



TIBCO ActiveMatrix® Service Grid

Development Tutorials

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TIBCO Documentation and Support Services

How to Access TIBCO Documentation

Documentation for TIBCO products is available on the TIBCO Product Documentation website, mainly in HTML and PDF formats.

The TIBCO Product Documentation website is updated frequently and is more current than any other documentation included with the product. To access the latest documentation, visit <https://docs.tibco.com>.

Product-Specific Documentation

Documentation for TIBCO ActiveMatrix® Service Grid is available on the <https://docs.tibco.com/products/tibco-activematrix-service-grid> page.

Use of the following features, installation profiles and development tools requires a TIBCO ActiveMatrix Service Grid license:



- TIBCO ActiveMatrix Policy Director Governance, TIBCO ActiveMatrix SPM Dashboard, and TIBCO ActiveMatrix SPM Runtime Server profiles; and
- TIBCO ActiveMatrix Service Grid development tools for Java, Webapp and Spring components.

Customers with only a TIBCO ActiveMatrix Service Bus license are not licensed to use these features, tools or profiles.

The following documents form the documentation set:

- *TIBCO ActiveMatrix Service Grid Concepts*: Read this manual before reading any other manual in the documentation set. This manual describes terminology and concepts of the platform. The other manuals in the documentation set assume you are familiar with the information in this manual.
- *TIBCO ActiveMatrix Service Grid Development Tutorials*: Read this manual for a step-by-step introduction to the process of creating, packaging, and running composites in TIBCO Business Studio.
- *TIBCO ActiveMatrix Service Grid Composite Development*: Read this manual to learn how to develop and package composites.
- *TIBCO ActiveMatrix Service Grid Java Component Development*: Read this manual to learn how to configure and implement Java components.
- *TIBCO ActiveMatrix Service Grid Mediation Component Development*: Read this manual to learn how to configure and implement Mediation components.
- *TIBCO ActiveMatrix Service Grid Mediation API Reference*: Read this manual to learn how to develop custom Mediation tasks.
- *TIBCO ActiveMatrix Service Grid Spring Component Development*: Read this manual to learn how to configure and implement Spring components.
- *TIBCO ActiveMatrix Service Grid WebApp Component Development*: Read this manual to learn how to configure and implement Web Application components.
- *TIBCO ActiveMatrix Service Grid REST Binding Development*: Read this manual to learn how to configure and implement REST components.
- *TIBCO ActiveMatrix Service Grid Administration Tutorials*: Read this manual for a step-by-step introduction to the process of creating and starting the runtime version of the product, starting TIBCO ActiveMatrix servers, and deploying applications to the runtime.
- *TIBCO ActiveMatrix Service Grid Administration*: Read this manual to learn how to manage the runtime and deploy and manage applications.

- *TIBCO ActiveMatrix Service Grid Hawk ActiveMatrix Plug-in*: Read this manual to learn about the Hawk plug-in and its optional configurations.
- *TIBCO ActiveMatrix Service Grid Policy Director Governance Custom Actions*: Read this manual to learn how you can configure and enforce policies for ActiveMatrix and external services hosted in third party containers, using TIBCO ActiveMatrix Policy Director Governance.
- *TIBCO ActiveMatrix Service Grid Service Performance Manager API Reference*: Read this manual to learn how to use the SPM APIs.
- *TIBCO ActiveMatrix Service Grid Error Codes*: Read this manual to know more about the error messages and how you could use them to troubleshoot a problem.
- *TIBCO ActiveMatrix Service Grid Installation and Configuration*: Read this manual to learn how to install and configure the software.
- *TIBCO ActiveMatrix Service Grid Security Guidelines*: Read this manual to learn more about security guidelines and recommendations for TIBCO ActiveMatrix Service Grid.
- *TIBCO ActiveMatrix Service Grid Release Notes*: Read this manual for a list of new and changed features, steps for migrating from a previous release, and lists of known issues and closed issues for the release.

How to Contact TIBCO Support

You can contact TIBCO Support in the following ways:

- For an overview of TIBCO Support, visit <http://www.tibco.com/services/support>.
- For accessing the Support Knowledge Base and getting personalized content about products you are interested in, visit the TIBCO Support portal at <https://support.tibco.com>.
- For creating a Support case, you must have a valid maintenance or support contract with TIBCO. You also need a user name and password to log in to <https://support.tibco.com>. If you do not have a user name, you can request one by clicking Register on the website.

How to Join TIBCO Community

TIBCO Community is the official channel for TIBCO customers, partners, and employee subject matter experts to share and access their collective experience. TIBCO Community offers access to Q&A forums, product wikis, and best practices. It also offers access to extensions, adapters, solution accelerators, and tools that extend and enable customers to gain full value from TIBCO products. In addition, users can submit and vote on feature requests from within the [TIBCO Ideas Portal](https://community.tibco.com). For a free registration, go to <https://community.tibco.com>.

Basic SOA Design Tutorials

Many TIBCO ActiveMatrix SOA development tutorials are distributed as cheat sheets in TIBCO Business Studio. To access the cheat sheets, start TIBCO Business Studio, select **Help > Cheat Sheets...**, and expand the **TIBCO SOA Development** node. For tutorials that are not cheat sheets, see the specific tutorial category.



Many of the steps in cheat sheets launch modal dialogs. Once a dialog is open, you cannot expand the view containing cheat sheet content. To ensure that you can see all the content, before opening a dialog you can expand the view so that you could see all of the cheat sheet content or you can detach the view so that it can be resized even while a dialog is open.

To access the basic SOA design tutorials, expand the **Basic** folder.

- **Create an SOA Project with an Empty Composite**

Describes how to create an SOA project.

- **Import Projects from an Archive**

Describes how to import projects from an archive file.

- **Import a WSDL File into an SOA Project**

Describes how to import a WSDL file into an SOA project.

Policy Tutorials

Policy tutorials illustrate how to use TIBCO ActiveMatrix policies.

Several external policies require you to configure an attribute named `resourceInstance`. The value of that attribute is not an actual resource instance, but an application that references the required resource instance; the purpose of the application is to inject the resource instance into policies that require it.

When configuring these policies, you must first ensure that the appropriate application is deployed and running on the nodes where you will deploy the policy. To prepare the resource instance and application, see [Preparing an Application that Injects Resource Instances into Policies](#).

To configure the policy to use the application, see [Configuring the ResourceInstance Attribute in an External Policy](#).

The location of the sample policies is `TIBCO_HOME/amx/version/samples/policy/`.

Configuring the ResourceInstance Attribute in an External Policy

Several external policies require you to configure an attribute named `resourceInstance`. When configuring such policies (by copying from the samples), replace the sample value of the `resourceInstance` attribute with the actual name of the application that references (and injects) the appropriate resource instance.

Preparing an Application that Injects Resource Instances into Policies

Procedure

1. Create resource templates of the required types:

Policy	Required Resource Templates
Signing or Decryption	Identity Provider
	Keystore Provider
Signature Verification or Encryption	Trust Provider
	Keystore Provider
Both of the above	Mutual Identity Provider
	Keystore Provider
WssProvider or WssConsumer	WS-Security ASP
LDAP for authentication	LDAP Authentication Provider

2. Create a resource instance from each template.
3. Create governance agent applications that reference the resource instances (one application per resource instance):

Resource Instance Type	Application Template	Application Template DAA Name
LDAP Authentication Provider	TIBCO ActiveMatrix Governance Agent LDAP Authentication Provider App Template	<code>com.tibco.governance.sharedresource.ldap.asp.daa</code>
Mutual Identity Provider	TIBCO ActiveMatrix Governance Agent Mutual Identity Provider App Template	<code>com.tibco.governance.sharedresource.mutual.isp.daa</code>
Identity Provider	TIBCO ActiveMatrix Governance Agent Identity Provider App Template	<code>com.tibco.governance.sharedresource.subject.isp.daa</code>
Trust Provider	TIBCO ActiveMatrix Governance Agent Trust Provider App Template	<code>com.tibco.governance.sharedresource.trust.isp.daa</code>
WS-Security ASP	TIBCO ActiveMatrix Governance Agent WSS Authentication Provider App Template	<code>com.tibco.governance.sharedresource.wss.asp.daa</code>

4. Distribute the applications to the appropriate nodes and run them. Each application that injects a resource instance must run on every node where a policy requires that resource instance.
5. Each application type has a single property that you must set. In the Properties tab of the application, specify the resource instance name as the value of that property. For example, the Trust Provider application has a property named `TrustIsConnectionFactory`. Set its value to the name of the resource instance that this application injects into policies.