TIBCO Silver® Fabric Enabler for TIBCO Administrator™ - Enterprise Edition

User's Guide

Software Release 2.9
September 2015

Two-Second Advantage®

Important Information

SOME TIBCO SOFTWARE EMBEDS OR BUNDLES OTHER TIBCO SOFTWARE. USE OF SUCH EMBEDDED OR BUNDLED TIBCO SOFTWARE IS SOLELY TO ENABLE THE FUNCTIONALITY (OR PROVIDE LIMITED ADD-ON FUNCTIONALITY) OF THE LICENSED TIBCO SOFTWARE. THE EMBEDDED OR BUNDLED SOFTWARE IS NOT LICENSED TO BE USED OR ACCESSED BY ANY OTHER TIBCO SOFTWARE OR FOR ANY OTHER PURPOSE.

USE OF TIBCO SOFTWARE AND THIS DOCUMENT IS SUBJECT TO THE TERMS AND CONDITIONS OF A LICENSE AGREEMENT FOUND IN EITHER A SEPARATELY EXECUTED SOFTWARE LICENSE AGREEMENT, OR, IF THERE IS NO SUCH SEPARATE AGREEMENT, THE CLICKWRAP END USER LICENSE AGREEMENT WHICH IS DISPLAYED DURING DOWNLOAD OR INSTALLATION OF THE SOFTWARE (AND WHICH IS DUPLICATED IN THE LICENSE FILE) OR IF THERE IS NO SUCH SOFTWARE LICENSE AGREEMENT OR CLICKWRAP END USER LICENSE AGREEMENT, THE LICENSE(S) LOCATED IN THE "LICENSE" FILE(S) OF THE SOFTWARE. USE OF THIS DOCUMENT IS SUBJECT TO THOSE TERMS AND CONDITIONS, AND YOUR USE HEREOF SHALL CONSTITUTE ACCEPTANCE OF AND AN AGREEMENT TO BE BOUND BY THE SAME.

This document contains confidential information that is subject to U.S. and international copyright laws and treaties. No part of this document may be reproduced in any form without the written authorization of TIBCO Software Inc.

TIBCO, Two-Second Advantage, TIBCO Silver, TIBCO Silver Fabric, TIBCO ActiveMatrix BusinessWorks, TIBCO Rendezvous, TIBCO Administrator, TIBCO Enterprise Message Service, TIBCO Runtime Agent, and TIBCO Hawk are either registered trademarks or trademarks of TIBCO Software Inc. in the United States and/or other countries.

Enterprise Java Beans (EJB), Java Platform Enterprise Edition (Java EE), Java 2 Platform Enterprise Edition (J2EE), and all Java-based trademarks and logos are trademarks or registered trademarks of Oracle Corporation in the U.S. and other countries.

All other product and company names and marks mentioned in this document are the property of their respective owners and are mentioned for identification purposes only.

THIS SOFTWARE MAY BE AVAILABLE ON MULTIPLE OPERATING SYSTEMS. HOWEVER, NOT ALL OPERATING SYSTEM PLATFORMS FOR A SPECIFIC SOFTWARE VERSION ARE RELEASED AT THE SAME TIME. SEE THE README FILE FOR THE AVAILABILITY OF THIS SOFTWARE VERSION ON A SPECIFIC OPERATING SYSTEM PLATFORM.

THIS DOCUMENT IS PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NON-INFRINGEMENT.

THIS DOCUMENT COULD INCLUDE TECHNICAL INACCURACIES OR TYPOGRAPHICAL ERRORS. CHANGES ARE PERIODICALLY ADDED TO THE INFORMATION HEREIN; THESE CHANGES WILL BE INCORPORATED IN NEW EDITIONS OF THIS DOCUMENT. TIBCO SOFTWARE INC. MAY MAKE IMPROVEMENTS AND/OR CHANGES IN THE PRODUCT(S) AND/OR THE PROGRAM(S) DESCRIBED IN THIS DOCUMENT AT ANY TIME.

THE CONTENTS OF THIS DOCUMENT MAY BE MODIFIED AND/OR QUALIFIED, DIRECTLY OR INDIRECTLY, BY OTHER DOCUMENTATION WHICH ACCOMPANIES THIS SOFTWARE, INCLUDING BUT NOT LIMITED TO ANY RELEASE NOTES AND "READ ME" FILES.

Copyright © 2011-2015 TIBCO Software Inc. ALL RIGHTS RESERVED.

TIBCO Software Inc. Confidential Information

Contents

Figures v

Tables vii

Preface ix

Related Documentation x
TIBCO Silver Fabric Enabler for TIBCO Administrator Documentation x
Other TIBCO Product Documentation x

Typographical Conventions xi

Connecting with TIBCO Resources xiii
How to Join TIBCOmmunity xiii
How to Access All TIBCO Documentation xiii
How to Contact TIBCO Support xiii

Chapter 1 Introduction. 1

Product Overview. 2
Main Functionalities 2
Components 2

Chapter 2 Creating a TIBCO Silver Fabric Enabler for TIBCO Administrator Stack 3

Overview 4

Creating a TIBCO Administrator Component. 5

Changing the Component Enabler. 30

Creating a Stack 32
Stack Dependency Requirements for use with BusinessWorks 5.x 33

Running a Stack. 36

Updating the Stack. 37

Chapter 3 Virtual Router for TIBCO Administrator 38

Overview 39

Chapter 4 Log Files 40

Log Files 41
Retained Log Files 41

Index 43

Figures

Figure 1 Creating a TIBCO Administrator Component 6
Figure 2 Configuring General Properties 7
Figure 3 Choosing TIBCO Product Distribution Versions 8
Figure 4 Choosing Optional Distribution 8
Figure 5 Editing TIBCO Administrator Basic Configuration 9
Figure 6 TIBCO Rendezvous and TIBCO Hawk Configuration 13
Figure 7 TIBCO Hawk AMI Configuration 15
Figure 8 Configuring an Independent TIBCO EMS Connection 16
Figure 9 TIBCO Administrator Database Configuration 17
Figure 10 HTTP Base Port settings 20
Figure 11 TIBCO Administrator and Hawk Agent Running Conditions 21
Figure 12 Add Third Party JAR Files 21
Figure 13 Adding a Runtime Context Variable 22
Figure 14 HTTPS Configuration using a Self-Signed Certificate 23
Figure 15 HTTPS Configuration with a CA-Signed Certificate 24
Figure 16 LDAP Configuration Using U 26
Figure 17 LDAP Configuration Using XML File 27
Figure 18 Adding a Runtime Context Variable 28
Figure 19 Using Statistics for Threshold Activation 29
Figure 20 Upgrading a Component - Change Enabler 30
Figure 21 Restart the Component 31
Figure 22 Creating a Stack 32
Figure 23 Stack Builder page - Adding a Component Dependency 33
Figure 24 Setting a Dependency on the Administrator Component 34
Figure 25 Running a Stack 36
Figure 26 Log Files 41

Tables

Table 1 General Typographical Conventions xi
Table 2 Retained TIBCO Hawk Agent Log Files 42
Table 3 Retained TIBCO Administrator Log Files 42

Preface

TIBCO Silver Fabric Enabler for TIBCO Administrator is a complementary software component that runs on TIBCO Silver Fabric Manager (the Broker).

Components created with TIBCO Silver Fabric Enabler for TIBCO Administrator can be run independently but the product provides the most utility when it is used in concert with other TIBCO products leveraging the TIBCO Silver® Fabric private cloud infrastructure to run and manage products like TIBCO ActiveMatrix BusinessWorks™, TIBCO Adapters, TIBCO BusinessEvents, and TIBCO Enterprise Message.

Topics

- Related Documentation, page x
- Typographical Conventions, page xi
- Connecting with TIBCO Resources, page xiii

Related Documentation

This section lists documentation resources you may find useful.

TIBCO Silver Fabric Enabler for TIBCO Administrator Documentation

The following documents form the TIBCO Silver Fabric Enabler for TIBCO Administrator documentation set:

- *TIBCO Silver Fabric Enabler for TIBCO Administrator Installation*
  Read this manual for instructions on site preparation and installation.
- *TIBCO Silver Fabric Enabler for TIBCO Administrator User's Guide*
  Read this manual for instructions on using the product.
- *TIBCO Silver Fabric Enabler for TIBCO Administrator Release Notes*
  Read the release notes for a list of new and changed features. This document also contains lists of known issues and closed issues for this release.

Other TIBCO Product Documentation

TIBCO Silver Fabric Enabler for TIBCO Administrator can be run independently but it provides the most utility when it is used in concert with other TIBCO products leveraging the TIBCO Silver Fabric private cloud infrastructure.

You may find it useful to read documentation related to the following TIBCO products:

- TIBCO Silver® Fabric
- TIBCO Administrator™
- TIBCO Rendezvous®
- TIBCO Hawk®
- TIBCO Runtime Agent™
- TIBCO Enterprise Message Service™

Typographical Conventions

The following typographical conventions are used in this manual.

Table 1 General Typographical Conventions

Convention	Use
TIBCO_HOME *ENV_HOME* *SFTA_HOME* *SILVERFABRIC_HOME*	Many TIBCO products must be installed within the same home directory. This directory is referenced in documentation as *TIBCO_HOME*. The default value of *TIBCO_HOME* depends on the operating system. For example, on Windows systems, the default value is `C:\tibco`. Other TIBCO products are installed into an *installation environment*. Incompatible products and multiple instances of the same product are installed into different installation environments. An environment home directory is referenced in documentation as *ENV_HOME*. The default value of *ENV_HOME* depends on the operating system. For example, on Windows systems, the default value is `C:\tibco`. TIBCO Silver Fabric Enabler for TIBCO Administrator is installed into a directory that is referenced in documentation as *SFTA_HOME*. The value of *SFTA_HOME* depends on the operating system. For example, on Windows systems, the default value is `C:\tibco\sfta`. TIBCO Silver Fabric is installed into a directory that is referenced in documentation as *SILVERFABRIC_HOME*. The value of *SILVERFABRIC_HOME* depends on the operating system. For example, on Windows systems, the default value can be `C:\fabric`.
`code font`	Code font identifies commands, code examples, filenames, pathnames, and output displayed in a command window. For example: Use `MyCommand` to start the foo process.
`bold code font`	Bold code font is used in the following ways: • In procedures, to indicate what a user types. For example: Type **`admin`**. • In large code samples, to indicate the parts of the sample that are of particular interest. • In command syntax, to indicate the default parameter for a command. For example, if no parameter is specified, `MyCommand` is enabled: `MyCommand [`**`enable`**` | disable]`

Table 1 General Typographical Conventions (Cont'd)

Convention	Use
italic font	Italic font is used in the following ways: • To indicate a document title. For example: See *TIBCO ActiveMatrix BusinessWorks™ Concepts*. • To introduce new terms. For example: A portal page may contain several portlets. *Portlets* are mini-applications that run in a portal. • To indicate a variable in a command or code syntax that you must replace. For example: `MyCommand` *PathName*
Key combinations	Key names separated by a plus sign indicate keys pressed simultaneously. For example: Ctrl+C. Key names separated by a comma and space indicate keys pressed one after the other. For example: Esc, Ctrl+Q.
	The note icon indicates information that is of special interest or importance, for example, an additional action required only in certain circumstances.
	The tip icon indicates an idea that could be useful, for example, a way to apply the information provided in the current section to achieve a specific result.
	The warning icon indicates the potential for a damaging situation, for example, data loss or corruption if certain steps are taken or not taken.

Connecting with TIBCO Resources

How to Join TIBCOmmunity

TIBCOmmunity is an online destination for TIBCO customers, partners, and resident experts, a place to share and access the collective experience of the TIBCO community. TIBCOmmunity offers forums, blogs, and access to a variety of resources. To register, go to http://www.tibcommunity.com.

How to Access All TIBCO Documentation

All product documentation is available from https://docs.tibco.com

TIBCO Silver® Fabric Enabler for TIBCO Administrator™ - Enterprise Edition documentation is here:

https://docs.tibco.com/products/tibco-silver-fabric-enabler-for-tibco-administrator-enterprise-edition

How to Contact TIBCO Support

For comments or problems with this manual or the software it addresses, please contact TIBCO Support as follows:

- For an overview of TIBCO Support, and information about getting started with TIBCO Support, visit this site:

  http://www.tibco.com/services/support

- If you already have a valid maintenance or support contract, visit this site:

  https://support.tibco.com

  Entry to this site requires a user name and password. If you do not have a user name, you can request one.

Chapter 1 Introduction

This chapter provides brief introduction to this product.

Topics

- Product Overview, page 2

Product Overview

TIBCO Silver Fabric Enabler for TIBCO Administrator is a complementary software component. The Enabler configures TIBCO Administrator components that can be published independently of any other component, or publish it in stacks with dependent components like TIBCO ActiveMatrix BusinessWorks projects based on 5.x releases. TIBCO Administrator can be published in cloud environments based on TIBCO Silver Fabric and leverage Silver Fabric capabilities. This accelerates publishing of Administrator Domains and enforces best practices.

Main Functionalities

TIBCO Silver Fabric Enabler for TIBCO Administrator provides the following main functionality:

- It enables you to quickly set up a TIBCO Administrator environment on multiple stacks. A TIBCO Administrator instance can be used to manage projects like TIBCO ActiveMatrix BusinessWorks projects, TIBCO ActiveMatrix Adapter projects using the TIBCO Administrator User Interface or its command-line tools.
- It enables you to quickly define, set up, and publish a complete stack of TIBCO products onto a set of virtual or physical machines. These actions include installation of this software, creation of TIBCO Domain, start up of TIBCO Administrator Server, registration of products like TIBCO ActiveMatrix BusinessWorks, TIBCO ActiveMatrix Adapter, and publication the application projects on one or multiple machines.
- It ensures that publishing of components and stacks follow a set of recommended and supported TIBCO practices to implement fault tolerance, load balancing, software updates, and stack updates.

Components

TIBCO Silver Fabric Enabler for TIBCO Administrator creates a component wizard used to define configurations for publishing the TIBCO Administrator Distribution.

The TIBCO Administrator component captures those configurations so that the TIBCO Administrator - Enterprise Edition Distribution may be published many times with reusable implementation configurations.

Chapter 2 Creating a TIBCO Silver Fabric Enabler for TIBCO Administrator Stack

This chapter explains how to configure and publish TIBCO Silver Fabric Enabler for TIBCO Administrator stack.

Topics

- Overview, page 4
- Creating a TIBCO Administrator Component, page 6
- Changing the Component Enabler, page 30
- Creating a Stack, page 32
- Running a Stack, page 36
- Updating the Stack, page 37

Overview

A TIBCO Silver Fabric Enabler for TIBCO Administrator stack is an entity that runs inside TIBCO Silver Fabric.

A TIBCO Silver Fabric Enabler for TIBCO Administrator stack consists of a TIBCO Administrator component, and one or more BusinessWorks, Adapter, or other components which run on on the TIBCO Administrator component.

To build and run a TIBCO Silver Fabric Enabler for TIBCO Administrator stack, you need to perform the following tasks:

- Create and publish one TIBCO Administrator component. Refer to Creating a TIBCO Administrator Component on page 5
- Create a TIBCO Silver Fabric Enabler for TIBCO Administrator stack. Refer to Creating a Stack on page 32.
- Set a dependency to the TIBCO Administrator component for each component which run on on the TIBCO Administrator component. Refer to Stack Dependency Requirements for use with BusinessWorks 5.x on page 33.

After completing these tasks, you can run and update a TIBCO Silver Fabric Enabler for TIBCO Administrator stack. See page 36 for information on how to run and update a stack.

Creating a TIBCO Administrator Component

This component creates a TIBCO Domain, and start TIBCO Hawk services and a TIBCO Administrator server.

To create and configure a TIBCO Administrator component, perform the following tasks:

- Task A, Create a TIBCO Administrator Component, page 6
- Task B, Set Basic Configurations, page 9
- Task C, Configure Default Transport - TIBCO Rendezvous, page 13
- Task D, Configure Hawk Application Management Interface (AMI), page 15
- Task E, Configure TIBCO EMS as Transport (Optional), page 16
- Task F, Configure TIBCO Administrator Database, page 17
- Task G, Set the HTTP Base Ports, page 19
- Task H, Configure Hawk Agent Running Conditions, page 20
- Task I, Add a Third Party JAR to the TIBCO Administrator Classpath, page 21
- Task J, Add or Edit Enabler-specific Runtime Context Variables, page 22
- Task K, Configure HTTPS, page 22
- Task L, Configure LDAP, page 26
- Task M, Add or Edit Enabler-specific Runtime Context Variables, page 27
- Task N, Add Allocation Rule Settings, page 28
- Task O, Finish Configuring the Component, page 29

After you complete these tasks, the TIBCO Administrator component should be published. At runtime, you can access the TIBCO Administrator GUI, an HTTP redirector (refer to Virtual Router for TIBCO Administrator on page 38), with the following URL:

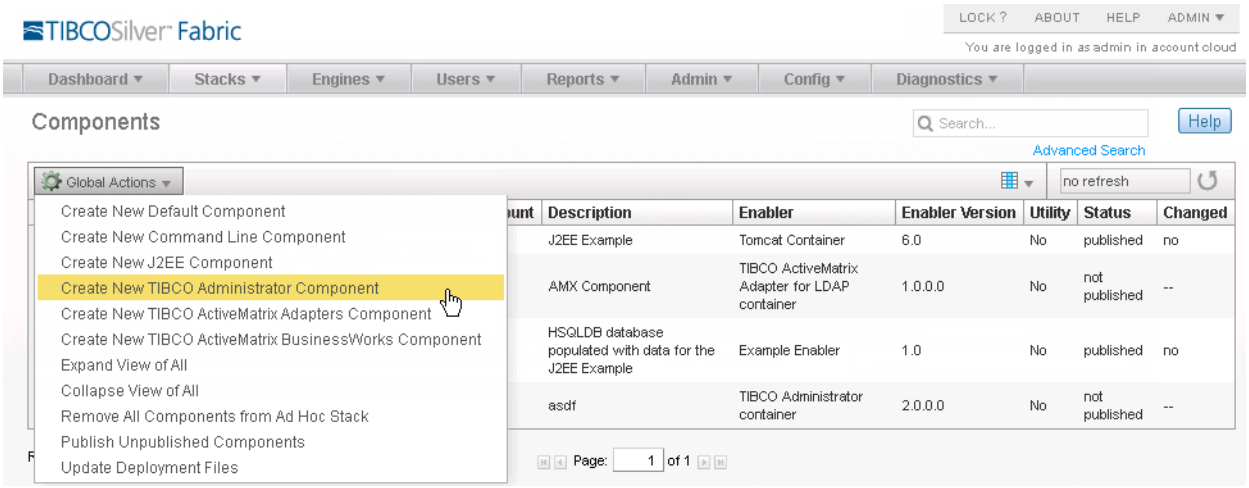
`http://`*SilverFabricBroker*`:`*BrokerPort*`/`*TIBCO_DOMAIN_NAME*

This automatically redirects to the machine where TIBCO Administrator is running with the port calculated using the base port set in Task G, Set the HTTP Base Ports, on page 19.

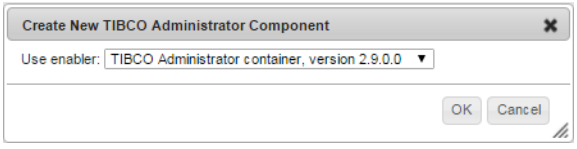
Task A Create a TIBCO Administrator Component

1. In the TIBCO Silver Fabric Administration Tool, select **Stacks > Components**.
2. In the components page, select **Create New TIBCO Administrator Component** in the Global Actions drop-down list as shown in Figure 1.

Figure 1 Creating a TIBCO Administrator Component



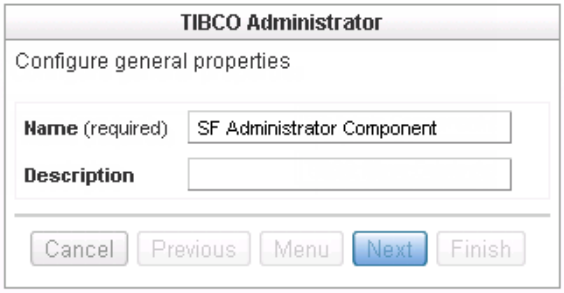
3. If you have multiple versions of the enabler installed, a dialog appears where you select the enabler to be used to create the new component. Use the latest release of the enabler to get the greatest number of features and flexibility in the configuration.



When an older version of the TIBCO Silver Fabric Administrator is available, you are prompted to pick the version you want to work with. Make sure to use the latest enabler version available unless there is a specific reason to use an older enabler.

4. Provide a name and description for the component.

Figure 2 Configuring General Properties



5. Choose the TIBCO product distribution versions to publish. Refer to Figure 3.

   Select a version of each of the installed distributions. It is generally a good practice to use the latest version of a product distribution. Refer to the *TIBCO Silver*® Fabric Enabler for TIBCO Administrator™ - Enterprise Edition *Readme* for more information on supported distributions. All product versions which are displayed are compatible with the component being defined.

   To properly publish and run TIBCO Administrator - Enterprise Edition, you must have installed the latest release of the following Distributions on the TIBCO Silver Fabric Broker so that they can be deployed and run with the TIBCO Administrator distribution:

   TIBCO Runtime Agent; TIBCO Hawk; and TIBCO Rendezvous

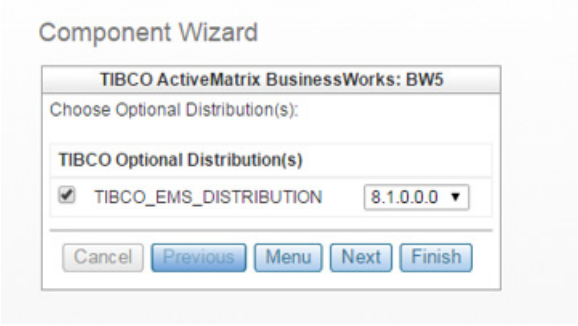
   If you don't see the latest release versions of all the Distributions shown below you should gather these dependencies from https://edelivery.tibco.com and refer to the Installation guide for more specific information.

Figure 3 Choosing TIBCO Product Distribution Versions

There is no EMS client embedded in TIBCO Runtime Agent since version 5.9.x. If you use EMS as a transport, you must install the EMS distribution and then select an EMS distribution version in the optional dependency screen.

6. Choose Optional Distribution(s) - If your TIBCO Administrator implementation makes use of TIBCO Enterprise Messaging Service you must upload the latest TIBCO EMS Distribution to the TIBCO Silver Fabric Broker.

Figure 4 Choosing Optional Distribution



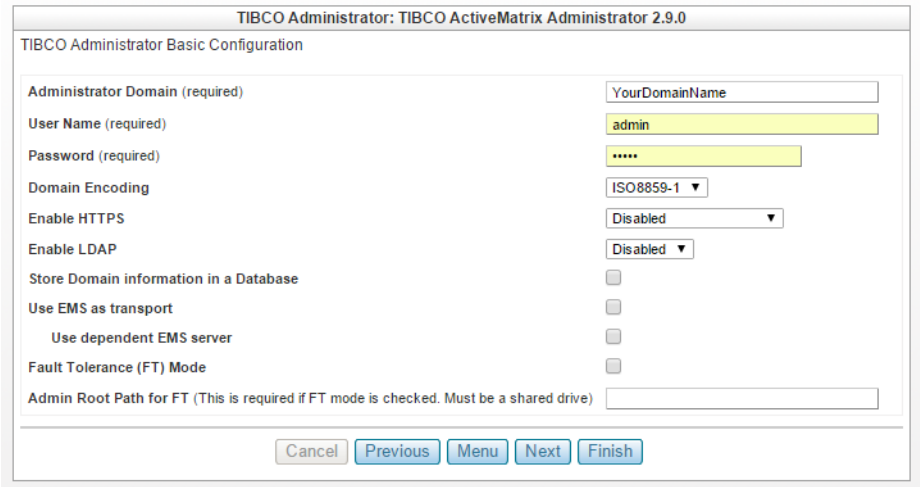
7. Click the **Next** button after selecting the TIBCO product distribution versions and the TIBCO Administrator: <*ComponentName*> - Basic Configuration panel is displayed as is shown in Task B, Set Basic Configurations, on page 9.

Task B Set Basic Configurations

The TIBCO Administrator Basic Configuration page and each of the configuration parameters are described here. Enter appropriate values for each field as applicable.

Selections of specific options change the visibility and order of component wizard pages, so the order of page descriptions may not match your experience in the wizard.

Figure 5 Editing TIBCO Administrator Basic Configuration



- **Administrator Domain**

  Choose a name that clearly identifies the Administrator Domain. The Administrator Domain value can also be the name of the server itself.

  If an Administrator Server is already running in the sub net, you cannot use that name for a second server with the same TIBCO Rendezvous parameters. Don't re-use the name of a Network Domain.

  Selections of specific options change the visibility and order of component wizard pages, so the order descriptions may not match your experience in the wizard.

  Domain name length must be less than 64 characters. Alphanumeric characters, hyphens (-) and underscores (_) are accepted, but other characters including periods and commas are not allowed.

  Once published TIBCO Administrator can be accessible via Virtual Router at:

  ```
  http://<BrokerName_IP>:<Port>/<DomainName>
  ```

- **User Name - Password**

  Values entered here create a new TIBCO Administrator profile.

  Alphanumeric characters, hyphens (-), and underscores (_) are allowed. The password is not case-sensitive and can't start with ! or !#.

  The default value is `admin`. It is strongly recommended that you change it.

- **Domain Encoding**

  The character set selected is used for all communication between the administration server and its clients, servers in the administration domain.

  The default domain encoding is ISO8859-1 (Latin-1). Choose the character encoding most appropriate for your implementation.

- **Enable HTTPS**

  Choose either *Disabled*, *Self_Signed_Certificate*, or *CA_Signed_Certificate*.

  When disabled TIBCO Administrator uses HTTP for messaging.

  When either of the other two options are selected HTTPS is enabled for messaging between components and another configuration page is added to this component wizard so that configurations can be set to use the Certificate Authority (CA) issued certificate or the self-signed certificate.

TIBCO Administrator Enabler transport using TIBCO EMS does not yet support SSL.

For more information on HTTPS configuration, refer to the section: Configure HTTPS on page 22.

- **Enable LDAP**

  Choose either *Disabled*, *UI*, or *XML*. UI and XML settings enable LDAP configuration with settings made with either a graphical user interface or an uploaded XML settings file.

  An LDAP configuration page is added to the component wizard when UI or XML are selected.

  For more information on LDAP configuration properties, refer to the section: Configure LDAP on page 26.

- **Store Domain Information in a Database**

  This checkbox allows you to switch from storing domain data in files (unchecked) or in a database (checked). When you check this box the TIBCO Administrator Database Configuration page is added to this wizard.

When the TIBCO Administrator is configured to use a database for domain storage then a larger number of stacks can be published.

- **Use EMS as Transport**

  TIBCO Administrator messaging can be configured to use either the TIBCO Enterprise Message Service (TIBCO EMS) or TIBCO Rendezvous (default).

  This check box defines whether TIBCO Administrator will use TIBCO EMS (checked) or TIBCO Rendezvous (unchecked). A messaging configuration specific page is added to the wizard depending on this check box setting.

  For more information on transport settings, refer to one of the following sections, Configure Default Transport - TIBCO Rendezvous on page 13 or Configure TIBCO EMS as Transport (Optional) on page 16.

If TIBCO EMS is used for the transport messaging, a database is required to store domain information. Check the box to **Store Domain Information in a Database** if TIBCO EMS is to be used.

If TIBCO Rendezvous is used for the transport of TIBCO Administrator Domain traffic, you must do one of the following to ensure proper communication:

- Use the same sub-net for all Silver Fabric engine host machines used to run TIBCO Domains, or...
- Enable TIBCO Rendezvous Multicast with a TTL setting so that the TIBCO Rendezvous Daemon (RVD) can multicast packets across specified subnets, or...
- Set up a TIBCO Rendezvous Routing Daemon (RVRD) to bridge RVD traffic across the relevant subnets.

- **Use Dependent EMS Server**

  When you check this checkbox and publish a dependent TIBCO Silver Fabric Enabler for TIBCO EMS server component, the connection and configuration settings are set automatically and the *TIBCO EMS Connection Configuration* page is not displayed.

  Select the checkbox to **Use Dependent EMS Server** if TIBCO EMS is to be used as a dependent component. When this setting is used, you must also make the TIBCO Silver Fabric Enabler for TIBCO EMS component a dependency of the TIBCO Administrator component in the stack setting.

  If the component messaging is independent of the TIBCO Administrator publishing, then keep this check box unchecked and enter connection settings values on the TIBCO EMS Connection Configuration page.

- **Fault Tolerance (FT) Mode**

  This checkbox specifies whether TIBCO Administrator (hosted on a TIBCO Silver Fabric Engine) runs in Fault Tolerance mode. Fault tolerance mode provides for system resilience because hardware and network failures occur. Using the Fault Tolerance mode is strongly recommended.

  When FT mode is enabled (checked), if a TIBCO Silver Fabric Engine stops responding for whatever reason, then a new TIBCO Administrator instance can be restarted using the existing domain data on the next available TIBCO Silver Fabric Engine.

  If FT mode is not enabled (default is unchecked) and the TIBCO Silver Fabric Engine suspends for whatever reason, then TIBCO Administrator restarts on another available Silver Fabric Engine and recreates a new TIBCO Domain without the existing domain data information. When Fault Tolerance is not enabled, restart of the TIBCO Administrator even with a database domain does not completely synchronize the domain information from the previous instance.

  Admin Root Path for FT

  Fault Tolerance (FT) requires connection with a shared drive path used to store the Domain configuration data. The Admin Root Path for FT value specifies the path for that shared drive path.

  The Admin Root Path must be a valid path across all the machines where the TIBCO Administrator runs. For example, on a Unix/Linux based platforms:

  ```
  /ShareDrive/TIBCODomain/MyDomainName
  ```

FT mode requires that allocated TIBCO Administrators use the same shared drive available to all Engines. FT mode is **not** fully compatible with Windows operating systems because Windows services don't have access to shared drives. It is strongly recommended that implementations requiring FT mode target operating systems other than Windows based resources. This can be accomplished by defining a *Resource Preference - Allocation Rule* to specify the *OS Platform* as equal to a preferred operating system. If Windows platforms must be used then the Silver Fabric Engines can be run as stacks by the desktop user so that the Silver Fabric Engine and child processes can use mapped drives.

  If FT mode is disabled (unchecked) the Admin Root Path value does not apply.

  Use the **Next** button to proceed with your component configuration. Changes are saved when you click the **Finish** button.

Task C Configure Default Transport - TIBCO Rendezvous

TIBCO Rendezvous (RV) is the default transport . That is, in the Task B, Set Basic Configurations if the **Use EMS as transport** option remains unchecked, RV is used for transport.

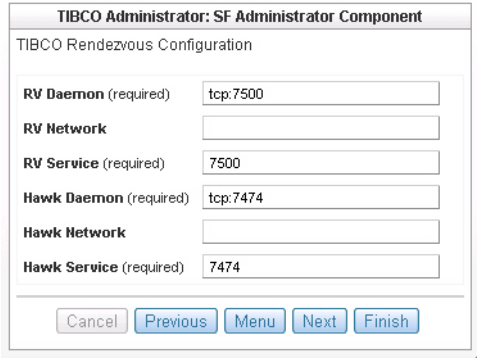
The TIBCO Rendezvous Configuration page defines the Rendezvous and Hawk interface.

- **RV Daemon (required)**

  Specify the protocol and port for client server communication between the TIBCO Administrator component and the TIBCO Rendezvous daemon.

  The default value is **`tcp:7500`**

Figure 6 TIBCO Rendezvous and TIBCO Hawk Configuration



- **RV Network**

  This specifies the TIBCO Rendezvous network used for client-server communication. This variable only needs to be set on computers with more than one network interface. If specified, the TIBCO Rendezvous daemon uses that network for all outbound messages.

- **RV Service (required)**

  This specifies the TIBCO Rendezvous Service used for client-server communication. The Rendezvous daemon divides the network into logical partitions. Each transport communicates on a single service. A transport can communicate only on the same service with other transports.

  The default TIBCO Rendezvous port setting is 7500, but your specific Rendezvous implementation may be set to publish according to what you specify. Unless you are using a TIBCO Rendezvous configuration that has been changed from its default port setting, you need to use the value: **`7500`**.

- **Hawk Daemon (required)**

This specifies TIBCO Rendezvous Daemon used for communication with TIBCO Hawk. The default value is **`tcp:7474`**

Like the RV Daemon, if you need to use a remote daemon, you can set the value to `tcp:ADMINMACHINE:`*port_number*, for example, `tcp:ADMINMACHINE:7474`.

- **Hawk Network**

  This specifies the TIBCO Rendezvous network used for communication with TIBCO Hawk. Use the default value unless you are an experienced TIBCO Rendezvous user. See *TIBCO* Hawk *Installation and Configuration* for details about this parameter.

- **Hawk Service (required)**

  This specifies the TIBCO Rendezvous service used for communication with TIBCO Hawk. Use the default unless you are an experienced TIBCO Rendezvous user. The default value is `7474`. See *TIBCO Hawk Installation and Configuration* for details about this parameter.

Using a remote TIBCO Rendezvous Daemon

Using a remote TIBCO Rendezvous daemon is not recommended.

When you are using a remote daemon, there is only one Rendezvous daemon running for the entire stack (TIBCO Domain). TIBCO Administrator and TIBCO Administrator - Enterprise Edition are using the same daemon running on the TIBCO Administrator machine. If the machine where the remote daemon is running suspends due to a network problem or other reasons, then your entire system also suspends.

In the following conditions, you can use a remote daemon:

— Your working environment has no UDP network protocol.

— All your machines are part of the TIBCO Silver Fabric Cloud in different networks, but there are no TIBCO Rendezvous daemons between the networks.

To use a remote TIBCO Rendezvous Router Daemon, set the RV Daemon value to:

`tcp:ADMINMACHINE:`*port_number*

The placeholder value, **`ADMINMACHINE`**, will be automatically replaced during runtime by the value of the machine name or IP address where TIBCO Administrator is running.

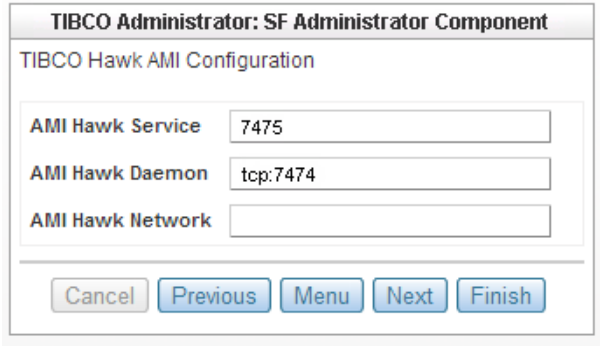
For example when you set the value to `tcp:ADMINMACHINE:7500`, it starts TIBCO Rendezvous on the TIBCO Administrator machine. All machines that join this TIBCO Domain use this remote daemon.

Task D Configure Hawk Application Management Interface (AMI)

The TIBCO Hawk AMI Configuration page defines how the Administrator component uses TIBCO Hawk Microagents (HMA).

Even when EMS is used as the primary transport, HMA still uses Rendezvous as the transport.

Figure 7 TIBCO Hawk AMI Configuration



AMI Hawk Service - specifies the TIBCO Hawk port number, for example, TIBCO Rendezvous connects with TIBCO Hawk on the default port 7475. AMI Hawk Service and AMI Hawk Daemon must be set with valid values together. Setting only one of them results in an error.

AMI Hawk Daemon - specifies the location of the TIBCO Hawk Daemon. A value of "tcp:*yyyy*" would correspond to a local Hawk Daemon where "*yyyy*" would be the port number. A Hawk Daemon located elsewhere would be specified by a value of the protocol, IP address, and port number: "tcp:*xxx.xxx.xxx.xxx:yyyy*".

The AMI Hawk Service and the AMI Hawk Daemon ports may be the same or they may be different. By default, different TLMs on the same engine daemon (physical machine) are using the same RV transport (default AMI Hawk Service=7475, and default AMI Hawk Daemon=tcp:7474). This setting enables visibility of all of the deployed applications on each TLM even if some applications are NOT deployed on this particular TLM.

The actual AMI Hawk Service port for the runtime component instance is incremented by an integer according to the engine instance ID. For example, if the user sets the AMI Hawk Service to 6464 and the component is instantiated to run on engine instance 1, then the service is reported in the `hawkagent.cfg` file as 6465. Then when the component is scaled up to other engine instances, the AMI Hawk Service value is incremented higher by the Enabler automatically.

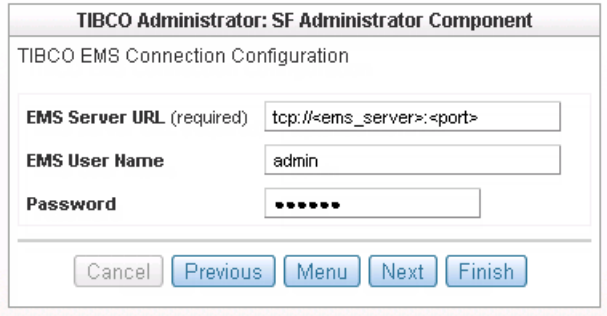
Generally, AMI Hawk Network is an empty string, and all three fields may be left empty, but if a value is set for either AMI Hawk Service or AMI Hawk Daemon then they must both be set with valid values together. Setting only one of them results in an error.

Task E Configure TIBCO EMS as Transport (Optional)

If your TIBCO Administrator component is configured to use independent EMS as a transport in Task B, Set Basic Configurations, then only the Configure TIBCO EMS Connection Configuration page is displayed. Here you add the URL, port, and login profile.

When TIBCO EMS is used as a transport, the TIBCO Administrator Domain information must be stored using a database.

Figure 8 Configuring an Independent TIBCO EMS Connection



- **EMS Server URL**

  The URL of the TIBCO Enterprise Message Service server is in the following format: ***tcp://hostname:port***

Multiple Enterprise Message Service servers may be configured for use by the Administrator component for fault-tolerance by specifying all of them here. Enter multiple EMS Server URL by separating them with a comma between entries. For example:

```
tcp://host1:7222,tcp://host2:7222
```

TIBCO Administrator transport using TIBCO EMS does not yet support SSL.

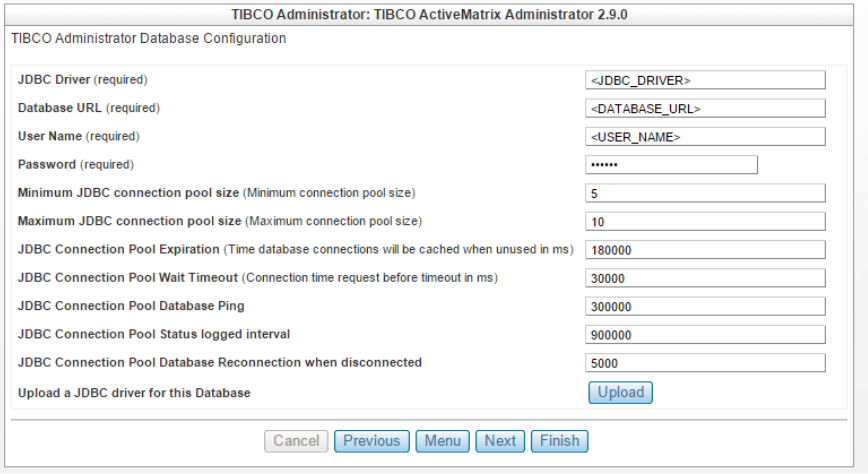
- **EMS User Name and Password**

  This is the EMS user profile (username and password) used to connect to the EMS Server. If multiple EMS are set up for fault tolerance, they must all be able to use the same user profile for creating a connection between the Administrator component and the Enterprise Message Service.

Task F Configure TIBCO Administrator Database

To configure a database for TIBCO Administrator, follow these steps.

Figure 9 TIBCO Administrator Database Configuration



- **JDBC Driver (required)**

  Specify the JDBC driver to be used by the TIBCO Administrator.

  One of the following native drivers may be used:

  – `Oracle Thin:` **`oracle.jdbc.driver.OracleDriver`**
  – `MSSQL Server:` **`com.microsoft.sqlserver.jdbc.SQLServerDriver`**

Refer to the TIBCO Runtime Agent documentation for information on supported TIBCO Administrator Domain databases.

When TIBCO Domain is stored in a database, you must upload the JDBC driver so that it can be published with the TIBCO Administrator and TIBCO Administrator - Enterprise Edition components.

The JDBC drivers jars must use their standard, generic file names for proper loading as is listed here below:

— Oracle 11 driver: **`ojdbc6.jar`**

— Oracle 10 driver: **`ojdbc14.jar`**

— MS SQL driver: **`sqljdbc4.jar`**

Use the **Upload** button in the "Upload a JDBC driver..." field below for this.

- **Database URL (required)**

  This Database URL provides the connection information to your database.

  Enter the Database URL for your specific implementation.

  `Oracle Thin:` **`jdbc:oracle:thin:@`***`host`***`:`***`port`***`:`***`SID`**

  `MSSQL Server:` **`jdbc:sqlserver://`***`host`***`:`***`port`***`;databaseName=`***`databaseName`**

- **User Name (required) and Password (required)**

  Use a database administrative user profile that allows for table creation/deletion, as well as read, write, update, and deletion of data.

- **Minimum JDBC Connection Pool Size**

  When your stack starts up, it initializes this number of connections to the database. For optimal performance, this number should be equal to the number of subscribers that you expect to connect to the database at any time.

  When you specify the minimum connections, keep the following in mind:

  — At startup, each instance opens its specified number of connections.

  — Setting higher number of connections are better for stack instances, but may have adverse results for the rest of the system.

  — The correct setting is whatever the complete system can handle on a sustained basis without taxing other system resources.

- **Maximum JDBC Connection Pool Size**

  The number of simultaneous connections cannot exceed the number set in this field. The database must be able to simultaneously handle the total maximum number of connections for all instances.

Make sure that you set Maximum JDBC Connection Pool Size to a number greater than the number for Minimum JDBC Connection Pool Size, otherwise, you get an error message.

- **Upload a JDBC Driver for this Database**

  If you use a database as the domain storage, you must upload a JDBC driver.

  Specify a JDBC driver to publish with the TIBCO Administrator™ Distribution for TIBCO Silver® Fabric so that it can communicate with a runtime TIBCO Administrator Domain database. When the TIBCO Administrator uses a database as the domain storage, you must upload a JDBC driver so the component can interact with it.

  The JDBC driver must match the database type used by the TIBCO Administrator as is defined in .

Task G Set the HTTP Base Ports

The TIBCO Administrator Server Port Configuration sets the HTTP Base Port.

When HTTPS is enabled by the setting on the Basic Configuration page this configuration page is not shown and instead an HTTPS configuration page for the type of server certificate selected is shown.

- **HTTP Base Port**

  In order to avoid HTTP port conflicts for TIBCO Administrator when more than one TIBCO Administrator servers are running on the same machine, TIBCO Silver® Fabric Enabler for TIBCO Administrator™ - Enterprise Edition automatically sets the port to the following value:

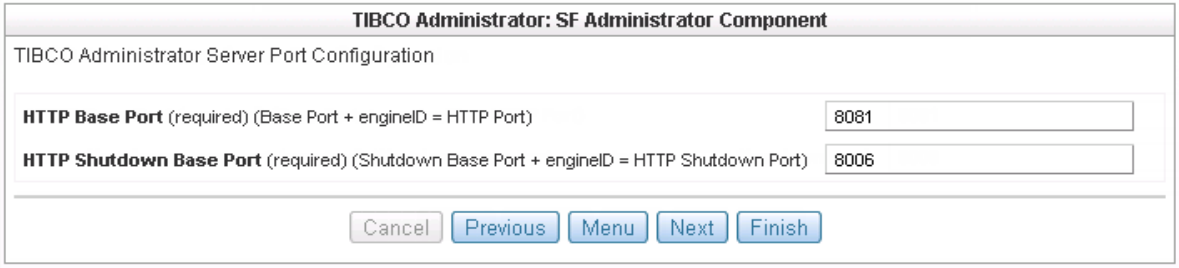
  `HTTP Base Port +` *EngineInstanceValue*

  The `EngineInstanceValue` is the Engine number of where TIBCO Administrator runs.

  For example, on a dual core machine, the default number of Engines is 2 (one per core). The first Engine has the number `0`, the second one has the number `1`.

  As an example if you set the `HTTP Base Port` to `8483`, the HTTP ports used by TIBCO Administrator would be `8483` and `8484` for the first and second engines respectively.

Figure 10 HTTP Base Port settings



- **HTTP Shutdown Base Port**

  In order to avoid shutdown port conflicts for TIBCO Administrator when many TIBCO Administrator servers stop working on the same machine, TIBCO Silver® Fabric Enabler for TIBCO Administrator™ - Enterprise Edition automatically sets the shutdown port to the following value:

  `HTTP Shutdown Base Port +` *EngineInstanceValue*

  The value is calculated in the same way as the TIBCO Administrator `HTTP Base Port` described previously.

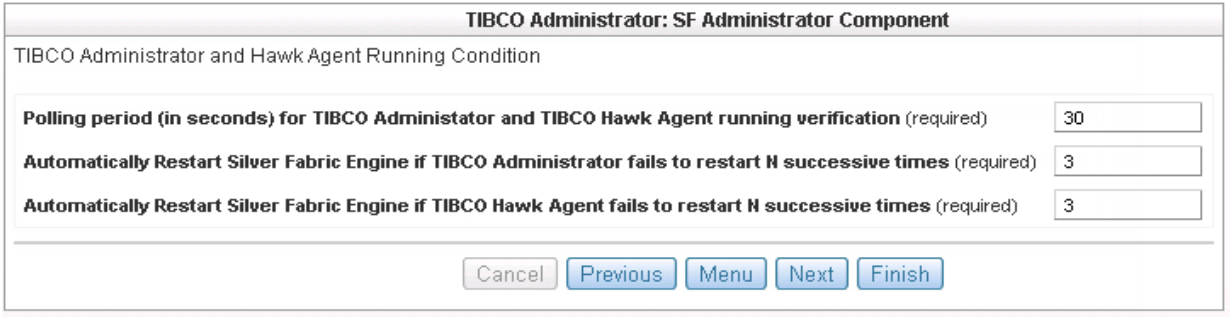
Task H Configure Hawk Agent Running Conditions

Use the following options to configure running conditions for TIBCO Hawk agent:

- **Polling Period for detection of TIBCO Administrator or Hawk Agent not running (required)**

  Verification that TIBCO Administrator and TIBCO Hawk Agent are still running is tested frequently based upon a configurable interval period. Enter an integer to specify the number of seconds between checks. If either TIBCO Administrator or TIBCO Hawk Agent become unresponsive to this verification the process it is automatically restarted.

Figure 11 TIBCO Administrator and Hawk Agent Running Conditions



- **Automatically Restart Silver Fabric Engine if TIBCO Administrator fails to restart N successive times (required)**

  Enter an integer to specify the number of restart retries for the TIBCO Administrator before the TIBCO Silver Fabric Engine to be restarted. A successful restart resets the count.

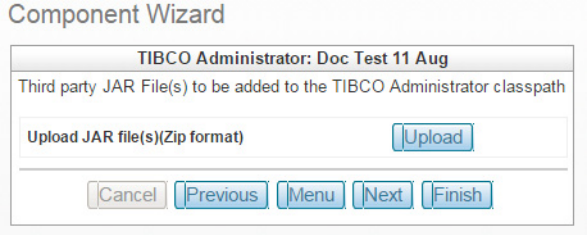
- **Automatically Restart Silver Fabric Engine if TIBCO Hawk Agent fails to restart N successive times (required)**

Enter an integer to specify the number of restart retries for the TIBCO Hawk Agent before the TIBCO Silver Fabric Engine is to be restarted. A successful restart resets the count.

Task I Add a Third Party JAR to the TIBCO Administrator Classpath

When a product like TIBCO BusinessConnect has a TIBCO Administrator specific plug-in, you can upload the JAR file in a zipped archive. It get placed in the TIBCO Administrator classpath by simply uploading the Third party JAR File(s).

Figure 12 Add Third Party JAR Files



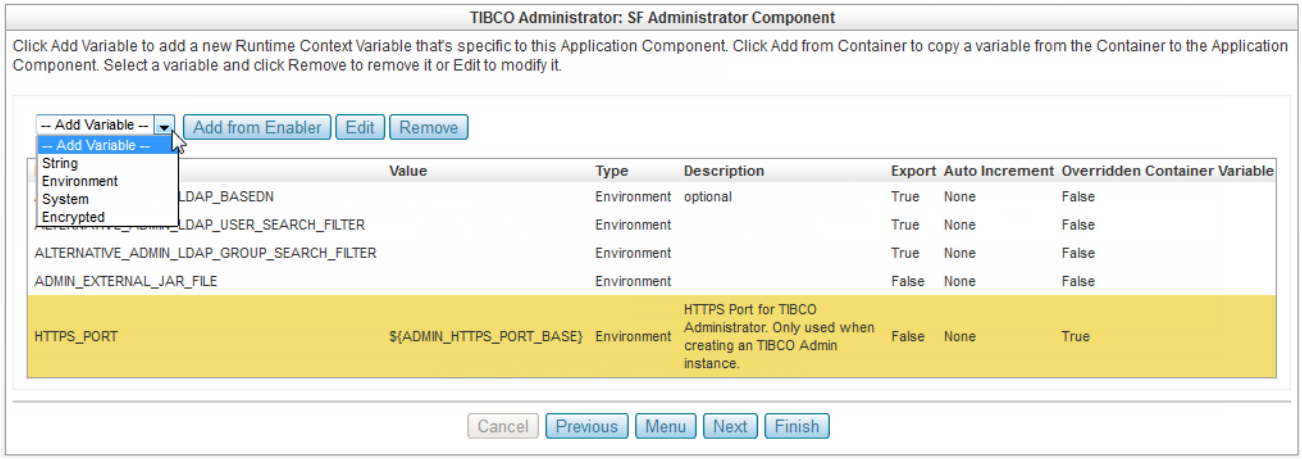
Refer to the respective product documentation for compatibility and use with your selected TIBCO Administrator Distribution.

Task J Add or Edit Enabler-specific Runtime Context Variables

String, **Environment**, **System**, or **Encrypted** variables may be added to the component to define and set runtime specific context variables.

Select a variable type from the **Add Variable** pull-down list or **Add from Enabler** to use a variable from a selected Enabler.

Figure 13 Adding a Runtime Context Variable



Once you have added any runtime context variable you may select the variable (selected row is highlighted) and **Edit** to change its attributes. Selected rows may also be removed.

Changes are of course optional, because all variables have default values that are appropriate for the most common use cases.

Variable values from the Enabler may be added to the runtime as well. Use the **Add from Enabler** button to add Enabler-specific context variables.

Task K Configure HTTPS

You can configure HTTPS using one of the following methods:

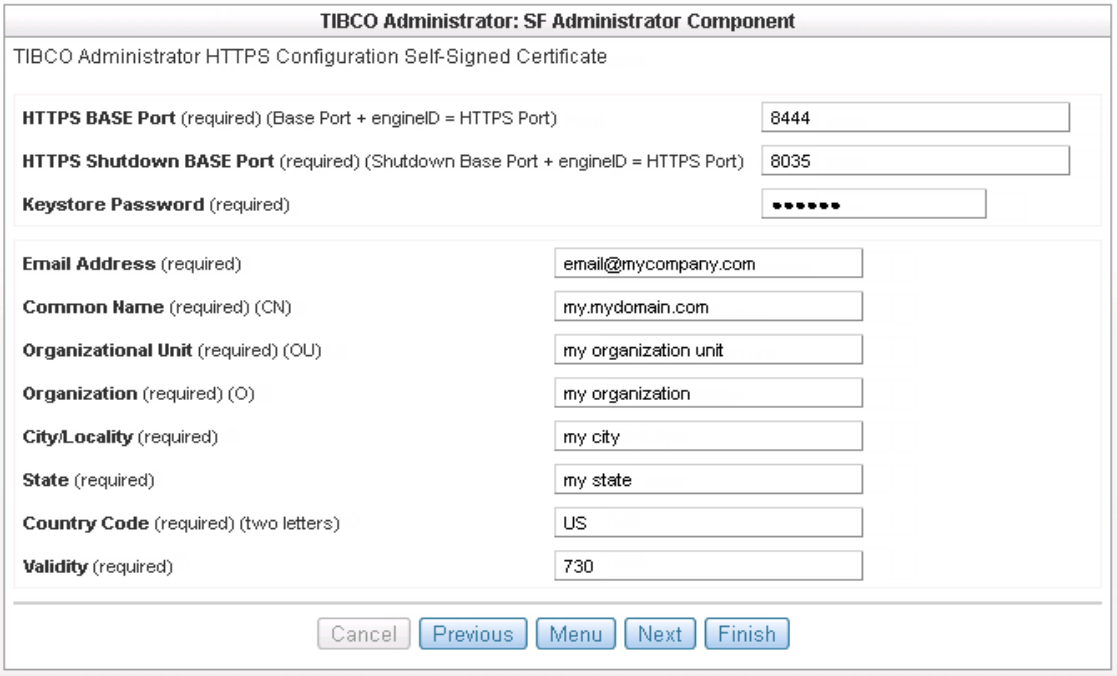
- HTTPS Using a Self-Signed Certificate
- HTTPS With a CA Certificate

HTTPS Using a Self-Signed Certificate

When Enable HTTPS is set to Self-Signed Certificate on the Basic Configuration page, then the TIBCO Administrator HTTPS Configuration Self-Signed Certificate page is displayed to provide an interface for configuring TIBCO Administrator to use your certificate.

While generating your own certificate, you must note the parameter values used to create it, so that the TIBCO Administrator has the proper values to use the certificate.

Figure 14 HTTPS Configuration using a Self-Signed Certificate



- **HTTPS Base Port (required)**

  This setting helps the system avoid HTTPS port conflicts for the TIBCO Administrator when more than one TIBCO Administrator servers are running on the same machine. TIBCO Silver® Fabric Enabler for TIBCO Administrator™ - Enterprise Edition sets the port to the following value:

  `HTTPS Base Port(value) +` *EngineInstanceValue*

  The `EngineInstanceValue` is the Engine number where TIBCO Administrator runs.

For example, on a dual core machine, the default number of Engines is 2 (one per core). The first Engine has the number `0`, the second one has the number `1`.

If for example you set the `HTTPS Base Port` to `8483`, the HTTPS ports used by TIBCO Administrator would be `8483` and `8484` for the first and second engines respectively.

- **HTTPS Shutdown Base Port**

  To avoid shutdown port conflicts for TIBCO Administrator, TIBCO Silver® Fabric Enabler for TIBCO Administrator™ - Enterprise Edition automatically sets the shutdown port to the following value:

  `HTTPS Shutdown Base Port` + *EngineInstanceValue*

- **Keystore Password**

  Enter your unique alpha-numeric string.

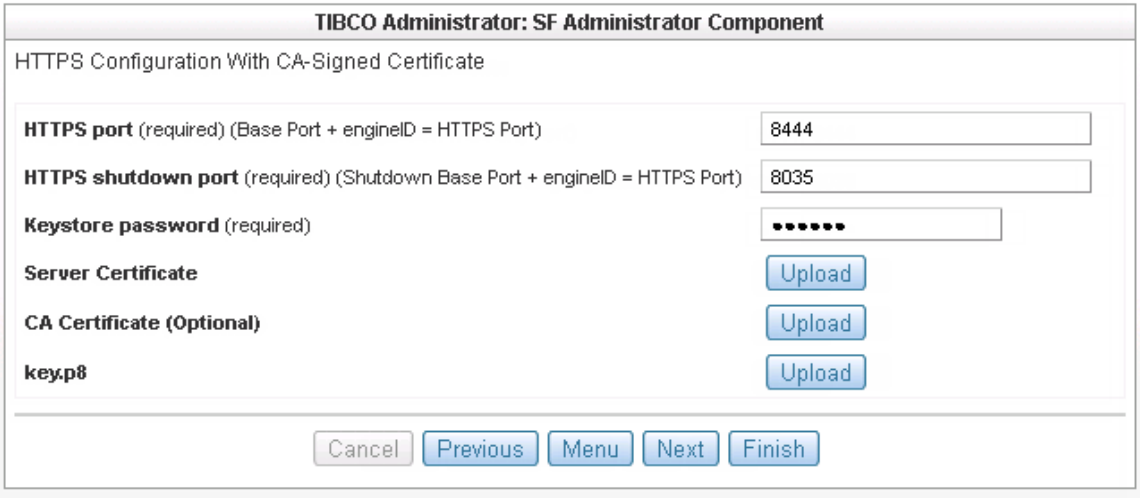
- **Self-Signed Certification - Server Contact Information**

  Enter your **Email Address**, **Common Name (CN)**, **Organizational Unit (OU)**, **Organization (O)**, **City/Locality**, **State (required)**, **Country Code (two letters)**, and **Validity**. These values are required.

HTTPS With a CA Certificate

This configuration page appears only when the HTTPS Enabled field on the Basic Configuration page is set to `CA_Signed_Certificate`.

Figure 15 HTTPS Configuration with a CA-Signed Certificate



- **HTTPS Base Port (required)**

  This setting helps the system avoid HTTPS port conflicts for the TIBCO Administrator when more than one TIBCO Administrator servers are running on the same machine. TIBCO Silver® Fabric Enabler for TIBCO Administrator™ - Enterprise Editionsets the port to the following value:

  `HTTPS Base Port(value) +` *EngineInstanceValue*

  The `EngineInstanceValue` is the Engine number where TIBCO Administrator runs.

  For example, on a dual core machine, the default number of Engines is 2 (one per core). The first Engine has the number `0`, the second one has the number `1`.

  For example if you set the `HTTPS Base Port` to `8483`, the HTTPS ports used by TIBCO Administrator would be `8483` and `8484` for the first and second engines respectively.

- **HTTPS Shutdown Base Port**

  To avoid shutdown port conflicts for TIBCO Administrator, TIBCO Silver® Fabric Enabler for TIBCO Administrator™ - Enterprise Edition automatically sets the shutdown port to the following value:

  `HTTPS Shutdown Base Port +` *EngineInstanceValue*

- **Keystore Password**

  Enter your unique alpha-numeric string.

- **Server Certificate**

  Upload the server Certificate returned from the third-party Certificate Authority using the **Upload** button to browse for the proper file.

- **CA Certificate (optional)**

  The CA chain certificate is optional. Use the **Upload** button to browse for the proper file.

- **key.p8**

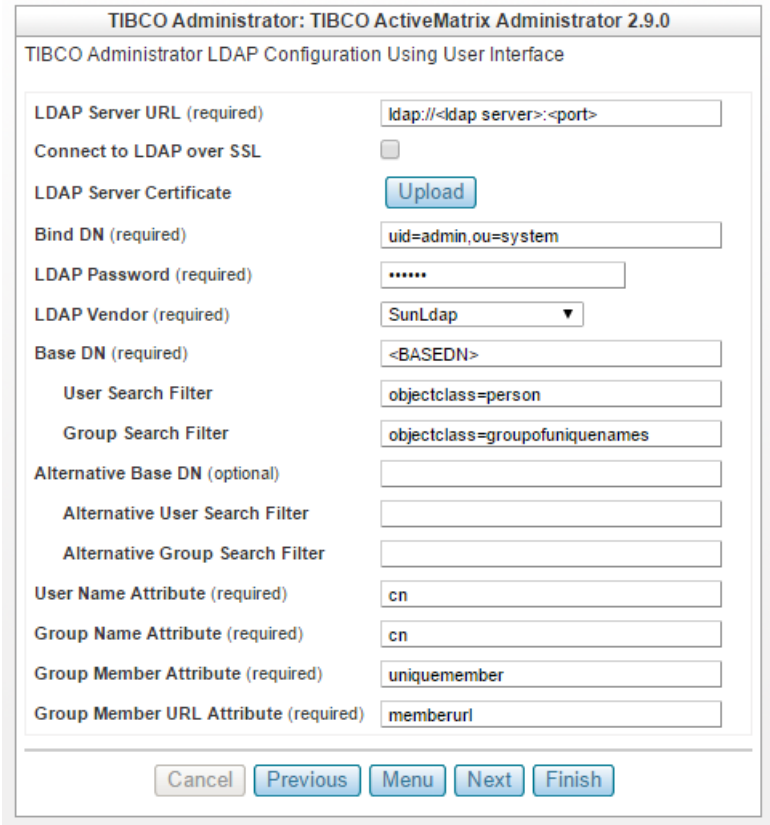
  Because this process uses a pre-existing certificate, you don't have to go through the step of generating a CSR for each component server, but the certificate must be in PEM (Privacy Enhanced Mail) format and a private key (in the PKCS#8 format) is required. The name of the private key file must be "key.p8". Use the **Upload** button to browse for the proper file.

Task L Configure LDAP

You can choose either *Disabled*, *UI*, or *XML*. The UI and XML settings enable LDAP configuration with settings made with either a graphical user interface or an uploaded XML settings file. An LDAP configuration page is added to the component wizard when UI or XML are selected.

When LDAP is enabled with the UI option, the *LDAP Configuration Using User Interface* page is added to the wizard for setting basic LDAP properties. See the following figure to evaluate whether the LDAP configuration using the UI is adequate for your environment implementation.

Figure 16 LDAP Configuration Using UI



Refer to your LDAP implementation for details on how to connect with it.

If your implemented LDAP environment is more complex and requires configuration settings that are not exposed by this UI, then you should use an XML settings file to configure LDAP for the component. If this is the case use the **Menu** button to go back the TIBCO Administrator Basic Configuration page and set **LDAP Enabled** to "xml".

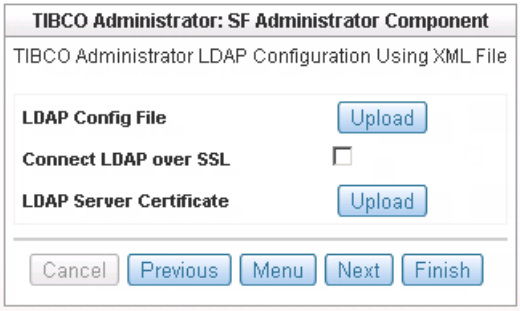
You can set all of the LDAP parameters in an XML file and upload it.

A template to help with correctly specifying the LDAP parameters in an XML file is located in the TIBCO Runtime Agent directory:

```
TIBCO_HOME/tra/version/template/domainutility/cmdline/
ModifyLDAPConfiguration.xml
```

Copy this file, make your modifications, and after choosing the Enable LDAP XML option, the component wizard displays a page for uploading the file.

Figure 17 LDAP Configuration Using XML File



For more information on "Creating a Domain that integrates with an LDAP Directory Server" refer to the section with that same name in the *TIBCO Runtime Agent Domain Utility User's Guide*.

To configure LDAP for use with SSL connections refer to the *TIBCO Runtime Agent Domain Utility User's Guide* section on "Configuring LDAP Integration With SSL Connections."

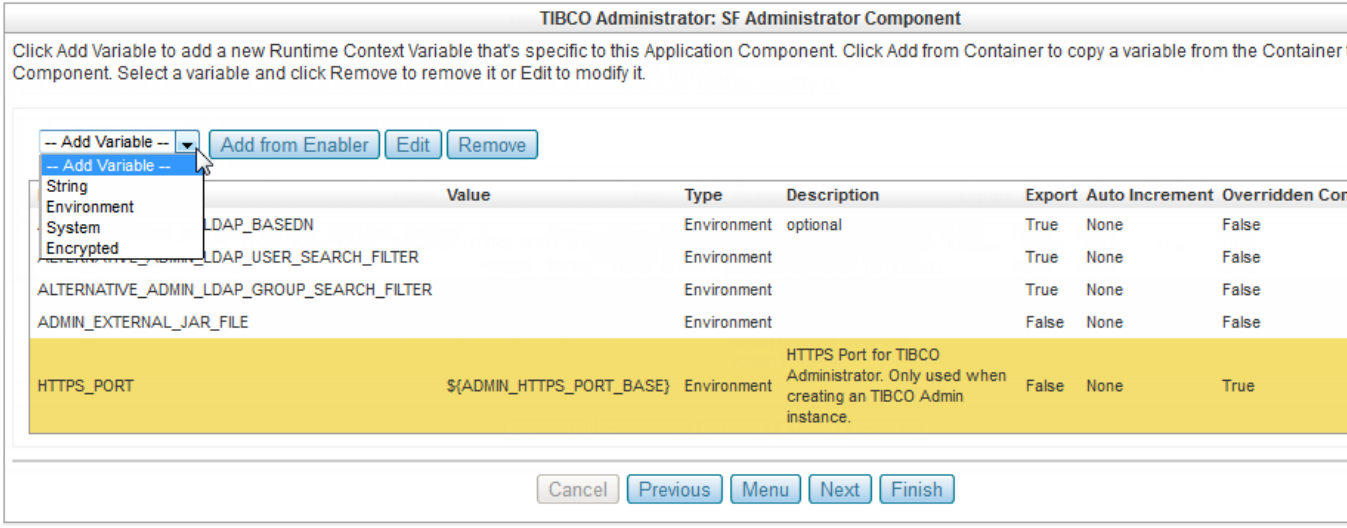
The following three LDAP XML parameters are not used and ignored:
<*DomainName*>`ldap_domain`</*DomainName*>
<*AdministratorUsername*>`a`</*AdministratorUsername*>
<*AdministratorPassword*>`a`</*AdministratorPassword*>

Task M Add or Edit Enabler-specific Runtime Context Variables

String, **Environment**, **System**, or **Encrypted** variables may be added to the component to define and set runtime specific context variables.

Select a variable type from the **Add Variable** pull-down list or **Add from Enabler** to use a variable from a selected Enabler.

Figure 18 Adding a Runtime Context Variable



Once you have added any runtime context variable you may select the variable (selected row is highlighted) and **Edit** to change its attributes. Selected rows may also be removed.

Changes are of course optional, because all variables have default values that are appropriate for the most common use cases.

Variable values from the Enabler may be added to the runtime as well. Use the **Add from Enabler** button to add Enabler-specific context variables.

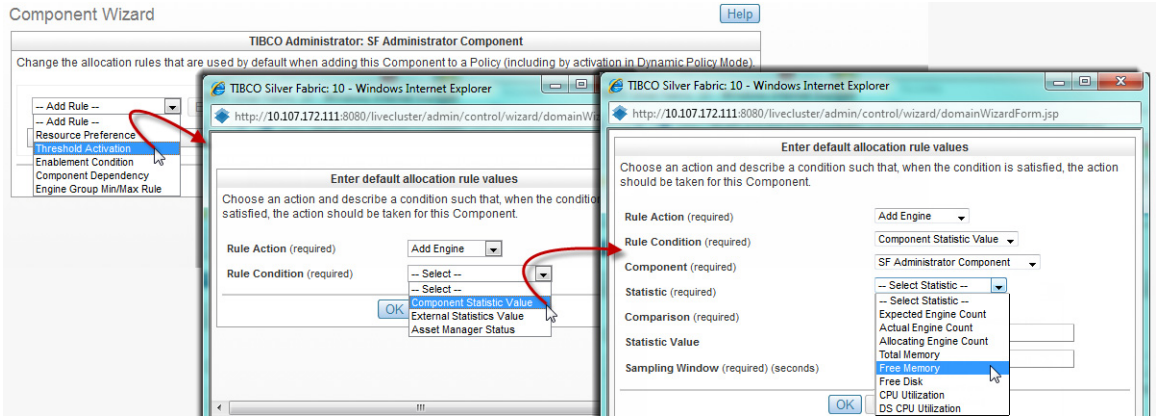
Task N Add Allocation Rule Settings

Add rules to specify and set component behavior. Add rules to do the following:

- Specify Resource Preferences,
- Set Thresholds for Activation,
- Set Enablement Conditions,
- Specify Component Dependency, or
- Set Engine Group Minimums or Maximums

Each rule selection brings up a slightly different dialog window that allows property selection of a tracked Engine or component statistic to be evaluated according to a logical operator and a value you specify to define an action.

Figure 19 Using Statistics for Threshold Activation



More information on using statistics for scaling is available in the *TIBCO Silver Fabric Cloud Administration Guide*.

Task O Finish Configuring the Component

The remaining screens of the component wizard are generic for all Silver Fabric Enablers. The configuration of these is optional for the TIBCO Administrator component.

Refer to *TIBCO Silver Fabric User's Guide* for more information on these configuration screens.

After you click the **Finish** button, make sure to publish the component to make it available when creating a stack or to use the configuration changes in existing stacks.

From the Actions drop-down list located at the left side of the row for the component you just created, select **Publish Component** or **Publish Changes** if you were editing a component that was already published.

Changing the Component Enabler

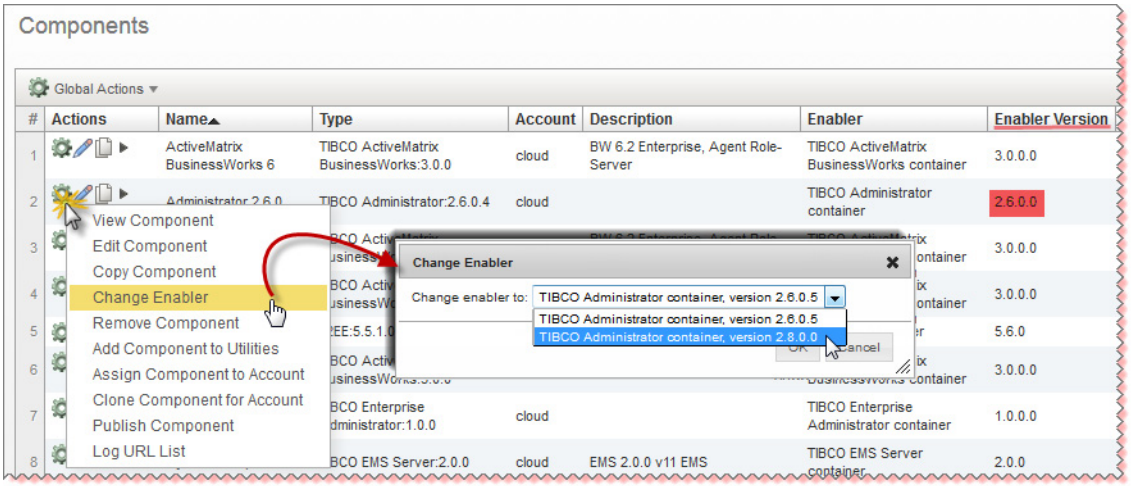
Upgrading a component created with TIBCO Silver Fabric Enabler for TIBCO Administrator component release version 2.6 or 2.8 to 2.9 is as easy as 1, 2, 3.

Back up your Engines and consider timing for when you wish to perform a Component restart so brief operational downtime has minimal impact.

1. Using the TIBCO Silver Fabric Administrator > Components page identify the Administrator component you wish to upgrade from release version 2.6 or 2.8 of the TIBCO Silver Fabric Enabler for TIBCO Administrator. The Enabler Version column will make it easy to identify out of date Enablers.

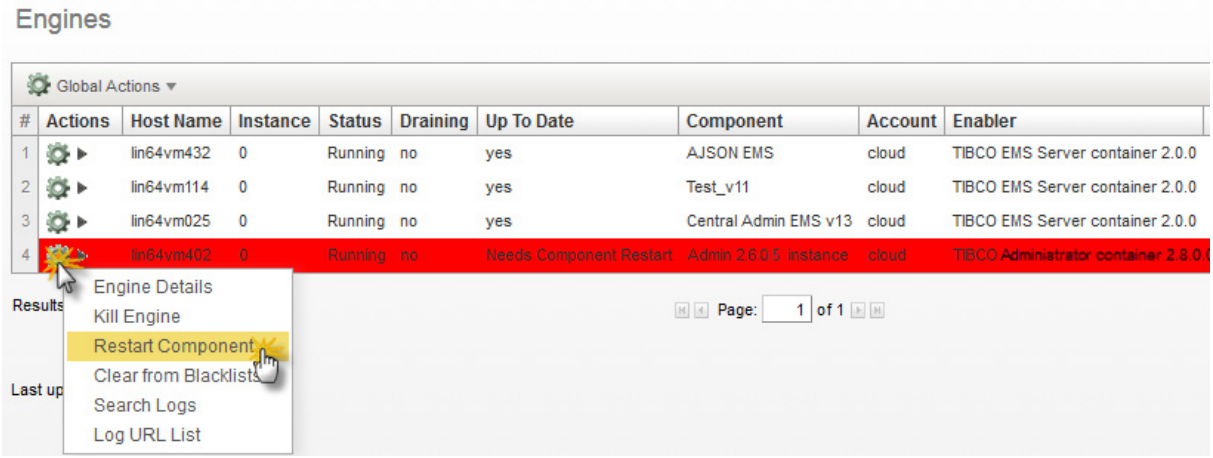
   Click the component Actions menu icon for the component you want to update and choose **Change Enabler**. Then click **OK** as shown below.

Figure 20 Upgrading a Component - Change Enabler



2. Click the Component Actions menu icon again, click **Publish Changes**, and then click **OK** to publish the selected component.
3. Switch to the Engines page and click the Engine Actions menu icon that "Needs a Component Restart", then click **Restart Component**. Done.

Figure 21 Restart the Component



Creating a Stack

Components can be deployed independently in an Ad Hoc stack. More commonly they need to be deployed with other components in a stack with dependencies and other controls.

For example TIBCO ActiveMatrix BusinessWorks 5.x components depend upon an instance of the TIBCO Administrator component, and both can be present in a stack to work together.

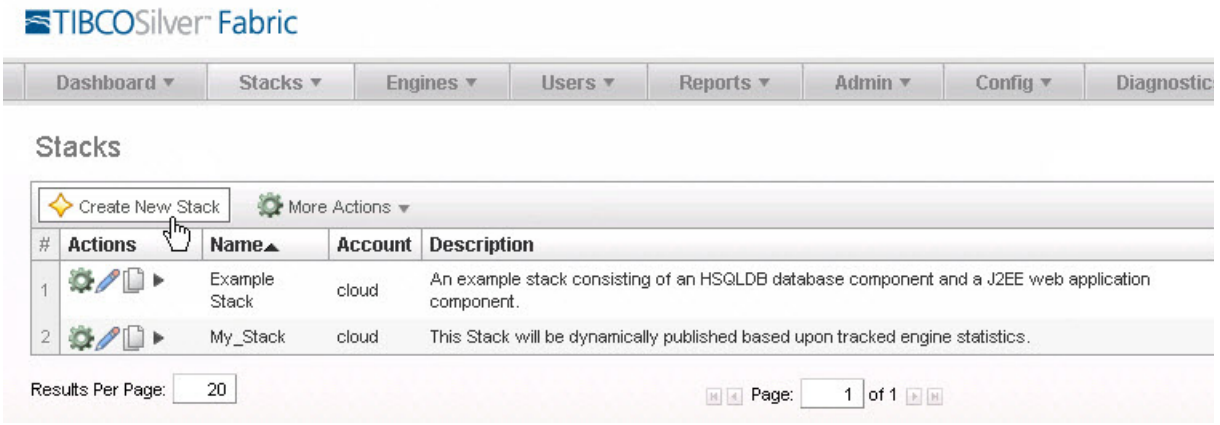
Any number of components could be included in your stack depending on your implementation. You can publish multiple components as one unit to the same Silver Fabric Engine or you may publish components to a Silver Fabric Cloud.

Each *TIBCO_DOMAIN* can have one stack, but each stack can have multiple components such as multiple TIBCO ActiveMatrix BusinessWorks components. After initially defining a stack, you can still update it by adding or removing components.

To create a TIBCO Silver Fabric Enabler for TIBCO Administrator stack:

1. In the TIBCO Silver Fabric Administration Tool, select **Stacks > Stacks**.
2. Click the **Create New Stack** button as shown in Figure 22.

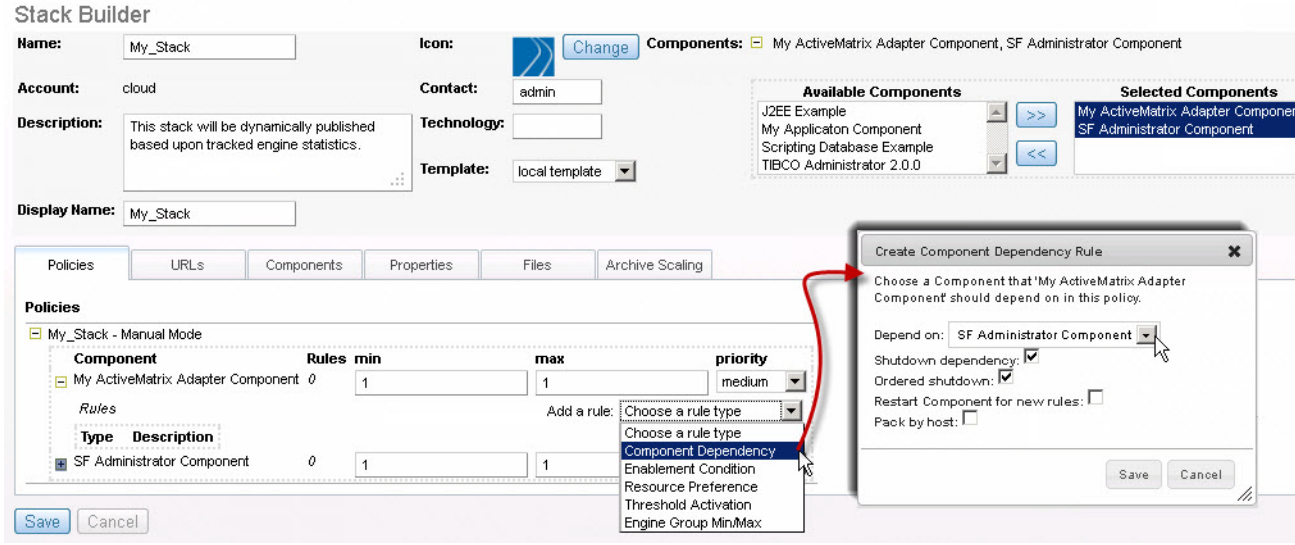
Figure 22 Creating a Stack



3. Enter a stack name in the Stack Builder page as shown in Figure 23.
4. In the Components area, add one TIBCO Administrator component and any other components that may be necessary for your stack.

5. View the details of the component you just added by expanding the folds in the Policies area.
6. You can set rules and the minimum and maximum number of instances you want to run for that component. You can make rules to create a component dependency, to set an Enablement Condition, set a Resource Preference, or set a Threshold Activation by using the **Add a rule** pull-down menu.
7. Save the stack.

Figure 23 Stack Builder page - Adding a Component Dependency



Stack Dependency Requirements for use with BusinessWorks 5.x

TIBCO ActiveMatrix BusinessWorks components created using a 5.x Distribution must have a component dependency set on one TIBCO Administrator component you define. Users of BusinessWorks 5.x components must set this component dependency for each of their BusinessWorks 5.x components or those components without it will not have enough information for proper deployment.

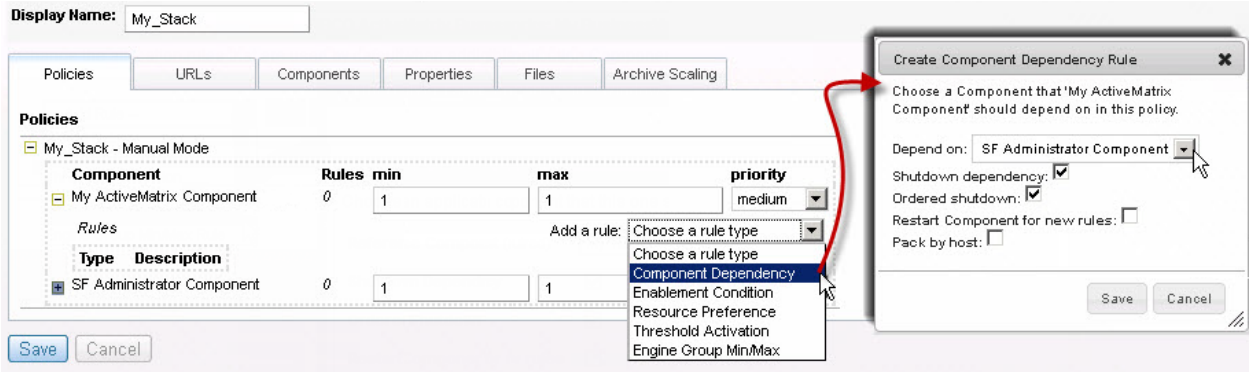
BusinessWorks 5.x components depend on the TIBCO Administrator. Refer to Stack Dependency Requirements for use with BusinessWorks 5.x on page 33 for setting that dependency.

A connection is supported between a BusinessWorks 5.x component and one instance of the TIBCO Administrator component. After setting the dependency, TIBCO BusinessWorks starts after TIBCO Administrator is up and running.

To set dependency, follow these steps:

1. Create a stack with a BusinessWorks component and an Administrator component, or edit an existing stack with a component that needs a dependency rule and select "**Add/edit default rule settings**" from the Menu of the component wizard.
2. In the Policies area on the Stack Builder wizard page expand the BusinessWorks component.
3. Use the **Add Rule** pull down to select the **Component Dependency** option.

Figure 24 Setting a Dependency on the Administrator Component



4. In the "**Reference Component**" field, select the name of the TIBCO Administrator component that runs inside your stack.

Shutdown Dependency - If you run TIBCO Administrator in the Fault Tolerant mode, uncheck the **Shutdown Dependency** checkbox. Otherwise, all BusinessWorks components stop if TIBCO Administrator stops working.

Ordered Shutdown provides for a logical, sequential shutdown so that dependent components are shut down first. Ordered shutdown is especially important when the domain is hosted using a file structure instead of a dependent database. When you have an Administrative component that uses an external database, order of shutdown is less important.

Restart Component for new rules - If new rules are defined for a component that has already been deployed, it must be restarted for the new changes to be applied. If you wish to manually restart components later to propagate changes leave this box unchecked.

If the Administrator component was configured to "*Use dependent EMS server*" then that dependency must be set here as well.

When using a dependent TIBCO Enterprise Message Service server, the dependency should be set in the TIBCO Administrator component, which must also have a dependency on TIBCO EMS Server component.

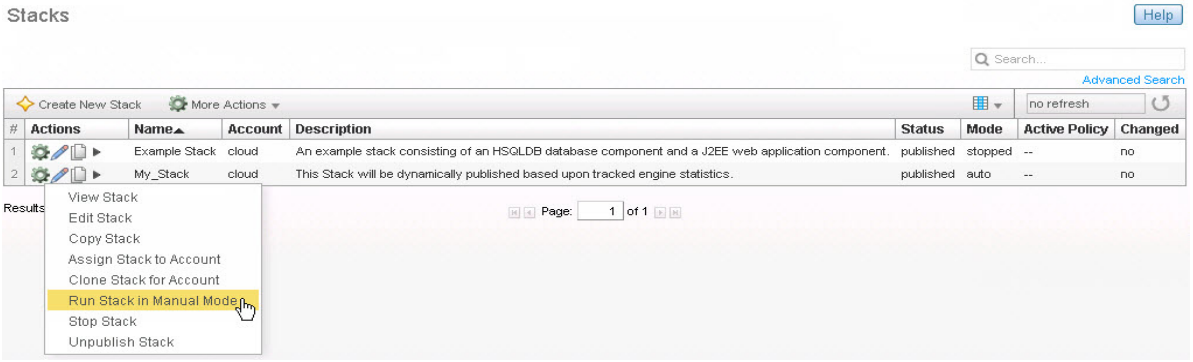
Pack by Host - Check this to specify that dependent components must run on the same host.

The *TIBCO Silver Fabric User's Guide* has more information on all of these settings.

Running a Stack

After you have created your stack, use **Publish Stack** to make it available to run. After publishing click **Run Stack In Manual Mode** in the Actions drop-down list as shown in Figure 25 to run the stack immediately on available resources..

Figure 25 Running a Stack



Alternatively, if the stack is defined with a Policy (schedule) you can **Run** (the) **Stack in Auto Mode**. The stack runs according to the schedule selected and other rules and constraints for the stack provided available resources.

Updating the Stack

When a stack is published and running, you can still make changes to the stack such as adding other components or changing allocation rules among many possible changes.

Making changes to the stack is as easy as editing, saving, and publishing those changes to any instances that may be running. Some changes my require restart of the changed resource, so consult the TIBCO Silver Fabric documentation for best practices prior to making changes to a production system.

After making any changes to a Stack, **Save** the changes and then from the Actions list in the main Stack page, select **Publish Changes**. The specified engines are affected by the changes immediately.

Chapter 3 Virtual Router for TIBCO Administrator

This chapter introduces the virtual router for TIBCO Administrator.

Topics

- Overview, page 39

Overview

In a private cloud, when you run a TIBCO Administrator instance, you do not know in advance, the address of the machine where it runs, unless you set the resource preferences in the rules.

VirtualRouter acts as a proxy between Web clients and instances of virtualized HTTP-enabled components, such as Web Applications and Web Services. By default, an instance of VirtualRouter runs alongside every Silver Fabric Broker in the same application server. VirtualRouter can also run externally on a separate application server. See the *TIBCO Silver Fabric Installation Guide* for information on installing and configuring external VirtualRouter components.

While using the Enabler with BusinessWorks, VirtualRouter matches incoming requests to relative URL patterns, as defined in each HTTP-enabled component, and forwards requests to Engines running the matching component. For example, consider a Web Application that, when run on a normal application server, runs with the context `root /MyApp`. When you create an HTTP-enabled component for the Web App, it is virtualized and run on one or more Engines. If your VirtualRouter runs at `http://example:8000`, you can access your component at `http://example:8000/MyApp`. The component is actually running on an Engine, in the Enabler specified in the component configuration, and requests are directed to that Engine.

Virtual Router URL for TIBCO Administrator

The following URL redirects to TIBCO Administrator:

`http://`*BrokerMachineName*`:`*BrokerPort*`/TIBCO_ADMIN_DOMAIN`

- *BrokerMachineName*: The Machine name or IP Address where you installed TIBCO Silver Fabric.
- *BrokerPort*: The port of the Silver Fabric Administrator GUI. The default value is `8080`.
- *TIBCO_ADMIN_DOMAIN*: The value of the Administrator Domain name you entered when you configured TIBCO Administrator component.

For example: `http://10.107.172.95:8080/HR`

This URL is redirected to the right machine name and port number where TIBCO Administrator is running. In the Fault Tolerance mode, if TIBCO Administrator is restarted on a new machine, you need to retype the URL of the Router.

Chapter 4 Log Files

This chapter introduces log files.

Topics

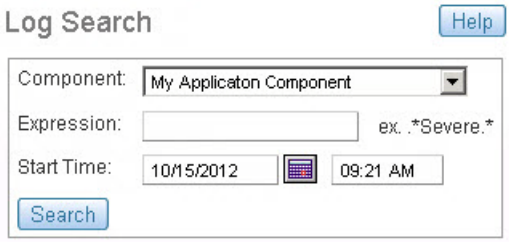
- Log Files, page 41
- Retained Log Files, page 41

Log Files

You can retrieve TIBCO Administrator log files from the TIBCO Silver Fabric Administration Tool. To do so, follow these steps:

1. In TIBCO Silver Fabric Administration Tool, select **Engines > Log Search**.
2. Select the Component from which you want to see the log files, as shown in Figure 26.
3. Optionally you can search for a regular expression using the Expression field.
4. Select the Start Time to see the logs since that time.

Figure 26 Log Files



Retained Log Files

In addition to the Engine log file, the following log files are retained:

TIBCO Hawk Agent Log Files

When TIBCO Administrator runs in the Fault Tolerant mode, all files are not located under the TIBCO Silver Fabric *$ENGINE_WORK_DIR* directory. The Hawk log files do not appear in the TIBCO Silver Fabric Administrator GUI.

For TIBCO Administrator components, TIBCO Silver Fabric Enabler for TIBCO Administrator uses TIBCO Hawk and TIBCO Hawk Agent. Table 2 lists the retained TIBCO Hawk log files.

Table 2 Retained TIBCO Hawk Agent Log Files

Name	Location	Purpose of the Log
`Hawk.log`	*`$ENGINE_WORK_DIR`*`/domaindata/tra/`*TIBCO_DOMAIN*`/logs`	Log file of the Hawk call in the Hawk Agent.
`tsm.log`	*`$ENGINE_WORK_DIR`*`/domaindata/tra/`*TIBCO_DOMAIN*`/logs`	Log file of the Hawk Agent.
`msghma.log`	*`$ENGINE_WORK_DIR`*`/domaindata/tra/`*TIBCO_DOMAIN*`/logs`	Log file for `tibhawkhma`.

TIBCO Administrator Log Files

When TIBCO Administrator runs in the Fault Tolerant mode, all files are not located under the TIBCO Silver Fabric *`$ENGINE_WORK_DIR`* directory. The TIBCO Administrator log files do not appear in the TIBCO Silver Fabric Administration Tool.

Table 3 lists the retained TIBCO Administrator Log Files.

Table 3 Retained TIBCO Administrator Log Files

Name	Location	Purpose of the Log
`audit.log`	*`$ENGINE_WORK_DIR`*`/domaindata/admin/`*TIBCO_DOMAIN*`/logs`	All information about TIBCO Administrator activities.
`tomcat.log`	*`$ENGINE_WORK_DIR`*`/domaindata/admin/`*TIBCO_DOMAIN*`/tomcat/logs`	Technical log of TIBCO Administrator that runs on Tomcat.
`domainutility.log`	*`$ENGINE_WORK_DIR`*`/tibco/tra/`*tra_version_2 digits*`/logs`	Log file of the `domainUtilitty` command used to create the domain or add the machine. This file is common for all Engines.

Index

A

Administrator Component
  Publish 29
Administrator Domain 9
AMI Hawk Daemon 15, 15, 16
AMI Hawk Service 15

B

Basic Configuration
  User Name - Password 10

C

CA Certificate 25
Component upgrade 30
Components 2
customer support xiii

D

DB_URL 18
Dependency Requirements 33
dependency, setting 34
distributions 7
Documentation x, x, xiii
Domain Encoding 10

E

EMS Server URL 16
EMS User Name 17, 17
EMS_SERVER_URL 14
Enable HTTPS 10
Enable LDAP 10
entity 4
environment variable 22, 27

F

Fault Tolerance 12
Fault Tolerant 35
Functionalities 2

H

Hawk AMI, configuration for 15
Hawk Application Management Interface 15
Hawk Daemon 13
Hawk Network 14
Hawk Service 14
HPP Load Balancer 38
HTTP Base Port 19
HTTP Shutdown Base Port 20, 25
HTTPS Base Port 23, 25
HTTPS Shutdown Base Port 24

J

JDBC Driver 17, 19
JDBC_DRIVER 17

K

key.p8 25
Keystore Password 24, 25

L

LDAP Integration With SSL Connections 27
Log Files
  Administrator 42
Log files 41
log files
  audit.log 42
  domainutility.log 42
  Hawk.log 42
  msghma.log 42
  tomcat.log 42
  tsm.log 42
Log Files, Hawk Agent 41
Log Files, retained 41

M

Maximum JDBC Connection Pool Size 18
Minimum JDBC Connection Pool Size 18

O

Optional Distribution(s) 8

R

remote Daemon 14
Rendezvous® Daemon, remote 14
runtime specific context variables 22, 27
RuntimeContextVariable
  DB_URL 18
  EMS_SERVER_URL 14
  JDBC_DRIVER 17
RV DAEMON 13
RV Network 13
RV Service 13

S

Server Certificate 25
SFTA_HOME xi
SILVERFABRIC_HOME xi
Stack Builder Page 33
Stacks 32
support, contacting xiii
system variable 22, 27

T

tasks, creating an Administrator Component 5
technical support xiii
TIBCO Administrator 5
TIBCO Administrator Container 2
TIBCO Domain 5
TIBCO Hawk® connection configuration 13
TIBCO Rendezvous Configuration 13
TIBCO Rendezvous® Daemon, remote 14
TIBCO Silver Fabric Enabler for ActiveMatrix BusinessWorks 2
TIBCO Silver Fabric Enabler for TIBCO Administrator ix
TIBCO_HOME xi
TIBCOmmunity xiii

U

URL
  BrokerMachineName 39
  BrokerPort 39
  TIBCO Administrator 39, 40
  TIBCO_ADMIN_DOMAIN 39
Use Dependent EMS Server 11

V

variable, environment 22, 27
variable, string 22, 27
variables, encrypted 22, 27
variables, System 22, 27