5.0.0-EE`.
3. Delete or rename the agent.scu file in the `<SAS_Config>\LevX\Web\SASEnvironmentManager\agent-5.0.0-EE\conf` directory.
4. Modify the encrypted property to a plain text value. The following two files contain the encrypted properties, which should be formatted to ENC(XXXXXXXXXX).
  - `<SAS_Config>/Lev2/Web/SASEnvironmentManager/agent-5.0.0-EE/conf/agent.properties` file; set the agent.setup.camPword property to a plain password text value.
  - `<SAS_Config>/Lev2/Web/SASEnvironmentManager/agent-5.0.0-EE/conf/auto-approve.properties` file; all values inside auto-approve.properties file should be changed to true.
5. Execute the following command: `<SAS_Config>\Lev1\Web\SASEnvironmentManager\agent-5.0.0-EE\bin\hq-`

```
agent.bat/sh restart
```

## AGENT DOES NOT SUCCESSFULLY COLLECT METRICS OR DISCOVER RESOURCES

There are many reasons that the agent does not successfully collect metrics or discover resources. These are the four common causes.

**Server configuration issue** Every resource has its own specific configuration properties. To collect metrics, the values for these properties must be filled out correctly. Go to the following locations in SAS Environment Manager to find the configuration properties and make edits as needed.

- Resources -> browse-> <Host Name> <Server Name> -> Inventory -> Configuration Properties
- Resources -> browse -> <Host Name> <Server Name> -> <Service Name> -> Inventory -> Configuration Properties

**Metric enablement** Not every metric is defined to be collected by default. If you can't find a metric, go to one of the following locations to check whether it's being collected:

- Resources -> browse -> <Host Name> <Server Name> -> Monitor
- Resources -> browse -> <Host Name> <Server Name> -> <Service Name> -> Monitor

Click the arrow button to the right of the label “Show All Metrics. See Figure 7.

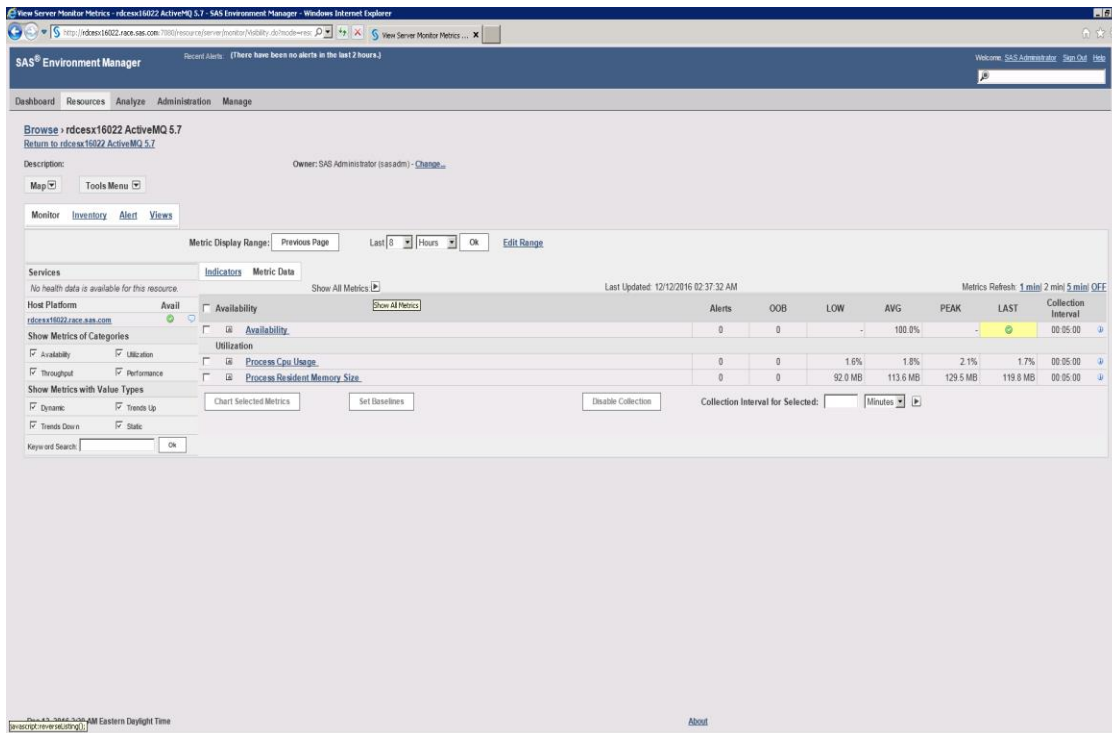


Figure 7 - Show All Metrics

Then select the metrics you want and fill out the box for “Collection Interval for Selected” at the bottom. See Figure 8. Click the arrow icon to save the changes.



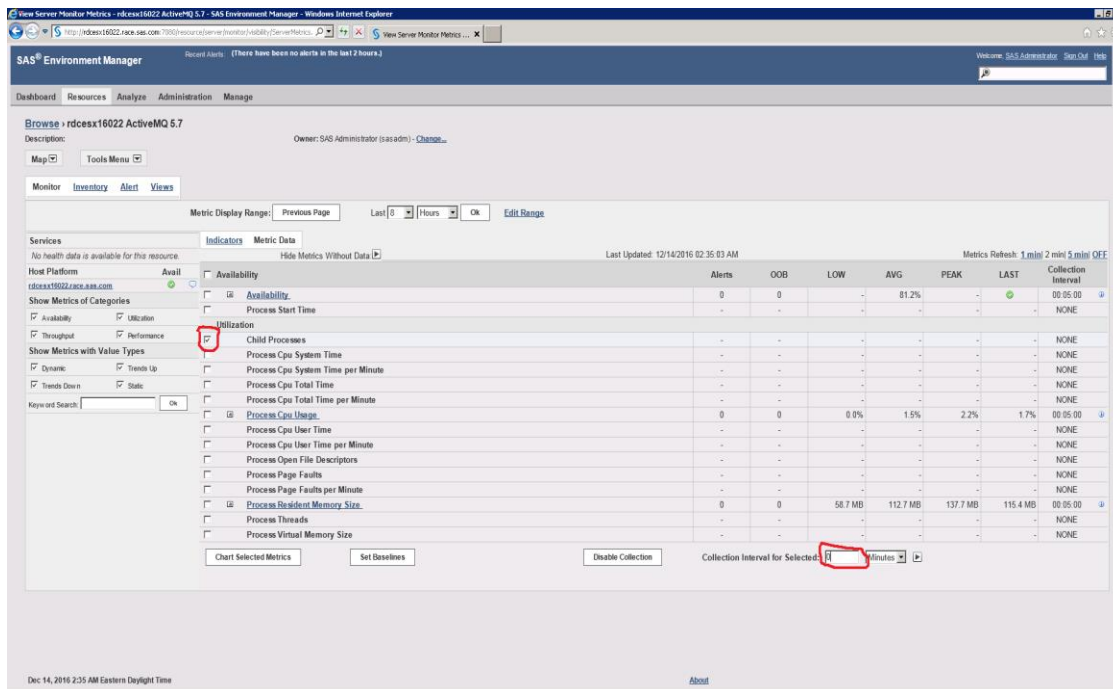


Figure 8 - Metric Collection Interval

**Upgrade in place (UIP) issue** UIP or hotfix processes might upgrade the versions of SAS Environment Manager plugins. However, after the UIP completes or the hotfix is applied, the data for the old plugins might not be removed from the system. This might prevent the discovery of the new versions of the resources. A manual rediscovery is needed to discover the resources, and the manual changes to the configuration properties might be needed in order to discover all the sub-resources and metrics. For example, the following figures show how to do a rediscovery of ActiveMQ 5.12 after the ActiveMQ server is upgraded from 5.7 to 5.12.

1. Log on to SAS Environment Manager, navigate to the Resources -> Servers page and delete the ActiveMQ5.7 server. See Figure 9.



Figure 9 - Delete the ActiveMQ Server Resource

2. Click Platforms-> “Rdcesx\*\*\*\*”. See Figure 10.



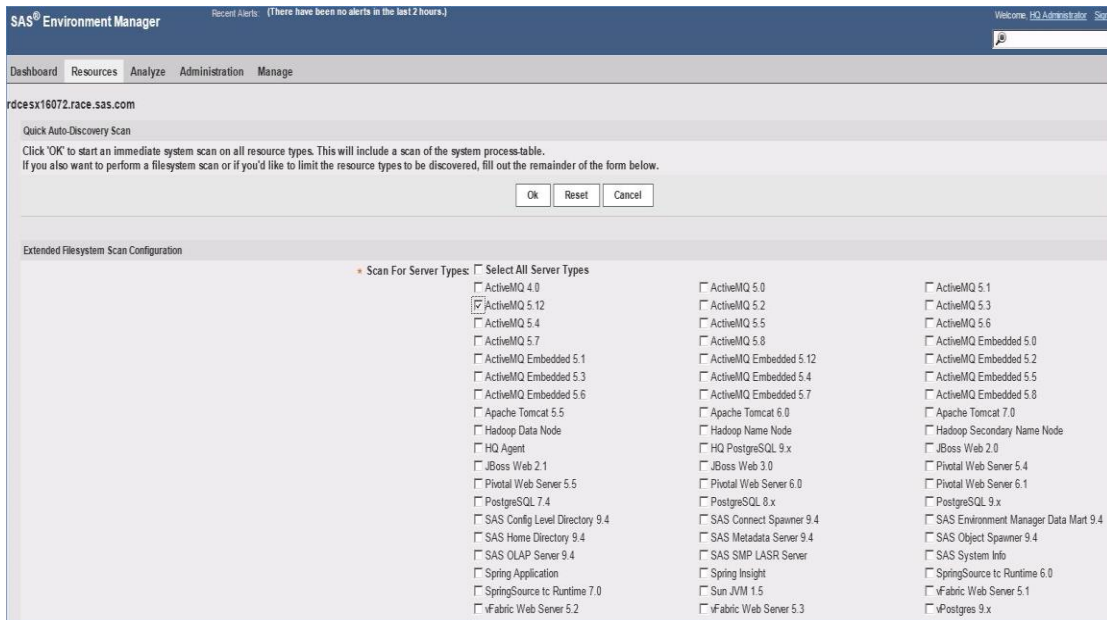
Figure 10 - Select the Platform

3. Select “New Auto-Discovery” from the “Tools Menu” drop-down list. See Figure 11.



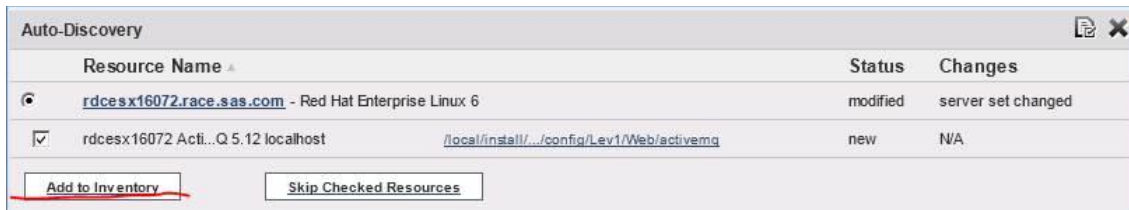
Figure 11 - New Auto-Discovery Selection

4. Select the check box for ActiveMQ 5.12 and then click “OK”. See Figure 12.



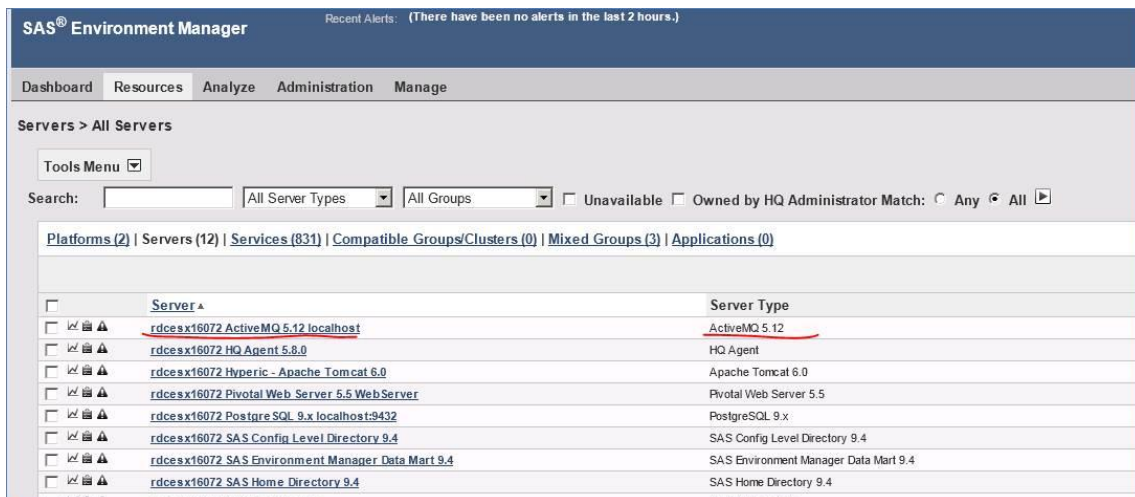
**Figure 12 - Select ActiveMQ for Auto-Discovery**

- When you open the Dashboard again, and you can see the newly displayed ActiveMQ server. Click the button “Add to Inventory” to add the server. Keep in mind that it might take a few minutes for the server to show up on the Dashboard. See Figure 13.



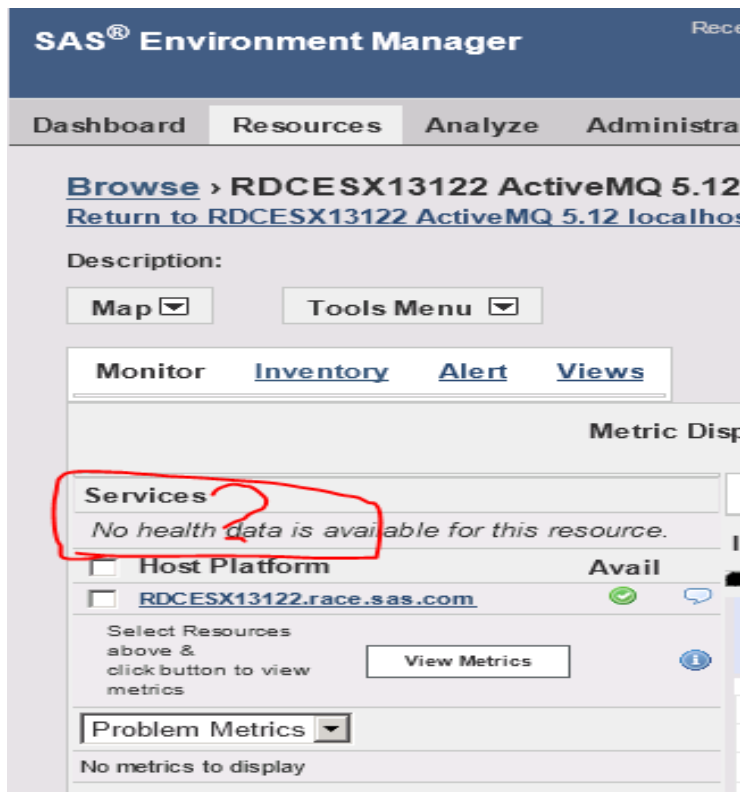
**Figure 13 - Add Server to Inventory**

- When you open the Resources -> Servers page, you should see the new server you just added. See Figure 14.



**Figure 14 - Viewing the New Server**

After you successfully rediscover the server with the new version, you might still not be able to find the services of the new server. Let us assume that you see the screen in Figure 15, which shows you could not find the services (No health data).



**Figure 15 - No Health Data Available**

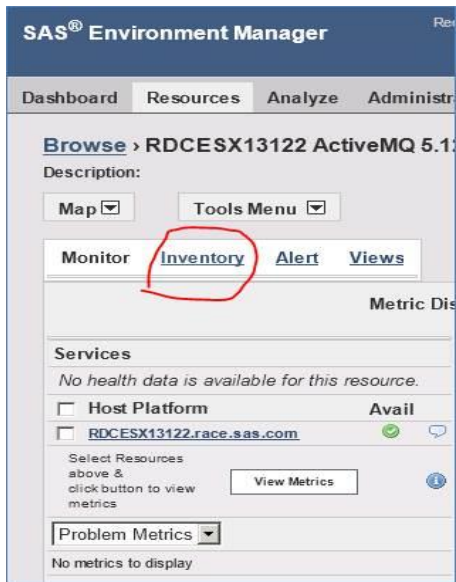
You can follow these steps to fix the problem.

1. Log on to SAS Environment Manager and navigate to Resources -> Servers. Click the ActiveMQ server such as "RDCESX\*\*\*ActiveMQ 5.12 localhost". See Figure 16.



**Figure 16 - Select Server**

2. Click the Inventory tab (Figure 17).



**Figure 17 - Select the Inventory Tab**

3. At the bottom of the Inventory page, click the Edit button. See Figure 18.

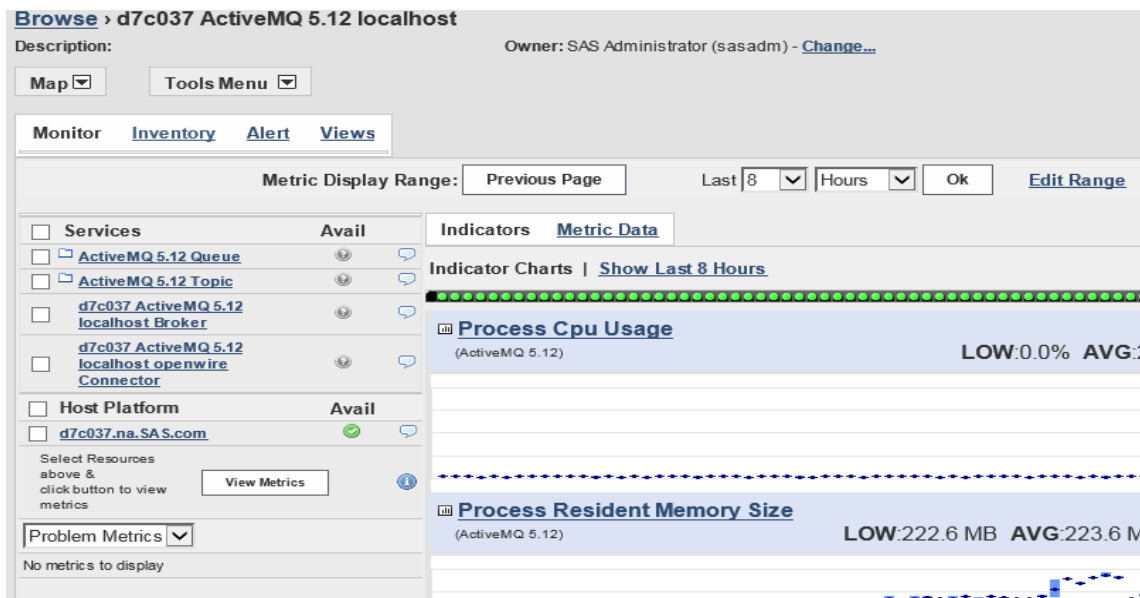


**Figure 18 - Select Edit**

4. Check the “-Dcom.sun.management.jmxremote.authenticate” property that can be found in wrapper.conf in the directory C:\SAS\Config\Lev1\Web\activemq\bin\win64. If the property value is wrapper.java.additional.15=-Dcom.sun.management.jmxremote.authenticate=true, then specify values for the “jmx.username” and “jmx.password” on the Configuration Properties page. See Figure 19. Otherwise, you do not have to specify these values.
5. Update the port number as needed for “jmx.url”. The port can be found in wrapper.conf in the directory C:\SAS\Config\Lev1\Web\activemq\bin\win64.  
wrapper.java.additional.14=-Dcom.sun.management.jmxremote.port=11099. See Figure 19.

**Figure 19 - Server Configuration Properties**

6. Click OK to save the properties.
7. In the Resources -> Servers page, click the server “RDCEsx\*\*\*ActiveMQ 5.12 localhost”. You should now be able to see the health data as shown in Figure 20.



**Figure 20 - Health Data Available**

**Environment issue** You might have a special hardware environment. Consider this example. A customer reports that the “Hyperic Apache Tomcat 6.0” can’t be discovered in their production environment. After much debugging, it turns out that there were two Network Interface Controllers (NICs) on the server and an unused NIC was enabled. This caused an incorrect IP address to be picked up.

**Bugs in the plugins** It is possible there are bugs in the plugins code. We have encountered this a few times. However, this is not common. We encourage you to contact SAS Technical Support if all other avenues have been exploited but you still have problems.



## HOW TO CONFIGURE HTTPS FOR SAS ENVIRONMENT MANAGER WEB CONSOLE

You should follow the recommendation in the paper “Advanced Topics in SAS® Environment Manager” to configure the HTTPS for SAS Environment Manager. (See References.) The details are described in the section “SSL configuration for SAS Environment Manager”. In summary, you can use the SAS Deployment Wizard (SDW) to configure HTTPS or SSL support automatically. When using SDW, by default, both HTTP and HTTPS are configured. You do need to pay attention to what certificates to use, as described in the paper.

Another question related to HTTPS configuration is this: if I have configured SAS Environment Manager to use self-signed certificates, how can I change to use the customer Certificate Authority (CA) or site-signed certificates? Follow these steps to address this question.

1. Prepare your certificate from CA or your company's IT group.
2. Use SAS Deployment Manager (SDM) to replace the certificates in the SAS Deployment Manager security framework keystore.
3. Use a program such as OpenSSL to transfer the CA certificate to the Java keystore format certificate and replace it in the SAS Environment Manager Server conf folder.
4. Change the callback URL in the spring security configuration file.
5. Remove the old keystore data from the SAS Environment Manager database.
6. Use SAS Management Console to change the SAS logon property.
7. Restart SAS services after you have made all changes.

For more detailed instructions, please contact SAS Technical Support.

## HOW TO CONFIGURE THE AGENTS WITH CERTIFICATES OTHER THAN THE DEFAULT SELF-SIGNED CERTIFICATES

The SAS Environment Manager agent can use certificates other than the default self-signed certificates (such as CA or site-signed certificates). Here are the options to accomplish this.

**Use SAS Deployment Wizard (SDW)** When running SDW to configure the SAS Environment Manager agent, you will see the screen in Figure 21. Make sure you check “Establish secure communication”.

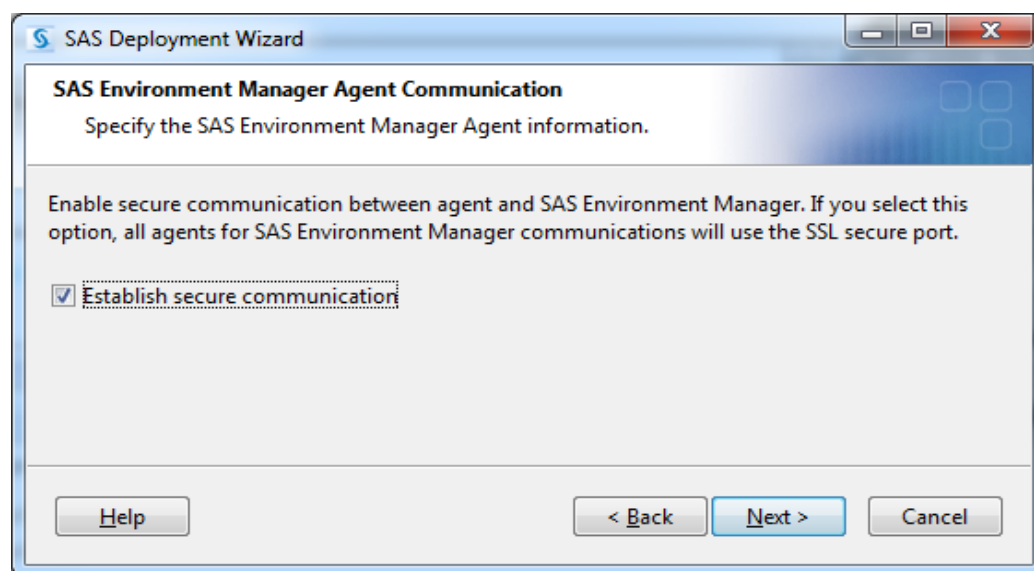


Figure 21 - Specify Agent Communication

On the next screen (Figure 22), change the drop-down selection to “Use a customer-supplied JKS format keystore”.

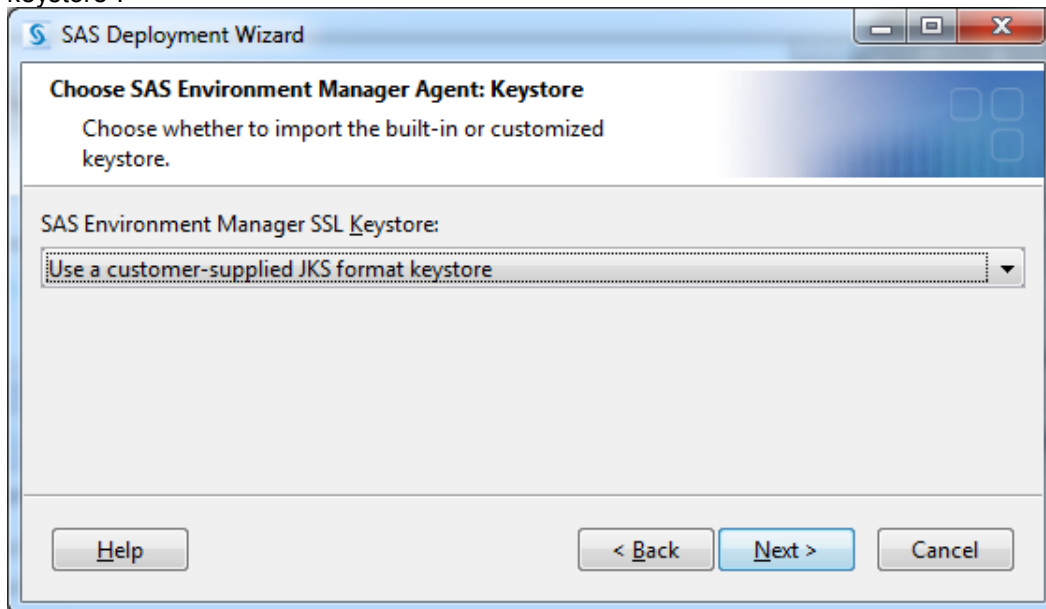


Figure 22 – Select Customer JKS Format Keystore

In the next screen (Figure 23), specify the path to your customer certificates file.

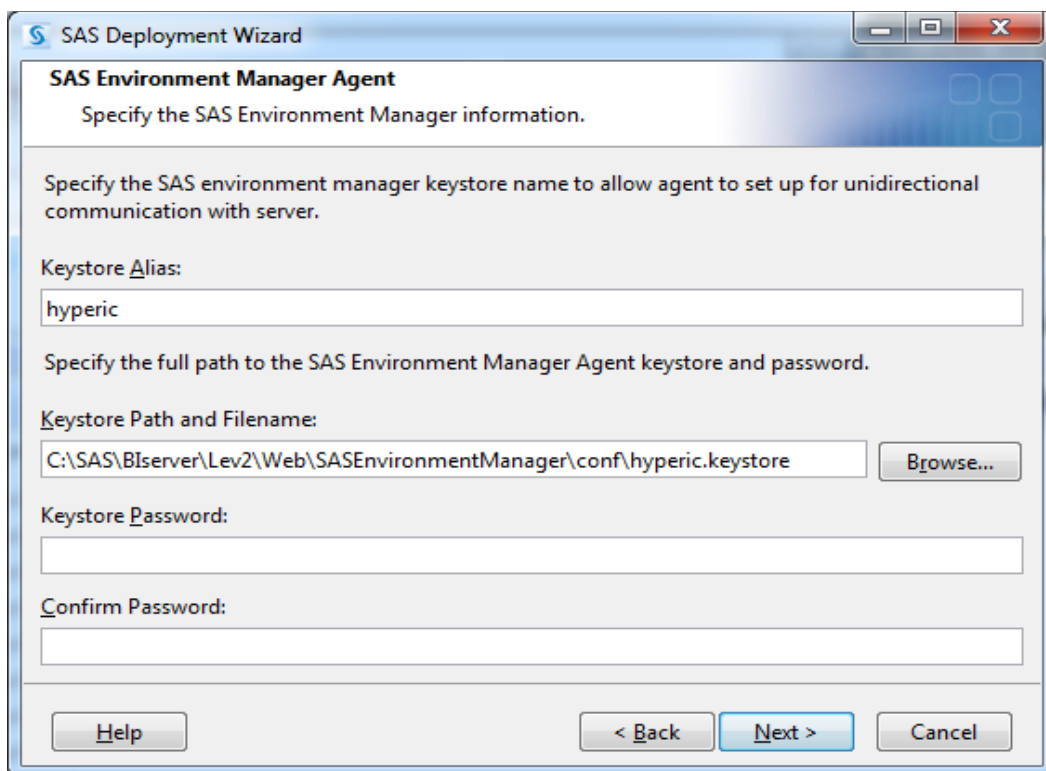
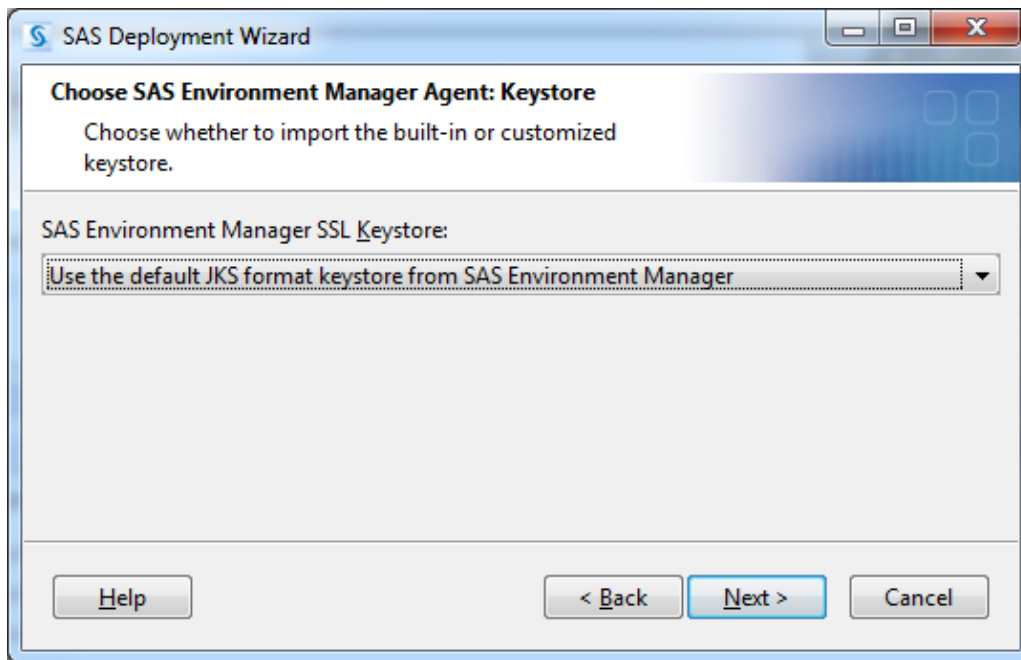


Figure 23 - Specify Path to Keystore File



**Manual update** If you choose the “Use the default JKS format keystore ...” option in the SAS Deployment Wizard (Figure 24), then by default, the self-signed certificate is used.



**Figure 24 - Select Default JKS Format Keystore**

If you select the self-signed certificate, you can use the manual process described in the previous section to change it to use the customer CA or site-signed certificates. The process in that section is for changing the certificates for the SAS Environment Manager server. After you have completed that process, you need to make the following manual changes to the agent.

1. Stop the agent
2. Delete all files in cache data directory, which is typically  
<SAS\_Config>/Lev1/Web/SASEnvironmentManager/agent-5.8.0-EE/data
3. Start the agent

This will trigger the download of the certificates from the server database to the agent.

## WHAT ARE THE COMBINATION OF ROLES NEEDED TO SEE THE RESOURCES TAB?

There are no permissions that control the visibility of the Resources tab. That also means any SAS Environment Manager user can see the Resources tab even though that user does not have any role or permissions. However, even though the user can see the Resources tab, that does not mean that the user can see resources under the tab. What resources a user can see is controlled by the roles that user has. The role definition further defines the permissions of resources and the groups of the resources assigned to the role. See Figure 25.

**New Role**

**Properties**

Name:  Owner: SAS Administrator (sasadm)

Description:

Please limit the description to 100 characters

Dashboard Name: New Role Dashboard

**Permissions**

Resource Type	Permissions	Capabilities
Users	Full	
Roles	Full	
Groups *	Full	Can Fix/Ack Alerts? <input checked="" type="checkbox"/>
Platforms	Full	Can Fix/Ack Alerts? <input checked="" type="checkbox"/> Can Control? <input checked="" type="checkbox"/>
Servers	Full	Can Fix/Ack Alerts? <input checked="" type="checkbox"/> Can Control? <input checked="" type="checkbox"/>
Services	Full	Can Fix/Ack Alerts? <input checked="" type="checkbox"/> Can Control? <input checked="" type="checkbox"/>
Applications	Full	
Escalations	Full	
Policies	Full	

\* Regardless of permissions selected, all users have the ability to create groups in the system.

Ok Reset Cancel

Assign Users & Groups to this Role after clicking "OK".

**Figure 25 – Role Permissions**

The resources that can have permissions include “Groups”, “Platforms”, “Servers”, “Services”, and “Applications”. The possible permissions are: “None”, “Read Only”, “Read/Write” and “Full”. The following two simple examples demonstrate the process of assigning permission and what a user can see based on that assignment.

In the first example, Figure 26 shows a user “ruser1”, who has a role “None Resources.” This role does not have any permissions (except Read permission for Escalations). With this role, the user “ruser1” can see the “Resources” tab, but cannot see any resources.

Name: None Resources Owner: SAS Administrator (sasadm)

Description: Administer Server Configuration: YES

Dashboard Name: None Resources Role Dashboard

**Permissions**

Resource Type	Permissions	Capabilities
Users	None	
Roles	None	
Groups *	None	Can Fix/Ack Alerts? <input type="checkbox"/>
Platforms	None	Can Fix/Ack Alerts? <input type="checkbox"/> Can Control? <input type="checkbox"/>
Servers	None	Can Fix/Ack Alerts? <input type="checkbox"/> Can Control? <input type="checkbox"/>
Services	None	Can Fix/Ack Alerts? <input type="checkbox"/> Can Control? <input type="checkbox"/>
Applications	None	
Escalations	Read Only	
Policies	None	

\* Regardless of permissions selected, all users have the ability to create groups in the system.

Edit

**Assigned Users**

Username	Display Name
<input checked="" type="checkbox"/> ruser1	Resources User1

Add to List Remove from List

**Assigned Groups**

Group	Description
-------	-------------

Add to List Remove from List

**Figure 26 - Permissions for "None Resources" Role**

In the second example, Figure 27 shows a user “ruser2”, who has a role “Groups Resources.” This role has Read permissions on Servers and Groups and Read permission for Escalations). The role has an assigned group called “agents”, which contains two server resources.

\*Name: Groups Resources

Owner: SAS /

Description:

Administer Server Configuration: YES

Dashboard Name: Groups Resources Role Dashboard

Resource Type	Permissions	Capabilities
Users	None	
Roles	None	
Groups *	Read Only	Can Fix/Ack Alerts? <input type="checkbox"/>
Platforms	None	Can Fix/Ack Alerts? <input type="checkbox"/> Can Control? <input type="checkbox"/>
Servers	Read Only	Can Fix/Ack Alerts? <input checked="" type="checkbox"/> Can Control? <input checked="" type="checkbox"/>
Services	None	Can Fix/Ack Alerts? <input type="checkbox"/> Can Control? <input type="checkbox"/>
Applications	None	
Escalations	Read Only	
Policies	None	

\* Regardless of permissions selected, all users have the ability to create groups in the system.

Edit

Assigned Users

Username ^	Display Name
<input type="checkbox"/> ruser2	Resources User2

Add to List

Remove from List

Assigned Groups

Group ^	Description
<input type="checkbox"/> agents	

**Figure 27 – Permissions for “Groups Resources” Role**

With this role, the user “ruser2” can see the “Resources” tab and can also see two server resources in the group “agents”. See Figures 28 and 29.

SAS® Environment Manager

Recent Alerts: (There have been no alerts in the last 2 hours.)

Welcome, Resources User2

Dashboard

Resources

Analyze

Administration

Manage

Servers > All Servers

Tools Menu

Search:

All Server Types

All Groups

Unavailable

Owned by Resources User2 Match: ☐

Platforms (0)

Servers (2)

Services (0)

Compatible Groups/Clusters (0)

Mixed Groups (1)

Applications (0)

Show

Server ^	Server Type	Description
<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> d7c037 HQ Agent 5.8.0	HQ Agent	Hyperic HQ monitor Agent
<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> d7c037 SAS Deployment Agent 1.0	SAS Deployment Agent 1.0	SAS Deployment Agent 1.0

Group

Delete

Total: 2

Items Per Page:

**Figure 28 - Servers Visible to User "ruser2"**

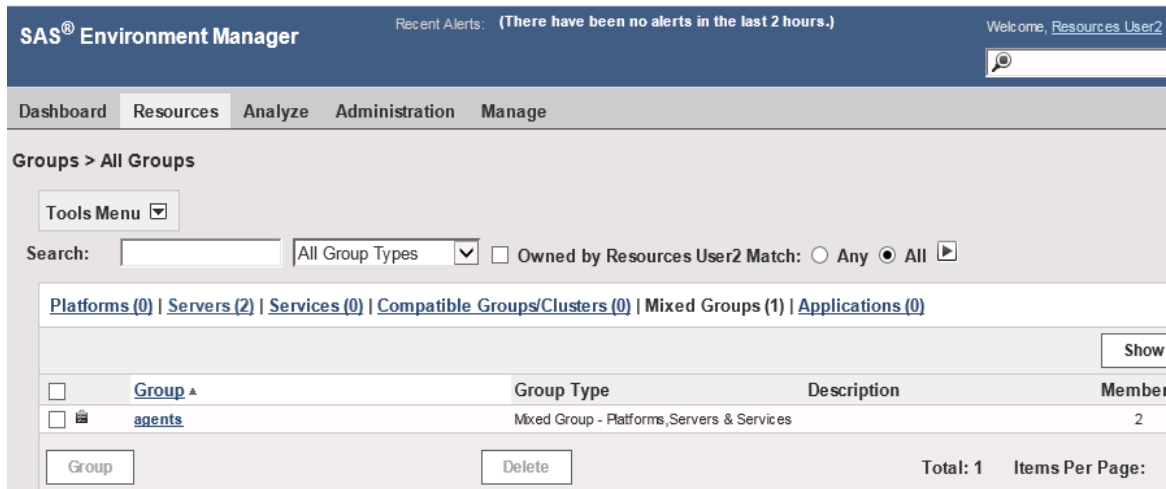


Figure 29 - Groups Visible to User "ruser2"

## CONCLUSION

This paper identified several most common and frequently asked questions from our customers. The questions are mainly in the areas of SAS Environment Manager server and agent and include topics such as SAS Environment Manager web interface usage; server functions such as alerts, controls, and resource discovery; agent issues; and security issues such as user management and SSL configuration. The paper describes the solutions and workarounds. We also plan to address many of these issues in future SAS Environment Manager releases.

Several other frequently asked questions are listed below. We encourage you to contact SAS Technical Support if you need solutions for any of these issues.

- What are the details and definitions for the configurable products?
- Need more information about the meaning of specific alerts., For example, these two alerts come up frequently:
  - TCP Attempt Fails. What does this mean? How is this alert triggered and how can the problem be fixed?
  - HQ Time Agent Spends Fetching Metrics. What causes this alert, and how it can the problem be fixed?
- Why does the server create lots of temporary tables to store the metrics? Can these tables be deleted?
- Why does the agent fail to start and returns the message “- Unable to register agent: Permission denied”?
- Can SAS Environment Manager be configured behind SAS Web Server or any Reverse Proxy Server?

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