TIBCO iWay® Service Manager

Installation and Configuration Guide

Version 9.0.0
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TIBCO iWay Service Manager 9.0 Installation Overview

This section provides an overview of the installation and configuration of TIBCO iWay® Service Manager 9.0 products and components.

In this chapter:

TIBCO iWay Service Manager 9.0 Products and Components

This manual explains the installation and initial configuration of TIBCO iWay® Service Manager 9.0 components. The topics that follow briefly summarize some of these components.

Adapters

Adapter offerings consist of adapters for accessing and integrating information and systems across many different protocols and data sources. TIBCO iWay Service Manager provides over 200 types of adapters connecting everything from legacy systems and databases to the most recent advancements in information technology. Different Service Manager installation packages include different adapters, so the available adapters depend on which version of Service Manager you install. The following are some of the most common adapters installed with Service Manager:

Technology Adapters

❏   TIBCO

❏   Java

❏   RDBMS

❏   ESRI

❏   Microsoft .NET

Application Adapters

❏   J.D. Edwards EnterpriseOne

❏   J.D. Edwards World

❏ Microsoft CRM Application Adapter 2011

❏ Microsoft Exchange

❏ SAP ERP

❏ Oracle E-Business Suite

❏ PeopleSoft

❏ Siebel

❏ Salesforce.com

❏ VistA MUMPS

eBusiness Adapters

❏ EDIFACT

❏ EDI/X12

❏ EDIHL7

❏ Excel

❏ HIPAA

❏ SWIFT

❏ Tradacoms Services

Legacy Adapters

❏ COBOL Data Conversion

❏ CICS

❏ IMS

❏ Terminal Emulation

Log Event Adapters

❏ Informix Dynamic Server 11.50

❏ Oracle 11g and 12c

Protocol Adapters

❏ AQ

❏ Extended AS2

❏ ConnectDirect

❏ LDAP

❏ MSMQ

❏ RabbitMQ Services

❏ SONIC JMS

❏ Tibco RV

❏ User Datagram Protocol (UDP)

❏ IBM MQ

❏ ActiveMQ

Adapters can be deployed through Service Manager. In addition, adapters can be integrated directly into your own applications. For information on integrating adapters into your applications, contact TIBCO Support.

TIBCO iWay Service Manager

TIBCO iWay Service Manager is a highly scalable enterprise service bus, with fully integrated service design-time environment and web services creation/deployment capabilities. It provides a hosting environment for adapters and includes components for integrating data, applications, systems, and protocols. It also provides a web-based configuration and monitoring tool referred to as the Service Manager Administration Console.

Service Manager is a stand-alone Java application and requires only a Java Virtual Machine to run.

Extensions

Extensions supplement Service Manager by adding or extending capabilities for servicing messages. The extension services integrate with the native services of Service Manager during execution and configuration. Extensions can be installed along with Service Manager or as packages after Service Manager is installed. The following are some of the most common extensions:

❏ **RVI Gateway.** Links two or more Service Managers in a message receiver/message executor relationship for the purpose of tunneling through secure firewalls.

❏ **Enterprise Index.** Provides indexing services through the Google Search Appliance.

❏ **LDAP High Water Mark Listener.** Provides the ability to read records from an LDAP if an attribute is defined with increasing values, such as a timestamp of the last change.

❏ **RDBMS High Water Mark Listener.** Provides the ability to read records from an RDBMS if a column or set of columns is defined with increasing values, such as a timestamp of the last change.

❏ **Telnet Control Console.** Used to remotely access the Service Manager command line console through a Telnet session. The Telnet session can connect to any Service Manager instance running either in the foreground or the background.

❏ **Hot Backup.** Hot backup allows a secondary Service Manager system to act as the backup for a live Service Manager. The backup Service Manager will take over if the live Service Manager fails.

❏ **PGP Encryption Components.** Supports standard OpenPGP, as specified in RFC 2440. The support includes decrypting incoming messages and encrypting outgoing messages using simple PGP and key pair (public key) PGP.

❏ **Security Developers Tools.** Provides a utility program for signing and verifying files.

❏ **Data Quality Center.** Data Quality Center (DQC) is an essential tool for complex data quality management. DQC is designed not only to evaluate, monitor, and manage data quality in different information systems, but also to prevent incorrect data from entering these systems in the first place.

❏ **Real Time Data Replication.** The Real Time Data Replication extension is composed of the SQL Batch Insert Iterator and the Data Integration Object.

❑ **XQuery.** Evaluates an XQuery 1.0 expression against an input XML document. The result is available in the output XML document that is generated. XQuery can be used to select a portion of an XML document or to transform an XML document.

iWay Business Services Provider

iWay Business Services Provider (iBSP) provides transformation and adapter hosting functionality, as well as an environment for developing, running, and integrating web services. It provides a transformation and integration engine for processing XML files and SOAP messages for exchanges with web services applications. iBSP runs as a component of Service Manager.

Note: iWay Business Services Provider (iBSP) was formerly known as iWay Business Services Engine (iBSE). Some references, files, and prompts may still use the previous name.

Installation and Configuration Overview

The following are steps for installing and configuring TIBCO iWay Service Manager components. Follow the steps for the components you wish to use:

1. Review the requirements and install any required third party components. (*Installing TIBCO iWay Service Manager 9.0 Components* on page 13)

2. Run the installation program to install Service Manager 9.0 components. (*Installing TIBCO iWay Service Manager 9.0 Components* on page 13)

3. Copy third party adapter-related files into the Service Manager 9.0 directory structure. (*Preparing Adapters* on page 47)

4. Start and configure Service Manager. (*Configuring Components* on page 65)

5. Refer to the documentation for your installed adapters and/or extensions.

Chapter **2**

Installing TIBCO iWay Service Manager 9.0 Components

The following topics describe the requirements and initial installation procedures for TIBCO iWay Service Manager components.

In this chapter:

❏ TIBCO iWay Service Manager 9.0 Installation Requirements

❏ Installing TIBCO iWay Service Manager 9.0

❏ Installing TIBCO iWay Service Manager 9.0 With 5.x, 6.x, or 7.x Service Manager

❏ Post-Installation Topics and Tasks

❏ TIBCO iWay Service Manager Configuration Steps

TIBCO iWay Service Manager 9.0 Installation Requirements

Review the following installation requirements to ensure your system supports TIBCO iWay Service Manager 9.0.

Hardware Requirements

Minimum requirements for Windows or UNIX:

❏ 2.5 gigahertz (GHz) or higher Intel® Pentium® compatible CPU.

❏ 4 gigabyte (GB) of RAM.

❏ 4 gigabyte (GB) of disk space.

❏ Service Manager requires two ports for the Service Manager Administration Console and SOAP listener. Other ports may be required, depending on your configuration. For example, the HTTP listener requires a listening port.

Note: For exact requirements for your specific configuration, contact TIBCO Support.

Operating System Requirements

Service Manager 9.0 is certified on the following platforms. Additional platforms may be supported, as long as they meet Java requirements. For more information, contact TIBCO Support.

❑ AIX 64-bit

❑ OS/400 64-bit

❑ Red Hat Enterprise Linux 64-bit

❑ Red Hat Enterprise Linux 64-bit (GUI)

❑ Solsparc 64-bit

❑ Suse Linux Enterprise 64-bit

❑ Windows 7 64-bit

❑ Windows 2008 R2 Standard 64-bit

❑ Windows 2008 Enterprise 64-bit

❑ Windows 2012 64-bit

❑ Windows 10 64-bit

❑ z/OS

For additional operating system support information, contact TIBCO Support.

The procedures, names, and paths in this manual use Windows conventions and default locations, unless otherwise indicated. For other operating systems and non-default locations, substitute accordingly. Names and case may vary between operating systems.

Java Requirements

Java 2 Standard Edition (J2SE™) JDK 11 is required for Service Manager and related components. OpenJDK 11 is also supported.

For Windows, Linux, and Solaris, you can download and install the latest supported JDK from:

http://www.oracle.com/technetwork/java/javase/downloads/index.html

For other platforms, contact the appropriate vendor.

After installing the JDK, the Java command must be in your search PATH to install and run Service Manager. Ensure the following is in your PATH variable:

```
/java_home/bin
```

where:

```
java_home
```

> Is the absolute path where the JDK is installed.

To determine if Java is properly installed and in your search PATH, execute the following at a command prompt or shell:

```
java -version
```

Information on the Java build appears, for example:

```
openjdk version "11.0.15" 2022-04-19
OpenJDK Runtime Environment Temurin-11.0.15+10 (build 11.0.15+10)
OpenJDK 64-Bit Server VM Temurin-11.0.15+10 (build 11.0.15+10, mixed mode)
```

Note: The terms JDK™ and Java SDK™ are synonymous.

Adapter Requirements

Many adapters require third-party libraries, such as JDBC drivers, provided by the vendor of the target data source, system, or protocol. You must copy these files into the Service Manager directory structure after you complete the installation. More information is available in *Preparing Adapters* on page 47.

Installing TIBCO iWay Service Manager 9.0

As of Version 8.0.5, a license key is no longer required to install TIBCO iWay Service Manager. The initial installation procedure installs all components and adapters. Additional procedures are found throughout this manual to explain how to activate and configure the components of Service Manager.

TIBCO iWay Service Manager 9.0 Installation

Follow the procedure for your platform:

❏ For Windows, see *How to Install TIBCO iWay Service Manager 9.0 on Windows Platforms* on page 16.

❏ For UNIX, OS/400, and z/OS, see *How to Install TIBCO iWay Service Manager 9.0 on UNIX, OS/400, and z/OS Platforms* on page 33.

Procedure: **How to Install TIBCO iWay Service Manager 9.0 on Windows Platforms**

You must be an administrator for the local machine to run the installation.

1. Start the installation by executing the *TIB_sm_9.0.0_iway90.exe* installation program.

   The installation begins by temporarily copying files and analyzing your environment. This may take some time. When this process completes, the Welcome window opens, as shown in the following image.
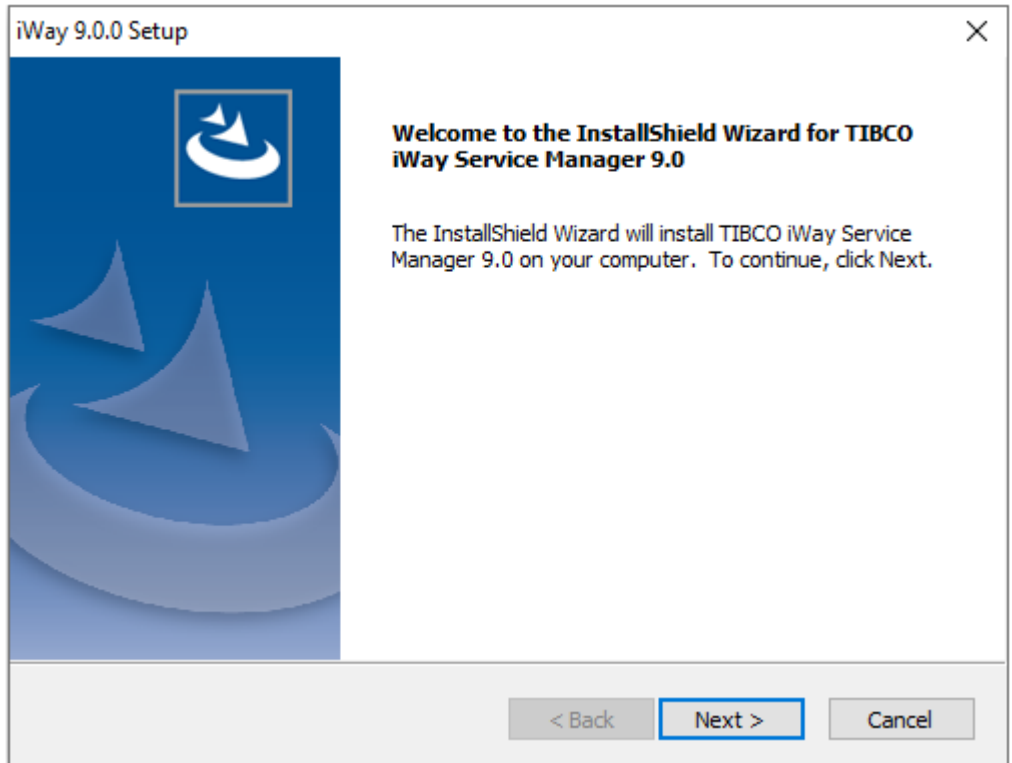
Note: If you receive an error, ensure you are installing as an administrator and there is at least 2 GB of free space on your operating system drive.

2. Click *Next*.

The License Agreement window opens, as shown in the following image.

3. Review the information, select *I accept the terms of the license agreement* if you agree to the terms, and click *Next*.

The Customer Information window opens, as shown in the following image.

4. Provide your *User Name* and *Company Name*.
5. Click *Next*.

The Setup Type window opens, as shown in the following image.
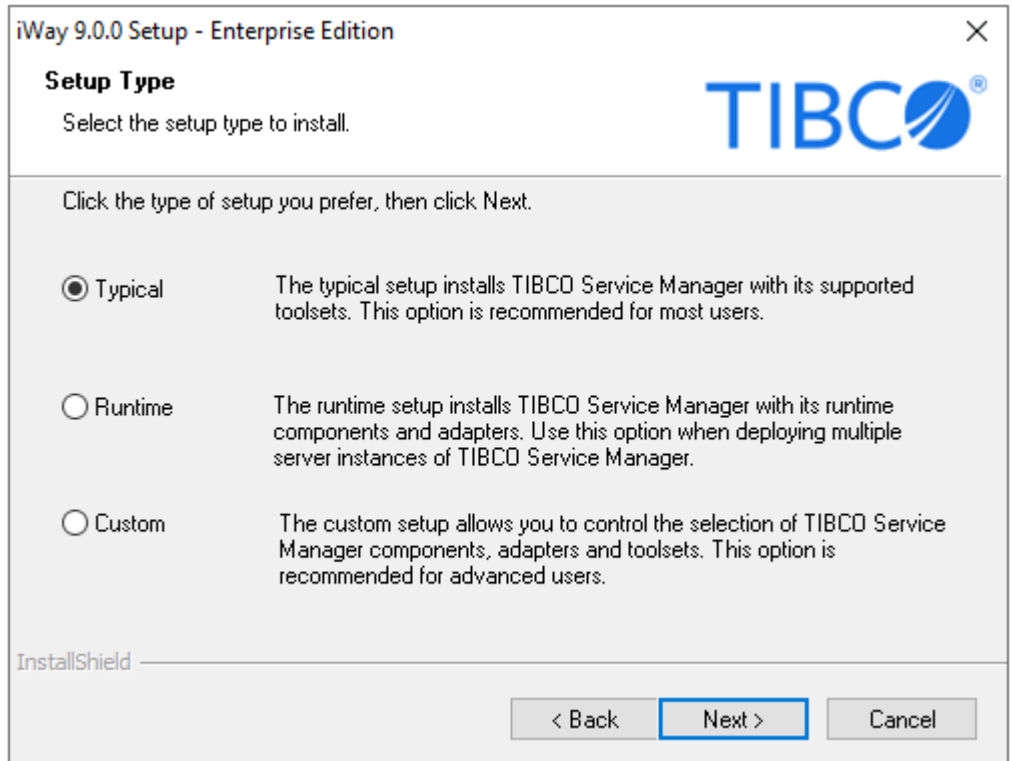
6. Select the setup type (Typical, Runtime, or Custom) according to your requirements.
7. Click *Next*.

The Choose Destination Location window opens, as shown in the following image.

iWay 9.0.0 Setup - Enterprise Edition   ✕

Choose Destination Location
Select folder where setup will install files.   TIBC⌀®

Setup will install TIBCO iWay Service Manager 9.0 in the following folder.

To install to this folder, click Next. To install to a different folder, click Browse and select
another folder.

Destination Folder

C:\Program Files (x86)\iway9\   Browse...

InstallShield

< Back   Next >   Cancel
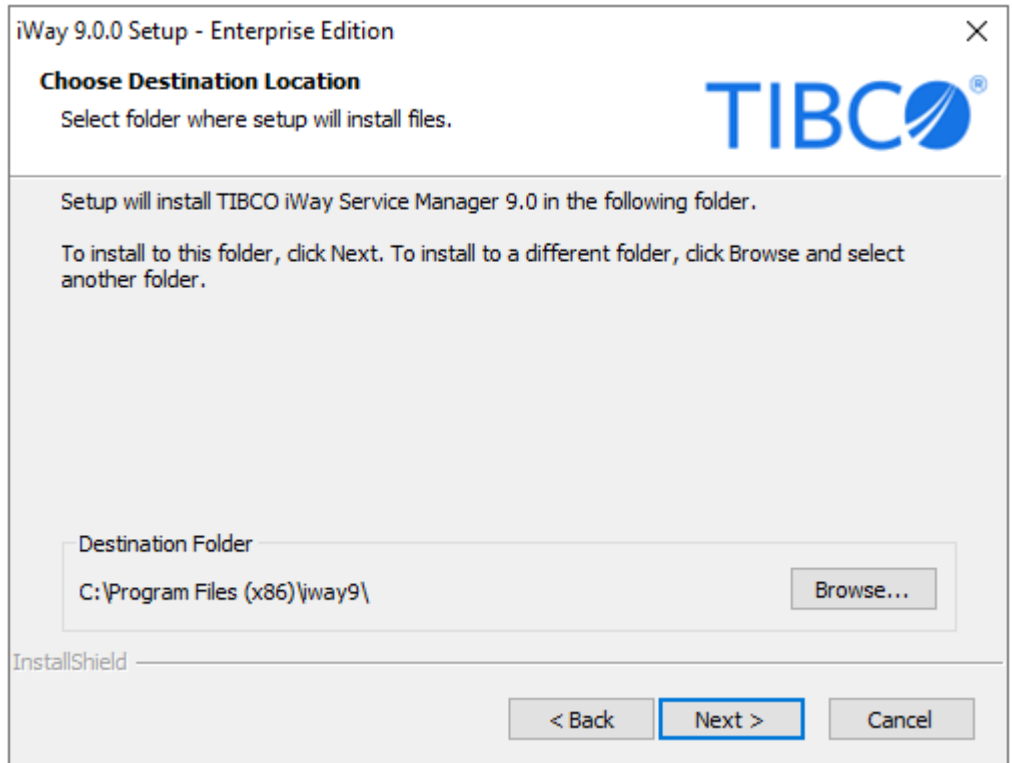
8. Accept the default location, which is C:\Program Files (x86)\iway9\, or click *Browse* to
    specify a new location.

9. Click *Next*.

The Adapter Selection window opens, as shown in the following image, where you can select the specific adapters that you want to install. Ensure that you expand all of the categories to view the available adapters.
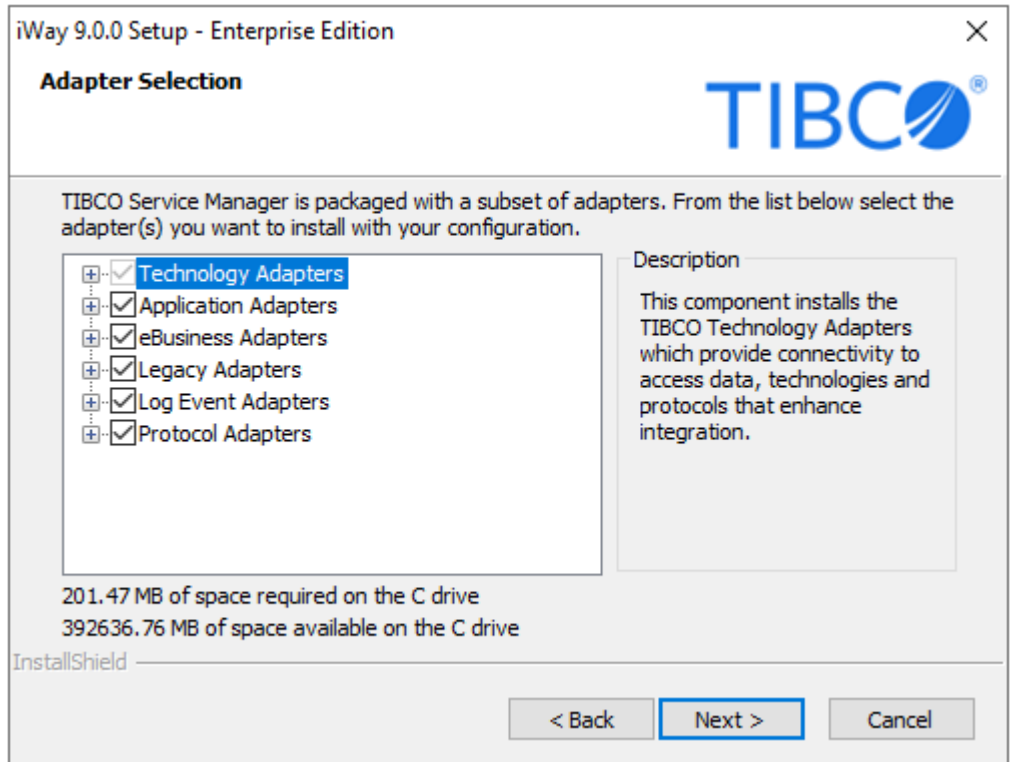
10. Select the adapters you want to install.

11. Click *Next*.

The Feature Selection window opens, as shown in the following image, where you can select the specific Service Manager features that you want to install. Ensure that you expand all of the categories to view the available features.
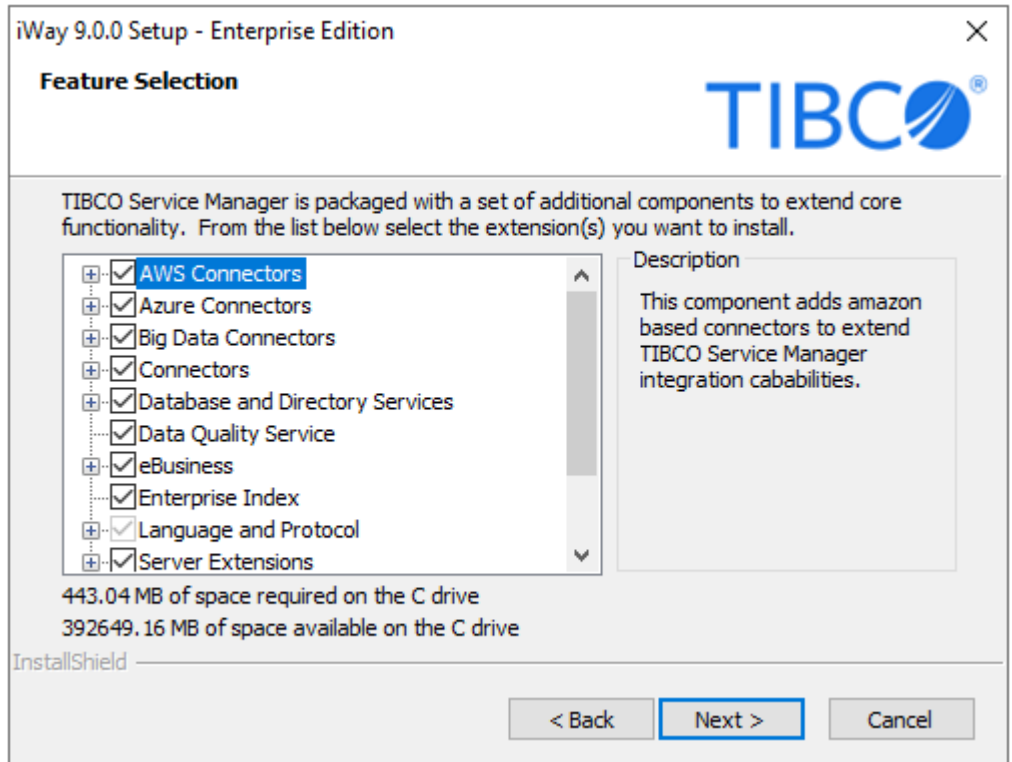
12. Select the features you want to install.

13. Click *Next*.

   The TIBCO Service Manager Configuration options window opens, as shown in the following image.

   You are prompted to specify the ports that Service Manager uses, as listed and described in the following table.

Name	Default Port	Purpose
Console	9999	HTTP listener for the Service Manager Administration Console.
SOAP	9000	SOAP listener for iBSP and iWay Explorer.

Name	Default Port	Purpose
Envoy (optional)	9001	Designated port for Envoy to allow Sentinel monitoring. **Note:** The Envoy port option is displayed only if *Envoy* is selected in the Feature Selection window.

14. Accept the default port values or specify new values and then click *Next*.

   Note: Be sure to specify ports that are not being used by other programs or by another instance of Service Manager. If necessary, contact your system administrator for assistance in identifying available TCP ports.

   If you selected *Envoy* to be installed from the Feature Selection window in step 11, then the Sentinel Registration window opens, as shown in the following image.

15. Accept the default Host and Port values or specify new values along with the correct User ID and Password, and then click *Next*.

The Start Copying Files window opens, as shown in the following image.
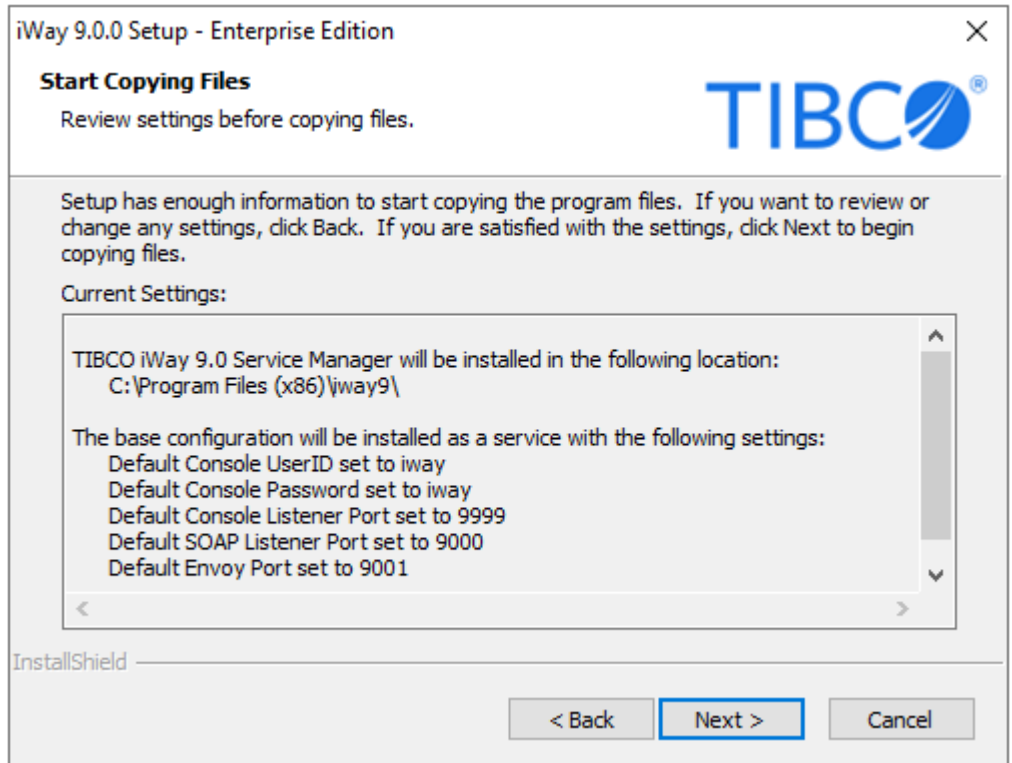
16. Review the settings and then click *Next* to start the installation.

The Setup Status window opens, as shown in the following image.
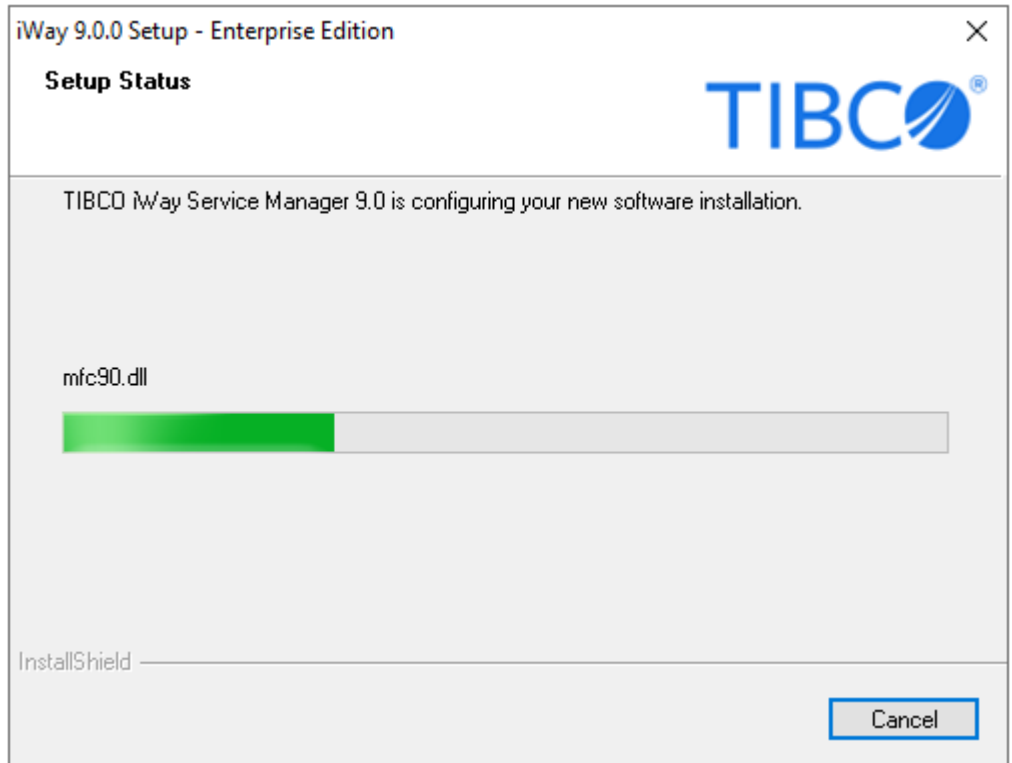
Files are copied to your system in the directory you specified.

You have the option to start TIBCO Service Manager when installation completes, as shown in the following image.
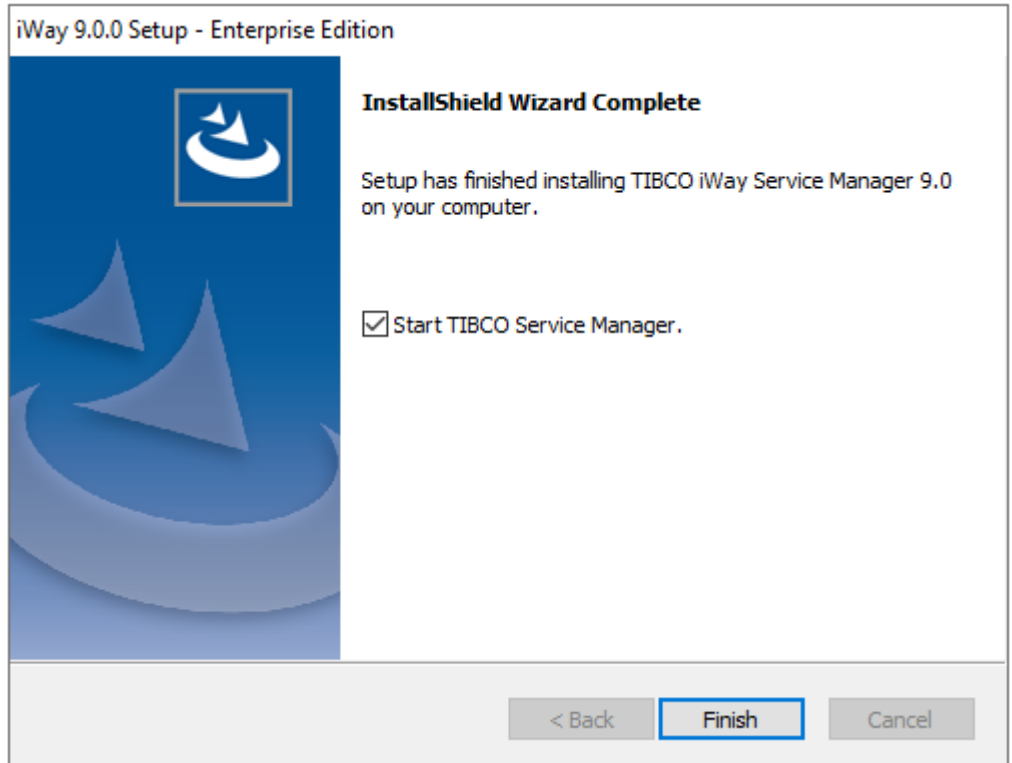
If you choose this option, the Service Manager Administration Console launches in your default web browser. You can log on to the Service Manager Administration Console using the default user name, *admin*, and password, *admin*. You can change the user name and password, as explained in *Configuring Components* on page 65.

17. Click *Finish* to complete the installation Wizard.

18. Proceed to *Post-Installation Topics and Tasks* on page 40. For maximum performance, it is strongly recommend that you follow the post-installation procedure for *Configuring TIBCO iWay Service Manager as a Separate Process* on page 45.

Procedure: **How to Install TIBCO iWay Service Manager on Windows Platforms Using Silent Mode**

You can use the supported InstallShield command options that are described in this section to run a Service Manager installation in silent (unattended) mode on Windows platforms.

Note: Only major releases of Service Manager can be installed in silent (unattended) mode.

Before continuing, ensure that you are an administrator for the local machine.

The high-level process for configuring a silent (unattended) Service Manager installation on Windows platforms is as follows:

1. Record a response file for a Service Manager installation using the -r option.

2. Play back a silent (unattended) Service Manager installation using the -s option.

Procedure: **How to Record a Response File to Install TIBCO iWay Service Manager**

1. Open a Windows command prompt.

2. Navigate to the location where the *TIB_sm_9.0.0_iway90.exe* installation program is located, for example:

   ```
   c:\iWay9_Install_Source>
   ```

3. Type the following command:

   ```
   c:\iWay9_Install_Source>TIB_sm_9.0.0_iway90.exe
   -r -f1my_response_file.iss
   ```

   where:

   ```
   -r
   ```

   Indicates that a response file will be recorded for this Service Manager installation.

   ```
   -f1my_response_file.iss
   ```

   Is the name of the response file that will be created as a result of the Service Manager installation. Do not include a space between -f1 and *my_response_file*.

   For example, to create a response file for the Service Manager installation called *ism_install_config* and save it in the *c:\temp* directory, type the following command:

   ```
   c:\iWay9_Install_Source>TIB_sm_9.0.0_iway90.exe
   -r -f1c:\temp\ism_install_config.iss
   ```

   This command creates the response file in the specified directory.

   Note:

   ❏ If no directory is specified using the -f1 option, a default response file (*setup.iss*) is written to the *c:\windows* directory.

   ❏ There is also an -f2 option that is used to designate the location of the InstallShield log file. The InstallShield log file is created during the installation process. If no location is specified, then the InstallShield log file is written to the same location as the response file.

4. Complete a normal Service Manager installation using the Windows-based InstallShield installer.

   The specified response file will record all of the settings that you specified during the Service Manager installation. You can edit and customize the settings in the generated response file according to your requirements.

Procedure: **How to Play Back a Response File to Install TIBCO iWay Service Manager**

After you have created your response file, you can run the Service Manager installation in silent (unattended) mode. Only major releases of Service Manager can be installed in silent (unattended) mode.

Note: When running the Service Manager installation in silent (unattended) mode, no messages are displayed. All messages are written to a log file. Review this log file to determine the results of your Service Manager installation.

1. Copy the *TIB_sm_9.0.0_iway90.exe* installation program to the location where you want to install Service Manager using silent (unattended) mode, for example:

   ```
   c:\iWay9_Install_Prod>
   ```

2. Type the following command:

   ```
   c:\iWay9_Install_Prod>TIB_sm_9.0.0_iway90.exe
   -s -f1my_response_file.iss -f2log_file
   ```

   where:

   ```
   -s
   ```

   Indicates that the Service Manager installation will run in silent (unattended) mode.

   ```
   -f1my_response_file.iss
   ```

   Specifies the file name and location of the response file. Do not include a space between -f1 and *my_response_file*.

   ```
   -f2log_file
   ```

   Specifies the file name and location where the InstallShield log files will be written. Do not include a space between -f2 and *log_file*.

For example, to run a Service Manager installation in silent (unattended) mode from the *c:\iWay9_Install_Prod* directory, which references the *ism_install_config.iss* response file from the *c:\temp* directory, and writes an InstallShield log file (*ism_install_log_file*) to the *c:\temp* directory, type the following command:

```
c:\iWay9_Install_Prod>TIB_sm_9.0.0_iway90.exe
-s -f1c:\temp\ism_install_config.iss -f2c:\temp\ism_install_log_file
```

The Service Manager installation runs automatically in the background without any user interaction. Review the log file to determine the results of your Service Manager installation that ran in silent (unattended) mode.

Procedure: **How to Uninstall TIBCO iWay Service Manager on Windows Platforms Using Silent Mode**

This section describes how to uninstall Service Manager in silent (unattended) mode on Windows platforms. Before continuing, ensure that you are an administrator for the local machine.

The high-level process for configuring a silent (unattended) Service Manager uninstallation on Windows platforms is as follows:

❑ Record a response file to uninstall Service Manager using the *-r* option.

❑ Play back a silent (unattended) Service Manager uninstallation using the *-s* option.

Procedure: **How to Record a Response File to Uninstall TIBCO iWay Service Manager**

1. Open a Windows command prompt.

2. Navigate to the location where the *TIB_sm_9.0.0_iway90.exe* installation program is located, for example:

   `c:\iWay9_Install_Source>`

3. Type the following command:

   `c:\iWay9_Install_Source>TIB_sm_9.0.0_iway90.exe`
   `-r -f1my_response_file.iss`

   where:

   `-r`

   Indicates that a response file will be recorded for this Service Manager uninstallation.

   `-f1my_response_file.iss`

   Is the name of the response file that will be created as a result of the Service Manager uninstallation.

   For example, to create a response file for the Service Manager uninstallation called *ism_uninstall* and save it in the *c:\temp* directory, type the following command:

   `c:\iWay9_Install_Source>TIB_sm_9.0.0_iway90.exe`
   `-r -f1c:\temp\ism_uninstall.iss`

   This command creates the response file in the specified directory.

Note:

❑ If no directory is specified using the *-f1* option, a default response file (*setup.iss*) is written to the *c:\windows* directory.

❑ There is also an *-f2* option that is used to designate the location of the InstallShield log file. The InstallShield log file is created during the uninstallation process. If no location is specified, then the InstallShield log file is written to the same location as the response file.

4. When you run the *TIB_sm_9.0.0_iway90.exe* installation program on a machine where Service Manager is already installed, the *Modify, repair, or remove the program* dialog box opens, as shown in the following image.
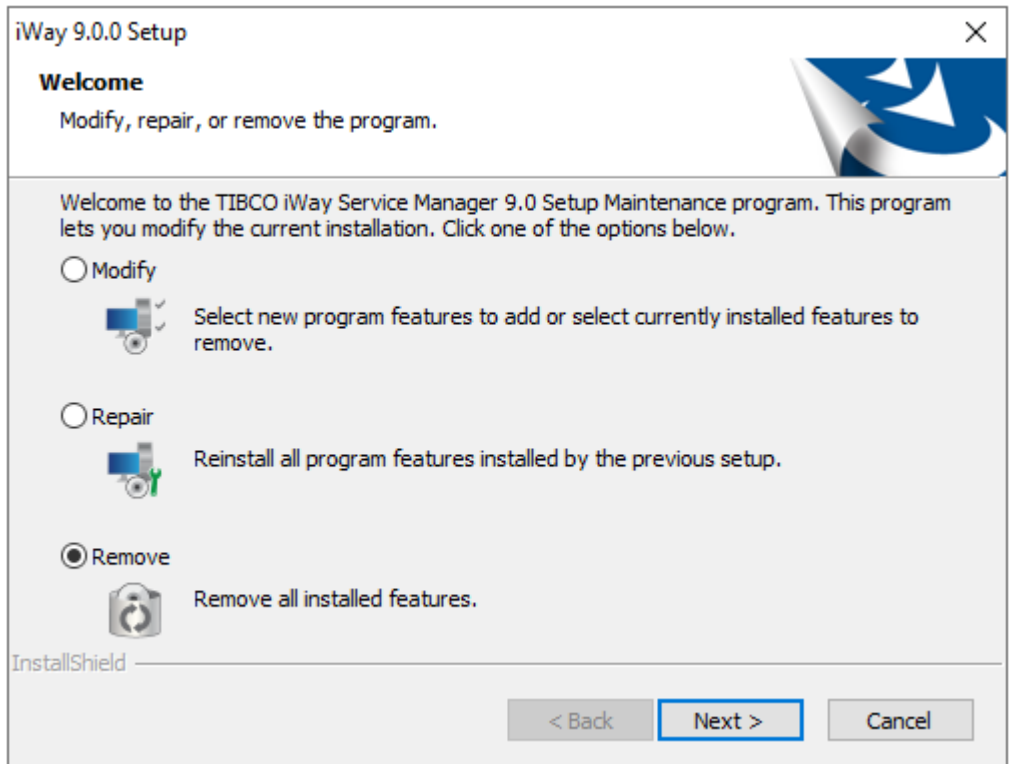
5. Select *Remove* and then click *Next* to complete the uninstallation process.

The specified response file (for example, *ism_uninstall.iss*) will record the *Remove* option, which instructs the *TIB_sm_9.0.0_iway90.exe* installation program to uninstall Service Manager. You are now ready to play back your response file to uninstall Service Manager.

Procedure: **How to Play Back a Response File to Uninstall TIBCO iWay Service Manager**

After you have created your response file, you can run the Service Manager uninstallation in silent (unattended) mode. Only major releases of Service Manager can be uninstalled in silent (unattended) mode.

Note: When running the Service Manager uninstallation in silent (unattended) mode, no messages are displayed. All messages are written to a log file. Review this log file to determine the results of your Service Manager uninstallation.

1. Copy the *TIB_sm_9.0.0_iway90.exe* installation program to the location where you want to uninstall a copy of Service Manager using silent (unattended) mode, for example:

```
c:\iWay9_Install_Prod>
```

2. Type the following command:

```
c:\iWay9_Install_Prod>TIB_sm_9.0.0_iway90.exe
-s -f1my_response_file.iss -f2log_file
```

where:

```
-s
```

Indicates that the Service Manager uninstallation will run in silent (unattended) mode.

```
-f1my_response_file.iss
```

Specifies the file name and location of the response file for the uninstallation. Do not include a space between -f1 and *my_response_file*.

```
-f2log_file
```

Specifies the file name and location where the InstallShield log files will be written. Do not include a space between -f2 and *log_file*.

For example, to run a Service Manager uninstallation in silent (unattended) mode from the *c:\iWay9_Install_Prod* directory, which references the *ism_uninstall.iss* response file from the *c:\temp* directory, and writes an InstallShield log file (*ism_uninstall_log_file*) to the *c:\temp* directory, type the following command:

```
c:\iWay9_Install_Prod>TIB_sm_9.0.0_iway90.exe
-s -f1c:\temp\ism_uninstall.iss -f2c:\temp\ism_uninstall_log_file
```

The Service Manager installation runs automatically in the background without any user interaction. Review the log file to determine the results of your Service Manager uninstallation that ran in silent (unattended) mode.

Procedure: **How to Install TIBCO iWay Service Manager 9.0 on UNIX, OS/400, and z/OS Platforms**

On UNIX/Linux, installing as root is not recommended. Creating a dedicated Service Manager user ID and group with appropriate rights is preferable.

On OS/400, your user ID must have *ALLOBJ, *JOBCTL, and *SAVSYS authority.

On z/OS, the TIB_sm-iIT_9.0.0_iway90.jar file must be placed in the USS file system.

The new unified installer can enable silent, unattended installation. Contact TIBCO Support for more information.

1. Use FTP in binary mode to transfer the installation file to your UNIX or OS/400 machine. For OS/400, place the file in a directory under QSH.

2. Navigate to the directory containing the installation file. On OS/400, you must be running under QSH.

3. Ensure the installation file is executable, for example:

   ```
   chmod 755 TIB_sm-iIT_9.0.0_iway90.jar
   ```

4. Start the installation by executing:

   ```
   java -jar TIB_sm-iIT_9.0.0_iway90.jar
   ```

   The installation initializes, which may take some time. When initialization is complete, a Welcome prompt appears:

   ```
   Welcome to the TIBCO 9.0.0 Service Manager Setup Wizard. This setup
   program installs TIBCO 9.0.0 Service Manager on this system.

   Setup is using Windows 10 10.0 x68 Settings
   File encoding is Cp1252, XML encoding is UTF-8

   Copyright (C) 2003-2022, TIBCO Software Inc.
   All Rights Reserved.

   Press 1 for Next, 2 to Cancel [1]
   ```

   Note: If the installation does not launch, ensure that */JAVA_HOME/*bin is in your $PATH variable. See *Java Requirements* on page 14 for information on setting up your Java environment.

5. Press Enter to continue.

   A license agreement appears.

6. Review the agreement and press Enter until you see the following prompt:

   ```
   Please choose from the following options:
   ```

```
[ ] 1 - I accept the terms of the license agreement.
[X] 2 - I do not accept the terms of the license agreement.

To select an item enter its number, or 0 when you are finished: [0]
```

7. If you accept the terms, type *1* and press Enter.

    The prompt repeats showing the new value.

```
[X] 1 - I accept the terms of the license agreement.
[ ] 2 - I do not accept the terms of the license agreement.

To select an item enter its number, or 0 when you are finished: [0]
```

8. Type *0*, then press Enter to continue.

    The Customer Information prompts appear:

```
Customer Information

Please enter your information.

User Name: [unknown]
```

9. Type a user name for the product registration and then press Enter. This user name does not affect product operations.

```
Company Name: [unknown]
```

10. Type your company name for the product registration.

11. Press Enter to continue.

    The installation directory prompt appears:

```
Destination Location

Setup will install TIBCO 9.0.0 Service Manager in the following
location. Setup allows users to enter a different location.

Directory: [/iway/install/iWay9]
```

Note: On Linux systems, you may need to change the default directory that appears. The default directory normally should be named iWay9, but some Linux environments do not follow this default.

12. Specify where to install Service Manager on your system and then press Enter. Ensure this is a directory to which you have write access.

    The navigation prompt appears.

```
Press 1 for Next, 2 for Previous, 3 to Cancel or 4 to Redisplay [1]
```

13. Press Enter.

    The following prompt for adapter selection appears.

    ```
    Adapter Selection

    TIBCO 9.0.0 Service Manager is packaged with a subset of adapters. From
    the list below select the adapter(s) you want to install
    with your configuration.

    [ ] 1 - Technology Connectors
    [ ] 2 - Application Adapters
    [ ] 3 - eBusiness Components
    [ ] 4 - Legacy Adapters
    [ ] 5 - Queuing Connectors
    [ ] 6 - Protocol Connectors
    [ ] 7 - IOT Connectors

    Enter a number, (a)ll, (n)one or 0 to finish: [0]
    ```

    Note: An X next to an adapter category indicates one or more adapters are selected.

14. Type the number of the adapter you want to install and press Enter.

    Note: You can only type one adapter number at a time.

15. When you are finished with your selections, type *0* and press Enter.

    You are returned to the Adapter selection prompt.

    ```
    Adapter Selection

    TIBCO 9.0.0 Service Manager is packaged with a subset of adapters. From
    the list below, select the adapter(s)
    you want to install with your configuration.

    [ ] 1 - Technology Connectors
    [ ] 2 - Application Adapters
    [ ] 3 - eBusiness Components
    [ ] 4 - Legacy Adapters
    [ ] 5 - Queuing Connectors
    [ ] 6 - Protocol Connectors
    [ ] 7 - IOT Connectors

    Enter a number, (a)ll, (n)one or 0 to finish: [0]
    ```

16. Type *0* and press Enter.

    The navigation prompt appears.

    ```
    Press 1 for Next, 2 for Previous, 3 to Cancel or 4 to Redisplay [1]
    ```

17. Type *1* and press Enter to continue.

    The Extensions menu appears.

    ```
    Extensions

    TIBCO Service Manager comes with a set of additional components that
    can be used to extend standard functionality.
    From the list below, select the extension(s) you want to install.

    [ ] 1 - Gateway (RVI)
    [ ] 2 - Enterprise Index
    [ ] 3 - LDAP High Water Mark Listener
    [ ] 4 - RDBMS High Water Mark Listener
    [ ] 5 - Hot backup
    [ ] 6 - Compatibility Services
    [ ] 7 - PGP Encryption Components
    [ ] 8 - Security Developers Tools
    [ ] 9 - Data Quality Service
    [ ] 10 - Real-Time Data Replication
    [ ] 11 - XQuery
    [ ] 12 - Simple Network Management Protocol Agent (SNMP)
    [ ] 13 - Command Scheduler
    [ ] 14 - Java Scripting Engine
    [ ] 15 - Schema Validation Services
    [ ] 16 - Advanced XML Digital Signature
    [ ] 17 - De-identification Services
    [ ] 18 - Envoy
    [ ] 19 - Open Rules Decision Management Integration
    [ ] 20 - PDF Services
    [ ] 21 - WebFOCUS support

    Enter a number, (a)ll, (n)one or 0 to finish: [0]
    ```

18. Type the number of the extension you want to install and press Enter.

    Note: You can only type one extension number at a time. When you press Enter, the Extensions menu reappears with your selection checked.

19. When you are finished with your selections, type *0* and press Enter.

    The navigation prompt appears.

    ```
    Press 1 for Next, 2 for Previous, 3 to Cancel or 4 to Redisplay [1]
    ```

20. Type *1* and press Enter to continue.

    You are prompted for the Service Manager port assignments. You can accept the default value listed with each prompt or type a new value appropriate for your installation, and press Enter.

    ```
    Resource Assignments
    ```

```
Setup allows users to customize the default port numbers used within
the installed TIBCO 9.0.0 Service Manager configuration.

Console Port [9999]

SOAP Port [9000]

Envoy Port [9001]

Press 1 for Next, 2 for Previous, 3 to Cancel or 4 to Redisplay [1]
```

Note: The Envoy Port option is displayed only if *Envoy* is selected in the Extensions menu.

21. Type *1* and press Enter to continue.

If you selected *Envoy* in the Extensions menu, then you are prompted for Sentinel Registration. You can accept the default value listed with each prompt or type a new value appropriate for your installation, and press Enter.

```
Sentinel Registration

This version of Service Manager can be remotely managed by Sentinel.
Enter the following to enable self-registration with Sentinel.

Host: [localhost]

Port: [8080]

Userid: [admin]

Password: [admin]

Press 1 for Next, 2 for Previous, 3 to Cancel or 4 to Redisplay [1]
```

22. Type *1* and press Enter to continue.

A notice and summary are displayed to inform you that you have provided enough information to start copying files.

```
Start Copying Files

Setup has enough information to start copying the program files. If you
want to review or change any settings, now is the time to do so.

TIBCO 9.0.0 Service Manager will be installed in the following location:
/iway/install/iWay9
```

```
The base configuration will be installed with the following settings:
   Default console userid is set to admin
   Default console password is set to admin
   Default console port is set to 9999
   Default SOAP port is set to 9000
   Default ENVOY port is set to 9001
   Register with Sentinel as admin,admin@localhost:8080


Press 1 for Next, 2 for Previous, 3 to Cancel or 4 to Redisplay [1]
```

23. Press Enter to start the installation.

    The Setup Status information is displayed.

    ```
    Setup Status


    Setup is configuring your new software installation.


     |----------|----------|----------|----------|
    0%         25%        50%        75%       100%
    |||||||||||||||||||||||||||||||||||||||||||
    ```

    Once installation has finished, a message appears indicating that the setup is complete.

    ```
    Setup Completes


    Setup has finished installing TIBCO 9.0.0 Service Manager on your
    system.


    Press 1 to Finish Setup [1]
    ```

24. Proceed to *Post-Installation Topics and Tasks* on page 40 for information on customizing the Service Manager profile and other settings.

Procedure: **How to Install TIBCO iWay Service Manager on UNIX, OS/400, and z/OS Platforms Using Silent Mode**

On UNIX/Linux, installing as root is not recommended. Creating a dedicated Service Manager user ID and group with appropriate rights is preferable.

On OS/400, your user ID must have *ALLOBJ, *JOBCTL, and *SAVSYS authority.

On z/OS, the *TIB_sm-iIT_9.0.0_iway90.jar* file must be placed in the USS file system.

1. Use FTP in binary mode to transfer the *TIB_sm-iIT_9.0.0_iway90.jar* installation file to your UNIX or OS/400 machine. For OS/400, place this file in a directory under QSH.

2. Navigate to the directory containing the installation file. On OS/400, you must be running under QSH.

3. Ensure the installation file is executable, for example:

```
>chmod 755 TIB_sm-iIT_9.0.0_iway90.jar
```

4. To review a summary of options that are supported by the Java installer, type the following command:

```
>java -jar TIB_sm-iIT_9.0.0_iway90.jar -help
```

The following is a summary of the key options that should be used when performing a silent installation for Service Manager.

```
-----------------------------------------------------------------------

Usage: run [[-s file]|[-r file]] [-f]

-s file          save all responses to the named file
-r file          replay responses from the named file
-f                  overwrite existing files in the install directory

-----------------------------------------------------------------------
```

The *-s* option is used to create a response file, which records all of the settings that are specified during a Service Manager installation using the Java installer.

The *-r* option is used to replay the settings that were recorded in the response file during a silent (unattended) Service Manager installation.

5. Start the Service Manager installation by typing the following command:

```
java -jar TIB_sm-iIT_9.0.0_iway90.jar -s my_response_file
```

where:

```
my_response_file
```

Is the name of the response file that is created. By default, the response file will be saved in the same directory where the *TIB_sm-iIT_9.0.0_iway90.jar* file is located.

6. Complete a normal Service Manager installation using the Java installer. The response file records all of the settings that you specified during the installation. You can edit and customize the settings in the generated response file according to your requirements.

After you have created your response file, you can run the Service Manager installation in silent (unattended) mode. Only major releases of Service Manager can be run in silent (unattended) mode.

7. Copy the response file to the location where you want to install Service Manager installation using silent (unattended) mode.

8. Navigate to the location where the response file is located and start the Service Manager installation to run in silent (unattended) mode by typing the following command:

```
java -jar TIB_sm-iIT_9.0.0_iway00.jar -r my_response_file
```

where:

```
my_response_file
```

Is the name of the response file that you want to reference and use for the Service Manager installation in silent (unattended) mode.

Note: You can also use the *-f* option to overwrite existing files in the installation directory, for example:

```
java -jar TIB_sm-iIT_9.0.0_iway90.jar -r my_response_file -f
```

The Service Manager installation runs automatically in the background without any user interaction.

Installing TIBCO iWay Service Manager 9.0 With 5.x, 6.x, or 7.x Service Manager

TIBCO iWay Service Manager 9.0 can be installed onto a system that already has 5.x, 6.x, or 7.x Service Manager installed. However, there is a consideration that should be noted. For all machines and operating systems, it is important that you choose a Service Manager 9.0 installation directory that is different from the existing 5.x, 6.x, or 7.x directory.

Post-Installation Topics and Tasks

After installation, review the following topics and perform the steps required for your environment.

TIBCO iWay Service Manager 9.0 Directory Structure

After installation, an *iway9* directory is created and contains the following subdirectories:

```
bin
```

Contains files required to start and access Service Manager.

```
config
```

Contains configuration files for the base server and the application folders for each deployed application.

User IDs used to run Service Manager components must have full permissions to the config directory.

Note: You can run more than one instance of Service Manager by defining multiple configurations using the Service Manager Administration Console. The Service Manager Administration Console is introduced in *Configuring Components* on page 65. By default, two configurations are defined, *base* and *raw*. The base configuration sets up everything you require to get started and includes SOAP and HTTP listeners. The raw configuration contains no listeners and provides a useful template to define additional configurations.

etc

Contains documentation, miscellaneous tools, and files to configure additional components. Subdirectories of *etc* also contain Extensions and additional tools.

lib

Contains adapters, drivers, and other files used by Service Manager components. All components must access this directory and your library path must be set to this location. For details, see *Environment Variables* on page 44.

Installing Third-Party Jar Files

Many protocols that TIBCO Service Manager supports require the presence of third-party jar files. Specific requirements are documented for each protocol in the *Service Manager Protocol Guide*.

The j2ee.jar file is required for a number of Service Manager features and functions across protocols.

J2EE is not a component that is normally distributed with JRE. If you are compiling a Service Manager exit that requires J2EE, Oracle provides a skeleton version that does not contain any method code.

The actual .jar file that contains the appropriate method code is licensed and supplied by the vendor of an application server (for example, Glassfish, JBOSS, and so on). The Apache Tomcat web server does not provide a J2EE, so you must locate the appropriate executable code. For example, you may need the mail.jar file from Oracle if you are using Service Manager mail systems.

There is a j2ee.jar file that is distributed by Oracle, which can be used.

Download and install the software according to the instructions from the vendor and copy the j2ee.jar to [IWAYHOME]/lib.

For more information about your specific platform, contact TIBCO Support.

TCP Ports

TIBCO Service Manager uses two TCP ports for system communication. The following table lists the function and default values of these ports.

Listener	Default Port	Purpose
Console	9999	HTTP listener for the Service Manager Administration Console.
SOAP	9000	SOAP listener for iBSP.

During installation, you can select values other than the default for either or both of these ports (for security or in case of a port conflict).

Under certain circumstances, it may be necessary to change the Service Manager system port assignments after installation is completed. This section describes the procedures to change the Service Manager Administration Console and SOAP and iBSP port assignments.

Procedure: **How to Change the Service Manager Administration Console Port Assignment**

The Service Manager Administration Console port assignment can be modified by accessing the console and navigating to *Console Settings*.

Procedure: **How to Set Up the SOAP Listener to Follow the ibse-port Special Register**

The SOAP listener port is set to the integer value literal entered during Service Manager installation, with the default being 9000. This is not ideal for situations where the SOAP port will be changed after installation, since the ibse-port Special Register and the SOAP port must always be changed in tandem.

1. Access the Service Manager Administration Console.

2. Click *Registry* in the top pane, and then click *Listeners* in the left pane.

    The Listeners pane opens.

3. Click *Add*.

    The Select listener type pane opens.

4. Select the *SOAP1* listener from the Type drop-down list and click *Next*.

5. In the Port Property Value field, enter *SREG(ibse-port)*.

    The value you are replacing should be an integer port number, its value being 9000 if the default was accepted during installation. Do not change any of the other properties of the SOAP1 listener.

6. Click *Finish* to save the change. The SOAP port will not change until the ibse-port Special Register is updated (see *How to Set the ibse-port Special Register* on page 43) and Service Manager is restarted.

   Note: You only need to add the ibse-port Special Register in the SOAP1 Listener Port field once. After this has been set up, future changes to the ibse-port Special Register will automatically update the Service Manager SOAP port.

Procedure: **How to Set the ibse-port Special Register**

Once you have successfully completed setting up the SOAP listener value to follow that of the ibse-port Special Register, changing the ibse-port register will automatically change the Service Manager SOAP listener port, as well.

1. Navigate to the Service Manager home page by clicking the *Server* menu link in the upper-left corner.

2. Select the server configuration you want to change from the Managed Server drop-down list. In most cases, this will be the single, master configured server named *base*.

   The console refreshes with the General Properties of the selected server.

3. In the left pane, select *Register Settings*.

   A list of special registers appears in the right pane.

4. Click on the link for ibse-port to display its Special Register Definition information.

5. In the Value field, enter a new value for the ibse-port register.

   Note: This value must be an integer, within the range of valid port numbers, and currently not used by any other process on the machine. If necessary, contact your system administrator for assistance in choosing an available TCP port.

6. Click *Update* to accept the change.

   The Register Settings page is displayed so you can confirm the new ibse-port value.

   As with all Service Manager Special Register settings, you must restart the server for the new ibse-port setting to take effect.

7. To restart the server, click *Restart* in the upper-right of the console.

   The following message appears in your browser:

   ```
   Server's master configuration is restarting...
   ```

   When restart is complete, the Service Manager Administration Console home page appears.

Environment Variables

After installation, environment variables are required to use TIBCO Service Manager adapters and components. The variables can be set in your profile.

❏ On Windows platforms, environment variables are automatically set by the installation program. No steps are necessary, but it is a good idea to be aware of them in case you need to troubleshoot.

❏ On UNIX, OS/400, and z/OS platforms, you must manually set the appropriate environment variables for all user IDs that run Service Manager components.

Note: If you plan to run multiple installations of Service Manager components, the environment variables must be set up appropriately for each installation.

Procedure: **How to Set Environment Variables on UNIX Systems**

The following environment variable settings are required to use Service Manager and adapters and components on a UNIX system:

1. The following variable must be defined and set to the location of the iWay9 directory. The commands can be issued interactively or added to the Service Manager user .profile file using a text editor.

   ```
   IWAY9
   ```

   For example:

   ```
   IWAY9=/home/userID/iWay9/
   export IWAY9
   ```

   Note: Be sure to include the trailing slash (/).

2. The PATH variable must contain the iWay9/lib directory, for example:

   ```
   PATH=$PATH:/home/userID/iWay9/lib
   export PATH
   ```

3. On UNIX, the shared library variable must contain the iWay9/lib directory. This variable varies depending on your platform. The following table lists platforms and their associated variables.

Platform	Variable
AIX	`LIBPATH`
HP-UX	`SHLIB_PATH`

Platform	Variable
Other UNIX Platforms	LD_LIBRARY_PATH

For example:

```
LD_LIBRARY_PATH=/home/userID/iWay9/lib:$LD_LIBRARY_PATH
export LD_LIBRARY_PATH
```

Configuring TIBCO iWay Service Manager as a Separate Process

By default, the *iwsrv* executable program installs the Windows service for Service Manager to run out of process.

For more information on the *iwsrv* executable program, see the *Service Managers User's Guide*.

Uninstalling TIBCO iWay Service Manager

If you need to remove Service Manager from your system, do the following:

1. Copy any files you wish to save out of the Service Manager directory structure. Most user files are stored with the configuration, for example:

   ```
   C:\Program Files\iWay9\config
   ```

2. Stop Service Manager if it is running.

3. If you have deployed Service Manager components to an Application Server, undeploy them.

4. Uninstall components using the provided utility.

   ❏ On Windows platforms, open the *Control Panel* and then use the *Add or Remove Programs* option to remove Service Manager components. The main uninstall component is listed as:

   ```
   iWay 9.0
   ```

   You can also delete any Service Manager installation files in subdirectories of the following:

   ```
   C:\WINNT\Downloaded Installations\
   C:\WINDOWS\Downloaded Installations\
   ```

   If you ran the deploy tool to configure components for an application server, run its uninstall utility as well, for example:

   ```
   C:\Program Files\iWay9\etc\uninstall\deploy\uninstaller.exe
   ```

❏ On UNIX, OS/400, and z/OS platforms, delete the Service Manager directories and remove the environment variables.

TIBCO iWay Service Manager Configuration Steps

Now that you have installed TIBCO iWay Service Manager, review the following configuration steps for specific components.

1. Prepare your adapter by reviewing the information in *Preparing Adapters* on page 47.

2. Start Service Manager as explained in *Configuring Components* on page 65.

3. To use an application server component like Servlet iBSP, prepare and deploy the component as explained in *Configuring Components* on page 65.

4. Configure a version of iWay Explorer as explained in *Configuring iWay Explorer* on page 81.

5. To change the default Service Manager repository or optionally configure a database repository, see *Configuring the Repository* on page 85.

6. Refer to the documentation for your installed adapters and extensions.

Preparing Adapters

This section explains steps that are needed after installing TIBCO iWay Service Manager, but before using adapters.

In this chapter:

❏   Preparing Adapters

Preparing Adapters

Some Service Manager adapters require additional steps or files before they can be used. Your adapter may not be available and may not appear in iWay Explorer until these steps are performed. In many cases, this involves copying third-party libraries or JDBC drivers into the iWay \lib directory, for example:

`C:\Program Files\iway9\lib`

After performing the steps for your adapter, you will need to restart Service Manager if it is currently running. If you deploy components to an application server, you will need to restart the application server.

Note: This document sometimes lists the actual names of required files rather than the generic name of the driver or library. However, your vendor may change file names, update files, or have different versions of the drivers for different releases. Therefore, confirm which files are required by reviewing information provided by your vendor. Ensure that you use the latest version of the driver for the correct release of your target system, data source, or protocol.

Review the topics that follow. If you do not see your adapter listed, contact TIBCO Support.

Legacy Mainframe Adapters With iWay Server Requirement

Access to the following legacy mainframe data sources is provided through an iWay (EDA) Full-Function Server component that must be installed and configured on the mainframe.

❏   Adabas

❏   BULL GCOS

❏   Datacom

❏ Flat Files

❏ CA-IDMS/DB

❏ CA-IDMS/SQL

❏ Millennium

❏ MODEL 204

❏ Supra

❏ Teradata

❏ Total

❏ VSAM

Access to and from these data sources are accomplished by first connecting to the iWay Server. Adapters for other legacy data sources do not require an iWay Server.

To configure legacy data adapters for use with Service Manager 9.0:

1. Install an iWay Server on the mainframe containing the data sources you wish to access.

   For information on iWay Server installation and configuration, see the WebFOCUS and iWay *Server Installation* manual and refer to the Server for z/OS chapter.

2. Configure the iWay Server to access the data source using the iWay Full-Function Server Administration Console. The Administration Console help explains the required steps. These steps also appear in the *Data Adapter Administrator User's Guide* and the *Server Administration for UNIX, Windows NT OpenVMS, OS/400, & z/OS manual*.

3. Install the iWay Data Management Administration Tools (DMAT) Suite on a Windows machine as explained in the *iWay Data Management Administration Tools Suite Installation Guide*.

4. Use the Catalog Administrator (installed with iWay DMAT) to add stored procedures to the iWay Server catalog so the procedures are accessible from iWay Explorer.

   For information on adding stored procedures, see the *iWay Catalog Administrator* manual.

Connect Direct

The iWay Adapter for Connect Direct requires the following library files:

❏ CDJAI.jar. The CDJAI.jar library file is used to implement Java APIs.

❏ JMS.jar

ESRI (GEOLoad)

This section provides the supported versions and required library files for the iWay Technology Adapter for ESRI (GEOLoad).

Note: The iWay Technology Adapter for ESRI (GEOLoad) is supported only on Windows platforms.

Supported Versions

❏ ArcSDE Version 9.0, 9.2, and 9.3 (For ESRILOAD)

Note: ArcSDE is a part of ArcGIS in Version 9.2 and 9.3. However, ArcSDE is still only supported through the ArcSDE API. It is not supported through any other API, including ArcObjects.

❏ GDT Matchmaker Version 6 (For Geocoding)

Required Library Files

ArcSDE Version 9.0 (For ESRILOAD):

❏ jpe90_sdk.jar

❏ jsde90_sdk.jar

Copy these files into the iWay \lib directory, for example:

```
C:\Program Files\iway9\lib
```

ArcSDE Version 9.2 (For ESRILOAD):

❏ jsde92_sdk.jar

❏ jpe92_sdk.jar

❏ icu4j_3_2.jar

❏ concurrent.jar

Copy these files into the iWay \lib directory, for example:

```
C:\Program Files\iway9\lib
```

ArcSDE Version 9.3 (For ESRILOAD):

❏ jsde_sdk.jar

❏ jpe_sdk.jar

❏ icu4j_3_2.jar

❏ concurrent.jar

Copy these files into the iWay \lib directory, for example:

`C:\Program Files\iway9\lib`

GDT Matchmaker Version 6 (For Geocoding):

❏ mmaxwus3.dll

❏ usgeo.dll

❏ usattr.dll

On Windows platforms, these files must be copied into the system32 directory, for example:

`C:\WINNT\system32`

or

`C:\WINDOWS\system32`

FIX

The iWay Integration Solution for FIX requires the B2BITS® FIX Engine.

The B2BITS® FIX Engine is packaged as an archive (B2Bits_jar.zip).

For more information on installing the B2BITS® FIX Engine and configuring the iWay Integration Solution for FIX, see the *iWay Integration Solution for FIX User's Guide*.

J.D. Edwards EnterpriseOne (OneWorld)

J.D. Edwards EnterpriseOne (OneWorld) Java-based ThinNet API is required. This is normally distributed as JAR files with the J.D. Edwards installation media. These files may vary depending on the J.D. Edwards release. They usually consist of the following:

For J.D. Edwards OneWorld B7333 (XE) and B7334 (ERP8):

`Kernel.jar`

`Connector.jar`

For EnterpriseOne 8.10:

`Kernel.jar`

`Connector.jar`

`jdeutil.jar`

`log4j.jar`

For EnterpriseOne 8.11:

`Base_JAR.jar`

`JdeNet_JAR.jar`

`System_JAR.jar`

`Connector.jar`

`log4j.jar`

For EnterpriseOne 8.12 (Tools Release 8.96.2.0):

`Base_JAR.jar`

`JdeNet_JAR.jar`

`System_JAR.jar`

`Connector.jar`

`EventProcessor_EJB.jar`

`EventProcessor_JAR.jar`

`log4j.jar`

For EnterpriseOne 8.12 (Tools Release 8.97.1.2 and 8.97.2.0):

`Base_JAR.jar`

`JdeNet_JAR.jar`

`System_JAR.jar`

`Connector.jar`

`EventProcessor_EJB.jar`

`EventProcessor_JAR.jar`

`commons-httpclient-3.0.jar`

jmxri.jar

ManagementAgent_JAR.jar

log4j.jar

For EnterpriseOne 9.0 (Tools Release 8.98):

Base_JAR.jar

JdeNet_JAR.jar

System_JAR.jar

Connector.jar

EventProcessor_EJB.jar

EventProcessor_JAR.jar

commons-httpclient-3.0.jar

jmxri.jar

jmxremote_optional.jar

ManagementAgent_JAR.jar

log4j.jar

For EnterpriseOne 9.10 (Tools Release 9.1.0.4):

Base_JAR.jar

JdeNet_JAR.jar

System_JAR.jar

Connector.jar

EventProcessor_EJB.jar

EventProcessor_JAR.jar

commons-httpclient-3.0.jar

jmxremote.jar

```
commons-logging.jar

jmxri.jar

jmxremote_optional.jar

ManagementAgent_JAR.jar

log4j.jar
```

Note: These files are located in the \\system\classes folder on the JDE Client and the Deployment Server.

You must copy the JAR files into the iWay \lib directory, for example:

```
C:\Program Files\iway9\lib
```

J.D. Edwards WorldSoft

The DB2/400 JDBC driver (jt400.jar) is required. Copy the driver into the iWay \lib directory, for example:

```
C:\Program Files\iway9\lib
```

LDAP

This section describes the requirements for the iWay Application Protocol Adapter for LDAP.

Required Installation Files

This section lists and describes the required installation files for iWay Application Protocol Adapter for LDAP.

❏ **iwldap.jar.** Exposes design time and runtime interfaces for the iWay Application Protocol Adapter for LDAP.

❏ **ldapbp-1.0.jar.**

The following file is required for the operation of the LDAP adapter, but is considered optional for a Java VM installation:

❏ **dnsns.jar.** Used for the InetAddress wrapper of the JNDI DNS Provider. This file is located in the following directory:

```
jdk_home\jre\lib\ext
```

where:

jdk_home

Is the root installation directory for your JDK. For example:

`c:\jdk1.8.0_45\jre\lib\ext\dnsns.jar`

The iWay Application Protocol Adapter for LDAP supports only Simple Bind and Transport (SSL) security. For more information about advanced LDAP security implementations, see the *Java Cryptography Architecture Reference Guide* on the following Oracle Java web site:

http://docs.oracle.com/javase/6/docs/technotes/guides/security/crypto/CryptoSpec.html

Microsoft CRM Application Adapter 2011

All required .jar library files for the Microsoft CRM Application Adapter 2011 On-Premises are provided in the Service Manager \lib folder.

Note: The iWay Application Adapter for Microsoft CRM (Compatibility Mode) cannot be used with Microsoft CRM 2013.

Microsoft .NET

The iWay Technology Adapter for Microsoft .NET allows you to expose Microsoft .NET assemblies without requiring any additional custom attributes or wrapper code.

Microsoft .NET Versions 2.0 - 4.5 are supported by the adapter.

In Service Manager, the iWay Technology Adapter for Microsoft .NET supports 32- and 64-bit JVM environments. The required components for both environments are automatically installed. During the Service Manager installation process, ensure that *Microsoft .NET* is selected under the Technology Adapters category in the Adapter Selection pane.

Required Installation Files

The Service Manager installation process installs the following adapter components in the *<ism_home>*\lib directory:

❏ **iwdotnet.jar.** Exposes design time and runtime interfaces for the iWay Technology Adapter for Microsoft .NET

❏ **iwdotnet32.dll** or **iwdotnet64.dll**. Export the JNI methods that are required by the Java classes, which implement the adapter and act as a common language runtime host.

Note: Both versions of the iwdotnet DLL file are shipped with the adapter. Depending on the JVM, the adapter will select the appropriate DLL file to load. A 64-bit JVM can load 32 - and 64-bit assemblies. A 32-bit JVM can only load 32-bit assemblies no matter the platform type (32 - or 64-bit).

❏ **iwclr.dll.** Contains the functionality to explore assemblies during design time, load and invoke classes and methods at runtime, and implement the optional custom attributes used for assembly annotation.

Sample Files

The iWay Technology Adapter for Microsoft .NET installs the following sample .NET assemblies in the *<ism_home>*\etc\samples\dotnet\bin directory:

❏ Complex.dll

❏ Math.dll

❏ Misc.dll

❏ Scriptor.dll

❏ SubComplex.dll

These Microsoft .NET assemblies can be used for adapter testing and verification purposes.

MySAP ERP (SAP Java Connector Version 3.x)

The iWay Application Adapter for mySAP ERP uses the SAP Java Connector (JCo) to communicate with SAP ABAP system targets. The following protocols and document styles are supported:

❏ SAP ALE Intermediate Document (IDOC)

❏ Remote Function Call (RFC)

❏ Business API (BAPI)

No other connection methods and interface types are supported.

The official supported platform for the iWay Application Adapter for mySAP ERP is SAP Java Connector (JCo) Version 3.*nn* for Java Version 1.8*nn*. In this section, *nn* refers to release specifications. For a list of supported platforms and exact library names, refer to *SAP Note 1077727*. Use the SAP note to ensure the JVM and the JCo are compatible for the selected hardware and software platform.

Not all SAP supported platforms are supported by Service Manager. For more information, check the list of supported platforms to ensure compatibility.

The SAP JCo library files must be downloaded from the SAP Service Marketplace. A valid SAP support ID is required to access the SAP Service Marketplace. For assistance, contact your SAP administrator. For more information on installing, configuring, and verifying the iWay Application Adapter for mySAP ERP, see the *iWay Application Adapter for mySAP ERP User's Guide*.

To install iWay Application Adapter for mySAP ERP (SAP JCo 3.0), ensure that *MySAP JCO 30* is selected under the Application Adapters category in the Adapter Selection pane during the Service Manager installation process.

The Service Manager installation process automatically adds the iwmysap30.jar file to the *<ism_home>*\lib directory.

Required SAP Library Files

This section lists the SAP library files that are required by the iWay Application Adapter for mySAP ERP (SAP JCo 3.0).

Platform	SAP Library Files
Windows	❑ sapjco3.jar ❑ sapjco3.dll
Linux/Solaris/OS400	❑ sapjco3.jar ❑ libsapjco3.so
HP-UX	❑ sapjco3.jar ❑ libsapjco3.sl
AIX	❑ sapjco3.jar ❑ libsapjco3.so

Installing the Required SAP Library Files

This section describes the specific directories where the library files must be copied for the iWay Application Adapter for mySAP ERP (SAP JCo 3.0).

Note: When the sapjco3.jar library file is added to the *<ism_home>*\lib folder, Service Manager will automatically add this .jar file to the CLASSPATH environment variable at runtime.

The sapjco3.jar library file must always be added to the environment variable locating the system load library path, and must be the first entry in the list of library paths.

Windows

Copy the sapjco3.jar and sapjco3.dll library files to the following directory:

<ism_home>\lib

where:

<ism_home>

   Is the root installation directory where Service Manager is installed (for example, C:\Program Files\iway9).

The sapjco3.dll library file will be added to the PATH by Service Manager at runtime if it is located in the *<ism_home>*\lib folder. Do not install this file into the Windows\System32 folder as this file is not compatible with other versions of the library file and may cause issues if an instance of SAP GUI or other program is found on the system.

Linux

Copy the sapjco3.jar and libsapjco3.so library files to the following directory:

<ism_home>/lib

where:

<ism_home>

   Is the root installation directory where Service Manager is installed (for example, /iway/install/iway9).

After installing the libsapjco3.so library file, this file must be added to the path indicated by the LD_LIBARARY_PATH environment variable and be the first library in the list.

HP-UX

Copy the sapjco3.jar and libsapjco3.sl library files to the following directory:

<ism_home>/lib

where:

<ism_home>

   Is the root installation directory where Service Manager is installed (for example, /iway/install/iway9).

After installing the libsapjco3.sl library file, this file must be added to the path indicated by the SHLIB_PATH environment variable and be the first library in the list.

AIX

Copy the sapjco3.jar and libsapjco3.so library files to the following directory:

```
<ism_home>/lib
```

where:

```
<ism_home>
```

Is the root installation directory where Service Manager is installed (for example, /iway/install/iway9).

After installing the libsapjco3.so library file, this file must be added to the path indicated by the LIBPATH environment variable and be the first library in the list.

IBM iSeries

Consult SAP Note 1269638 on configuring the SAP JCo 3.0 on IBM iSeries. The default JVM provided cannot be used with JCo 3.0. SAP Note 1269638 has more information on this topic.

Solaris

There are different packages for different architectures (SPARC, X64, INTEL, or AMD 64 bit processor). Locate and install the correct package. Add the library file to the path indicated by the LD_LIBRARY_PATH environment variable and ensure the file is the first library in the list.

Oracle Applications (E-Business Suite)

Oracle JDBC driver (ojdbc6.jar) is required by the iWay Application Adapter for Oracle E-Business Suite. You must copy this .JAR file into the iWay \lib directory, for example:

```
C:\Program Files\iway9\lib
```

To use iWay Concurrent Program request functionality, you must install and configure Oracle Client on the Oracle database that supports Oracle E-Business Suite.

Installing the iWay Oracle API Wrapper

If you want to use the iWay Application Adapter for Oracle E-Business Suite to interact with Oracle APIs (Stored Procedures and Packages), you must install the iWay Oracle API wrapper. For more information, see the *iWay Application Adapter for Oracle E-Business Suite User's Guide*.

Installing the GETCLOB Procedure

The GETCLOB procedure must be installed under the schema the adapter uses to run Oracle APIs. For more information, see the *iWay Application Adapter for Oracle E-Business Suite User's Guide*.

PeopleSoft

This section indicates which combination of releases and system platforms are supported for the iWay Application Adapter for PeopleSoft.

PeopleSoft Platform	PeopleSoft Release	PeopleTools Release Level
All PeopleSoft supported platforms (Windows, Solaris, AIX, Linux, and HP-UX).	8.1	8.16.03 - 8.22
	8.4	8.40.05 - 8.52

Note that the adapter goes by the PeopleTools release and not by the PeopleSoft application version.

Note: You must connect with only one version of an EIS at a given point in time. You cannot connect to two different versions of PeopleTools using the adapter. Do not use two versions of an EIS library file simultaneously. You also cannot use the library files for two different versions in the \lib folder.

Required Library Files

This section lists the library files that are required by the iWay Application Adapter for PeopleSoft.

❏ PeopleSoft Java Object Adapter file (psjoa.jar)

This file provides a low-level interface between client applications and PeopleSoft. This file is provided with PeopleSoft in the *<PeopleSoft_Home>*\web\PSJOA directory. The psjoa.jar file is different for every version of PeopleSoft. When you upgrade your PeopleTools release, ensure that you copy the psjoa.jar file for the new release into the *<iWAY_Home>*\lib directory and restart all components.

❏ pstools.properties

This file is required for PeopleTools 8.1x. This file belongs in the *<PeopleSoft_Home>*\web\jmac directory.

❏ PeopleSoft Generated Java APIs

> For more information on generating the Component Interface Java APIs, see the *iWay Application Adapter for PeopleSoft User's Guide*.

All the library files for the PeopleSoft adapter must be copied to the specific directory, such as *<iWAY_Home>*\lib.

RDBMS

iWay Technology Adapter for RDBMS connects Service Manager to various database engines that have an available JDBC compliant driver from the database or third party vendor. Generally, the JDBC driver should match the database version as well as the version of the JVM that is hosting Service Manager. Database versions that have reached the end of their vendor supported lifecycle are no longer supported by Service Manager and the iWay Technology Adapter for RDBMS.

All JDBC drivers are installed in the \lib. For example:

❏ On Windows:

    iway9\lib

❏ On UNIX (for example, Linux and AIX):

    $IWAYHOME/lib

DB2

Service Manager requires a class 4 DB2 JDBC driver to access functionality database and data types. Currently, the following driver versions are required:

❏ Version 9.4.7 and higher on AIX

    ❏ db2jcc.jar

    ❏ db2jcc_license_cu.jar

❏ Version 10.0 and higher on z/OS

    ❏ db2jcc.jar

    ❏ db2jcc_license_cisuz.jar

❏ Version 5R3 and higher on iSeries (AS 400)

    ❏ jt400.jar

Informix

❏ Versions 11.5, 12.1, and higher on AIX

    ❏ ifxjdbc.jar

    Note: Additional .jar files may be required depending on the specific environment.

Oracle

❏ Versions 10g, 11g, and higher

    ❏ ojdbc6.jar

    The following .jar file is required when Oracle RAC is implemented:

    ❏ ucp.jar

    The following .jar files are required when XMLType data types are used:

    ❏ xdb6.jar

    ❏ xmlparserv2.jar

Microsoft SQL Server

❏ SQL Version 2012

    ❏ sqljdbc42.jar

MySQL

❏ Version 5.5.8 and higher

    ❏ mysql-connector-java-5.1.14-bin.jar

PostGres

❏ Versions 8.4 and 9.3 and later

    ❏ postgresql-9.0-801.jdbc4.jar

Sybase

❏ Adaptive Server ASE V15.x

    ❏ jconn4d.jar

SAP R/3

The iWay Application Adapter for SAP R/3 using SAP JCo 2 is no longer supported. SAP has discontinued support for SAP JCo 2 and as a result, iWay cannot offer the adapter on unsupported versions of the JCo. For all SAP adapter installations, use the iWay Application Adapter for mySAP ERP instead. The installation instructions for mySAP ERP should be followed in any scenario that requires the SAP R/3 adapter. The mySAP ERP adapter will support SAP releases from SAP R/3 4.6C to SAP ERP 7.

For more information, see *MySAP ERP (SAP Java Connector Version 3.x)* on page 55.

Siebel

For Siebel Versions 6.3 - 8.1, Siebel Java Data Bean API is required. This is distributed as JAR files with the Siebel Thin Client.

Copy the required JAR files into the iWay \lib directory, for example:

```
C:\Program Files\iway9\lib
```

The required files vary by Siebel release in both content and name. Therefore, the Siebel Thin Client provided with the target Siebel system must always be used with the adapter, for example:

❏ Siebel 6.3.x

```
SiebelTcOM.jar
SiebelTcCommon.jar
SiebelTC_enu.jar
SiebelDataBean.jar
```

❏ Siebel 7.0.3

```
SiebelJI_Common.jar
SiebelJI_enu.jar
```

❏ Siebel 7.5.2

```
SiebelJI_Common.jar
SiebelJI_enu.jar
SiebelJI.jar
```

❑ Siebel 7.7 - 7.8.2

```
SiebelJI_enu.jar
Siebel.jar
```

❑ Siebel 8.0 - 8.1

```
SiebelJI_enu.jar
Siebel.jar
```

The Siebel COM-based API (Windows only) requires the Siebel Thin Client to be installed and accessible to the adapter.

The following files are for English language implementations:

```
SiebelTC_enu.jar
SiebelJI_enu.jar
```

For non-English installations, the last three letters (*_enu*) vary.

Siebel Version 6.2 and Lower Connectivity Prerequisites

You must perform additional steps to connect to a Siebel system (version 6.2 and lower) using COM connectivity for an iBSP configuration. For more information, see the *iWay Application Adapter for Siebel User's Guide*.

Configuring Connection Pooling for Siebel

To configure connection pooling for Siebel, you must create a *siebel.properties* file for use with the iWay Application Adapter for Siebel. For more information on how to configure the *siebel.properties* file, see the *iWay Application Adapter for Siebel User's Guide*.

Terminal Emulation Adapter (3270/5250) (Telnet)

The iWay Emulation Adapter (3270/5250) links new business applications to mainframe-based business logic through IBM 3270 and 5250 terminal screens and data streams. It enables you to transform your 3270 or 5250 mainframe screens into HTML pages or to create a remote procedure request (RPC) to transform the output of screens into an answer set. The adapter provides a simple, lightweight, and scalable way to reuse the business logic and data of terminal applications.

The iWay Emulation Adapter (3270/5250) requires client components that you must configure after installing iWay. The two client components are:

❑ The run-time component, which is supported on:

❑ Microsoft Windows

❏ UNIX

❏ z/OS (under UNIX System Services)

❏ The Telnet Designer, which is supported on:

❏ Microsoft Windows

The iWay Emulation Adapter (3270/5250) includes the Telnet Designer, which is a tool to create screen-based interactions that can run with the adapter. The Telnet Designer is supported on Windows platforms only.

If the adapter is installed on a UNIX platform, then you will need to copy the Telnet Designer component, in binary format, from the UNIX system to the Windows system.

For information about using the adapter, including the Telnet Designer, see the *iWay Emulation Adapter (3270/5250) User's Guide*.

TIBCO Rendezvous

The following file is required.

`tibrvj.jar`

Copy this file into the iWay \lib directory, for example:

`C:\Program Files\iway9\lib`

In addition to the Java file, tibrvj.jar, the iWay Adapter for TIBCO Rendezvous requires several TIBCO binary files. These files are stored in the following TIBCO directory:

`C:\tibco\tibrv\bin`

This directory must be added to the search PATH variable of any user ID that runs iWay components.

Configuring Components

This section describes how to configure components for TIBCO iWay Service Manager.

In this chapter:

❏ Configuring and Verifying TIBCO iWay Service Manager

❏ Configuring Application Server Components

Configuring and Verifying TIBCO iWay Service Manager

TIBCO Service Manager is a highly scalable enterprise service bus. It contains fully-integrated service design-time workbench and web services creation and deployment capabilities, and it provides a hosting environment for adapters.

This section explains how to start and stop Service Manager, configure and create additional instances of Service Manager, configure the Java memory size, and verify the iWay Business Services Provider (iBSP).

At this time, you are ready to start Service Manager and access the Service Manager Administration Console.

Starting and Stopping TIBCO iWay Service Manager on Windows Platforms

If you are not on a Windows system, proceed to *Starting and Stopping TIBCO iWay Service Manager on Non-Windows Platforms* on page 66.

The following procedure explains how to start and stop Service Manager on Windows platforms. If you copied third-party files for your adapters into the iWay \lib directory, you should restart it at this time. If it is not started, start it as explained in the following section.

Procedure: **How to Start and Stop TIBCO iWay Service Manager on Windows Platforms**

By default, Service Manager runs as a Windows Service and there are two ways to start and stop it.

❏ Use the Windows start menu to select *TIBCO 9.0 Service Manager*, and *Start Service Manager - base* or *Stop Service Manager - base*.

or

❏ Open the Services window (Control Panel, Administrative Tools, and then Services), right-click *TIBCO iWay Service Manager 9.0 - base*, and select *Start, Restart*, or *Stop*.

Note: By default, Service Manager starts with Windows. To prevent it from starting with Windows, open the Services window, right-click *TIBCO iWay Service Manager 9.0 - base*, choose *Properties*, and change the *Startup type* to *Manual*.

Windows users can proceed to *Configuring TIBCO iWay Service Manager* on page 69.

Starting and Stopping TIBCO iWay Service Manager on Non-Windows Platforms

For non-Windows systems, you can run Service Manager as a service (daemon) or as a user task.

Windows users can proceed to *Configuring TIBCO iWay Service Manager* on page 69.

Procedure: **How to Start TIBCO iWay Service Manager on Non-Windows Platforms as a User Task**

To start Service Manager as a user task:

1. Navigate to the directory where Service Manager 9.0 is installed, for example:

   ```
   /home/userID/iway9
   ```

2. Type the following:

   ```
   ./iway9.sh base
   ```

   When you start Service Manager, you specify which configuration to use. The base configuration is available by default and includes SOAP and HTTP listeners. You can run more than one instance of Service Manager by defining multiple configurations using the Service Manager Administration Console.

   When iWay has started, you receive the following prompt:

   ```
   Enter command:>
   ```

Procedure: **How to Stop TIBCO iWay Service Manager on Non-Windows Platforms as a User Task**

To stop Service Manager when it runs as a user task:

1. Go to the Service Manager prompt:

   ```
   Enter command:>
   ```

2. At the Service Manager prompt, enter the following to stop listeners:

   ```
   stop
   ```

3. When listeners have stopped, enter the following:

    `quit`

Procedure: How to Start TIBCO iWay Service Manager on Non-Windows Platforms as a Service

To start Service Manager as a service (daemon):

1. Navigate to the iway9/bin directory, for example:

    `/home/userID/iway9/bin`

2. Edit the following file.

    Note: This step is only required the first time you start Service Manager.

    a. Open the following file in a text editor:

    `startservice.sh`

    b. Edit the IWAY9 line to specify where iWay is installed. Be sure to include the final trailing slash, for example:

    `IWAY9=/home/userID/iway9/`

    c. Edit the IWAYUSER line so that it specifies the user ID that you want Service Manager to run under, for example:

    `IWAYUSER=userID`

    This user ID requires full permissions to the iway9 directory structure. For security reasons, it is not recommended to run Service Manager as root.

    d. Save and exit the file.

3. Execute the startup service file, for example:

    `./startservice.sh`

    If you are not logged on as root, you are prompted for the password of the user ID under which Service Manager runs.

    `Password:`

4. Enter the password for this user ID.

    The base configuration of Service Manager is started in the background and includes SOAP and HTTP listeners. A serviceOut.txt file appears in the iway9 directory and contains log information.

Procedure: How to Stop TIBCO iWay Service Manager on Non-Windows Platforms as a Service

To stop Service Manager running as a service (daemon):

1. Navigate to the iway9/bin directory, for example:

   ```
   /home/userID/iway9/bin
   ```

2. Edit the shutdown file.

   Note: This step is only required the first time you stop Service Manager.

   a. Open the following file in a text editor:

   ```
   stopservice.sh
   ```

   b. Edit the IWAY9 line to specify where iWay is installed. Be sure to include the final trailing slash, for example:

   ```
   IWAY9=/home/userID/iway9/
   ```

   c. Edit the IWAYUSER line so that it specifies the user ID you are using to run Service Manager, for example:

   ```
   IWAYUSER=userID
   ```

   d. Save and exit the file.

3. Execute the shutdown file, for example:

   ```
   ./stopservice.sh
   ```

   If you are not logged on as root, you are prompted for the password of the user ID under which Service Manager runs.

   ```
   Password:
   ```

4. Enter the password for this user ID.

   Note: If you receive an error, ensure the user ID is defined in the shutdown file.

Procedure: **How to Start TIBCO iWay Service Manager as a Batch Process on z/OS**

On z/OS systems, you can start Service Manager as a batch process using JCL.

1. Use the following sample JCL as a model to start Service Manager in batch:

```
//EDABGBPX JOB (SMITH),'JAVA BPXBATCH',CLASS=A,MSGLEVEL=(1,1),
//    MSGCLASS=X,REGION=0M,NOTIFY=EDABG,USER=EDABG1,PASSWORD=XXXXXXX
//*****************************************************************
//* RUN JAVA UNDER A UNIX SYSTEM SERVICE SHELL
//*****************************************************************
//STEP2 EXEC PGM=BPXBATSL,
// PARM='PGM /bin/sh /u/edabg1/iway9/iway9.sh base -c'
//STDOUT DD SYSOUT=*
//STDERR DD SYSOUT=*
//STDENV DD *
JAVA_HOME=/usr/lpp/java/J1.6
PATH=/usr/lpp/java/J1.6/bin
//
```

2. Substitute the appropriate job card and HFS locations on your system accordingly.

Procedure: **How to Stop TIBCO iWay Service Manager as a Batch Process on z/OS**

On z/OS systems, you can stop Service Manager as a batch process using JCL.

1. Use the following sample JCL as a model to stop Service Manager in batch:

```
//EDABGBPS JOB (SMITH),'JAVA BPXBATCH',CLASS=A,MSGLEVEL=(1,1),
//    MSGCLASS=X,REGION=0M,NOTIFY=EDABG,USER=EDABG1,PASSWORD=XXXXXXX
//*****************************************************************
//* RUN JAVA UNDER A UNIX SYSTEM SERVICE SHELL
//*****************************************************************
//STEP2 EXEC PGM=BPXBATSL,
// PARM='PGM /bin/sh /u/edabg1/iway9/bin/iway9sd.sh'
//STDOUT DD SYSOUT=*
//STDERR DD SYSOUT=*
//STDENV DD *
PATH="/usr/local/diff/bin:.:/usr/lpp/java/J1.6/bin:/bin::/usr/local/
bin /usr/local/subin:/usr/sbin"1.6/bin'
LIBPATH=/lib:/usr/lib:/usr/lpp/java/J1.6/bin:.
JAVA_HOME=/usr/lpp/java/J1.6
//
```

2. Substitute the appropriate job card and HFS locations on your system accordingly.

Configuring TIBCO iWay Service Manager

The installation program automatically installs and configures Service Manager. The initial base configuration sets up SOAP and HTTP listeners. You can modify the base configuration, set up additional listeners, or create a new configuration using a web-based configuration tool called the Service Manager Administration Console.

Procedure: How to Configure and Secure TIBCO iWay Service Manager

To access the Service Manager Administration Console:

1. Open the following page in your web browser:

   `http://hostname:9999`

   where:

   `hostname`

      Is the host name where you installed iWay.

   If you changed the default port, substitute accordingly.

2. Log on when prompted. When first installed, the user ID and password are the following:

User Name	`admin`
Password	`admin`

   The Service Manager Administration Console opens.

   Full information on using this console is in the *Service Manager User's Guide*.

   For security purposes, you should change the default passwords used to access the console as follows.

3. At the top of the console, click *Managed Servers*.

   The Server Management page opens.

   The bottom of the page shows a list of existing users. By default, there are two user IDs:

   `admin`

      For administration.

   `iway`

      For general usage.

4. In the *Name* column, click *iway* to change the user password.

5. Type a new password in the *Password* field, confirm the password, and click *Finish*.

6. In the *Name* column, click *admin* to change the user password.

7. Type a new password in the *Password* field, confirm the password, and click *Finish*.

   You are prompted to log on with the new password.

8. Log on with the new password and click *OK*.

Getting Started With TIBCO iWay Service Manager

After Service Manager starts, review the Welcome pages. These pages are part of the console and accessible at:

`http://`*`hostname`*`:9999/ism/welcome`

where:

`hostname`

Is the host name where you installed Service Manager. If you change the default port, substitute it accordingly.

These pages provide an excellent way to become familiar with Service Manager functionality and features.

Additional Configurations

You can create a new configuration if you wish to run more than one instance of Service Manager. Most documentation assumes you are using the default base configuration. If you create a new configuration, substitute accordingly.

It is recommended that you create at least one application configuration, particularly in production and test environments, since the base configuration is used by Service Manager for console and GUI tool communications.

Procedure: How to Create an Additional Configuration

1. If it is not already open, access the Service Manager Administration Console and log on as an administrator.

2. On top of the console, click *Managed Servers*.

   The Server Management page opens.

3. Under the Configurations area, click *Add*.

   A form appears to define the new configuration.

4. Complete the form as explained in the following table:

Field Name	Value
Name	Enter a name for the configuration. A directory with this name will be created under iway9\config, for example: `C:\Program Files\iway9\config\myconf` This name is case-sensitive, even on Windows platforms.
Description	Optionally enter a description for this configuration.
Based On	Select a configuration or use a template for the new configuration. You can use one of the two defaults: ❏ The *raw* configuration contains no listeners and provides a blank template for defining additional configurations. ❏ The *base* configuration includes the default SOAP listener. If you use the base configuration as your template, you will need to later change the SOAP port of the new configuration so it does not conflict between instances. **Note:** If you have added additional listeners to the base configuration, those listeners will also be part of the new configuration.
Port	Enter a port number that the new configuration will use for its console processing.
Bind Address	Optionally enter an address for multihomed hosts.
Secure	Optionally click the *On* check box to enable SSL.

5. After completing the form, click *Finish*.

The new configuration is created. A directory for the configuration is added to the file system under the config directory. On Windows platforms, this is:

`C:\Program Files\iway9\config`

Procedure: How to Run Additional Configurations on Windows Platforms

If you are not using Windows, proceed to *How to Run Additional Configurations on Non-Windows Platforms* on page 73.

On Windows platforms, to create and run a new Windows service for the configuration:

1. Open a command prompt and navigate to the iway9\bin directory:

   ```
   C:\Program Files\iway9\bin
   ```

2. Enter the following to create the service.

   ```
   iwsrv config_name -s install
   ```

   where:

   config_name

      Is the name of the new configuration. This is case-sensitive, even on Windows
      platforms.

   The following is displayed:

   ```
   TIBCO Service Manager - config_name Service
   Installed Successfully.
   ```

   For details on Service Manager, see the *Service Manager User's Guide*.

3. Open the Control Panel, double-click Administrative Tools, and select *Services*.

4. Start and stop the configuration from the Services window. The service appears as:

   ```
   TIBCO Service Manager - config_name
   ```

   If you want to remove the service, ensure the service is stopped and then enter the
   following in a command prompt at the iway9\bin directory:

   ```
   iwsrv config_name -s remove
   ```

5. Proceed to *How to Configure an Additional Configuration* on page 74.

Procedure: **How to Run Additional Configurations on Non-Windows Platforms**

On other platforms, you can run the new configuration as a service (daemon) or as a user task.

❑ To run as a user task, navigate to the directory where you installed iWay and enter the
   following:

   ```
   iway9.sh config_name
   ```

   where:

   config_name

      Is the name of the new configuration.

❏ To run as a service, you must copy, edit, and then execute the default startup and stop files in the iway9/bin directory:

```
startservice.sh
```

```
stopservice.sh
```

Copy and rename these files and then edit them to replace *base* with the name of your configuration. Also be sure to change the log file names *serviceOut.txt* and *serviceShutdown.txt* so they are unique to this configuration. After copying and editing the startup file, execute it. The exact names of these files may vary depending on your platform.

Procedure: **How to Configure an Additional Configuration**

1. After the configuration has started, return to the Service Manager Administration Console home page for the default configuration:

   ```
   http://hostname:9999
   ```

   Note: Although each configuration has a Service Manager Administration Console port, the console port for an additional configuration is not normally used. If you do use the Service Manager Administration Console port for an additional configuration, you still need to select that configuration from the *Managed Servers* drop-down list.

2. In the *Managed Servers* drop-down list, select your configuration.

3. Use the Service Manager Administration Console to configure the new configuration.

4. If you used the base configuration as a template, change the SOAP port so it does not conflict with the default base configuration. Then restart the configuration.

Configuring a Unique ID for a Service

You can configure Service Manager to run as a Windows service. By default, the service runs as the *Local System* ID.
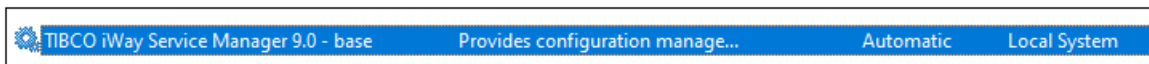
However, the *Local System* ID does not allow you to set user level environment variables (for example, _JAVA_OPTIONS).

As a best practice, a unique, dedicated ID (account) should be created to run the service. This allows you to customize the service environment.
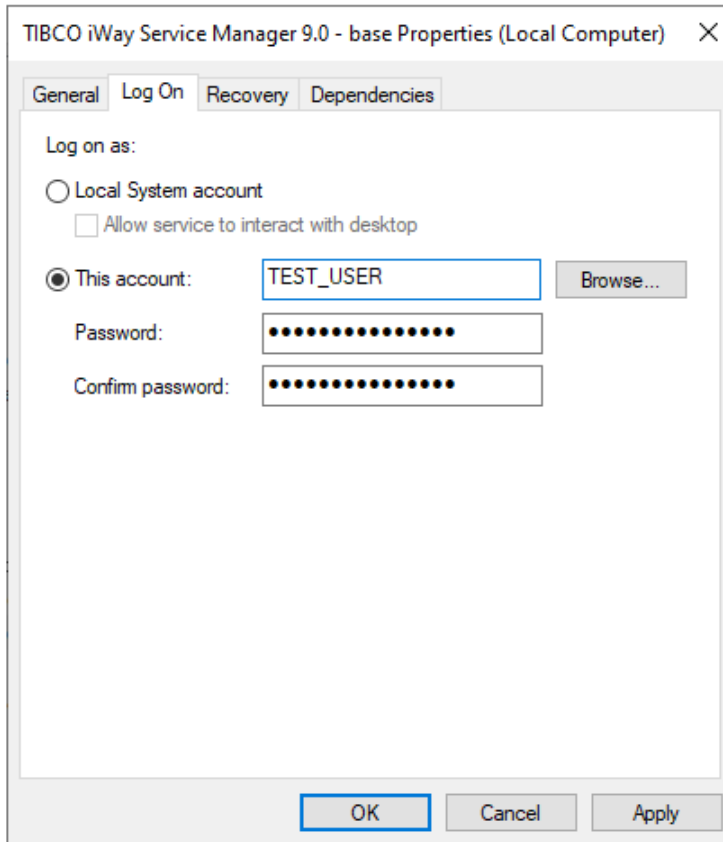
Configuring the Java Memory Size Settings

Although most users can skip ahead to *Verifying iWay Business Services Provider* on page 77, it is a good idea to review this information, should you need to troubleshoot.

Setting some Java VM (JVM) options can improve performance or correct problems with Service Manager. The most common settings involve the size of the Java heap and stack, which determine memory availability for Java programs and the JVM. Errors can occur if not enough memory is available, and the heap size impacts performance, since it determines how often garbage collection occurs.

If you run into performance problems or receive out of memory exceptions, you can adjust these sizes. The following are the most common JVM options related to memory settings. Replace the ### with the size you wish to set:

`-Xmx###M`

> Sets the maximum Java heap size.

`-Xms###M`

> Sets the initial Java heap size.

`-Xss###M`

> Sets the Java thread stack size.

The size is normally set in Megabytes, for example:

`-Xms512M`

Optimum sizes vary depending on your total memory, the needs of your application, how many other processes require memory, the type of Java VM, and other considerations.

Where to set these and other JVM options, depends on your operating system:

❏ On Windows platforms, set JVM options using the Service Manager Administration Console. On the home page, under Settings, click *Java Settings*, specify your JVM options in the *Startup Options* box, and click *Update*. Then stop and start Service Manager. An example of these options is:

```
-Xmx1024M -Xms512M
```

❏ On non-Windows platforms, you must manually modify the script you use to start Service Manager:

   ❏ If you run Service Manager as a service (daemon), edit the script you use to start the service (for example, startservice.sh) and add JVM options to the line that calls the java command, for example:

```
su $IWAYUSER -c "java -Xmx1024M -Xms512M $REMDBG -cp $CLASSPATH -
DIWAY9=$IWAY9
com.ibi.service.edaqmSilentService -config $IWAYCONFIG >> $IWAY9/
serviceOut.txt &"
```

   ❏ If you run Service Manager as a *user task*, edit the script you use to start Service Manager (for example, iway9.sh) and add JVM options to the line that calls the Java command, for example:

```
java -Xmx1024M -Xms512M $REMDBG -cp $CLASSPATH -DIWAY9=$IWAY9 edaqm -
config $SCRI PT $2 $3 $4 $5 $6
```

Alternately, the environment variable _JAVA_OPTIONS can be set accordingly for the iWay user ID.

Verifying iWay Business Services Provider

iWay Business Services Provider (iBSP) is a transformation and integration engine for processing XML files and SOAP messages for exchange with web service applications and other systems. iBSP runs as a component of Service Manager and is configured automatically. No steps are required for its initial setup.

When first installed, Service Manager is configured for iBSP and its default SOAP listener is on port 9000. You can verify the installation by accessing a sample web service.

Note: iWay Business Services Provider (iBSP) was formerly known as iWay Business Services Engine (iBSE). Some references, files, and prompts may still use the older name.

Procedure: **How to Verify iWay Business Services Provider**

1. Ensure Service Manager is started.
2. Go to the following page in your browser:

   `http://`*`hostname`*`:9000`

   where:

   hostname

   Is the host name where you installed Service Manager.

   If you changed the default port, substitute accordingly.

   The iBSP home page opens as shown below. Three hyperlinks are available by default for the three default licenses, IVP, test, and production.

This page allows you to test the sample web service installed with Service Manager 9.0. When you create web services using iWay Explorer, you can also test them from this page.

3. Click *IVP*.

4. Click *iwayivp*.

5. Click *ivp*.

6. Click *Invoke*.

   An XML response that is similar to the following appears in your browser:

```
<?xml version="1.0" encoding="UTF-8" ?>
<SOAP-ENV:Envelope xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:SOAPENV="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <SOAP-ENV:Body>
  <ivpResponse xmlns="urn:iwaysoftware:iBSP:jul2003:ivp:response"
   cid="A0328ED84ABFA055C4F64B8039C991AA">
   <CurrentTime>2022-07-01T19:14:03Z</CurrentTime>
   <Version>9.0 Service Manager</Version>
  </ivpResponse>
 </SOAP-ENV:Body>
</SOAP-ENV:Envelope>
```

TIBCO Service Manager Integration Tools Transformer

TIBCO Service Manager Integration Tools Transformer (previously known as iWay Transformer) is a GUI tool that is delivered as a plugin with TIBCO Service Manager Integration Tools. Transformer is used to specify how records and fields map to one another. It supports one-to-one, one-to-many, or many-to-one mapping relationships. Documents created by Transformer are characterized as transformation templates and can be used throughout Service Manager. After being created, the templates are stored as XML documents, so they can be maintained and managed with or without Transformer.

Data domain experts can use Transformer to create sophisticated transformation templates without programming assistance. Both transformations for XML and non-XML, input and output document types can be created.

For more information, see the *iIT Transformer User Guide*.

TIBCO Service Manager Integration Tools Designer

TIBCO Service Manager Integration Tools Designer (previously known as iWay Designer) is a GUI tool that is delivered as a plugin with TIBCO Service Manager Integration Tools. Designer is used to build process flows for use with applications created using Service Manager. Process flows model business processes and control tasks in a correct sequence A process flow definition serves to control the sequence in which external program modules are executed.

For more information, see the *iIT Designer User Guide*.

Configuring Application Server Components

TIBCO iWay Service Manager provides several components that can be deployed and run in J2EE Application Servers:

❏ iWay Business Services Provider (iBSP) provides transformation and adapter hosting functionality as well as an environment for developing, running, and integrating web services. It provides a transformation and integration engine for processing XML files and SOAP messages for exchanges with web services applications.

❏ iWay Explorer uses adapters to create schemas and web services for use with Service Manager components or other XML or web service-based programs. It enables you to quickly generate schemas and publish web services from objects and procedures in production ERP systems, without requiring in-depth knowledge of the object or system. iWay Explorer is delivered as a plugin with TIBCO Service Manager Integration Tools.

For more information on how to configure these components, see *Installing TIBCO iWay Service Manager 9.0 Components* on page 13. The following steps are involved:

❏ Ensure your application server is properly installed and configured.

❏ Perform any prerequisites to configure the application server for Service Manager components.

❏ Prepare Service Manager application server components to be deployed. For certain application servers, this can be automated by running the Service Manager deploy tool.

❏ Deploy your application server components.

❏ If needed, create a database repository.

Configuring iWay Explorer

This section explains how to configure iWay Explorer.

If you are planning to use Servlet iBSP, you should first review *Configuring Components* on page 65 and then return to this section.

In this chapter:

❏   Configuring iWay Explorer

❏   Configuring Eclipse iWay Explorer

Configuring iWay Explorer

iWay Explorer is a GUI tool that uses adapters to create schemas and web services for use with Service Manager components or other XML or web service-based programs. It allows you to quickly generate and publish a web service from objects and procedures in many different systems, without requiring in-depth knowledge of the object or system.

An Eclipse Plugin for iWay Explorer is provided, which can be embedded in the open source Eclipse development environment using TIBCO Service Manager Integration Tools for Eclipse. See *Configuring Eclipse iWay Explorer* on page 81 for configuration information.

If you are planning to use Servlet iBSP, you should first review *Configuring Components* on page 65 and then return to this section.

Configuring Eclipse iWay Explorer

Eclipse Plugin iWay Explorer can be embedded in the open source Eclipse development environment using TIBCO Service Manager Integration Tools. In addition to iWay Explorer, these tools allow you to start and stop Service Manager and view schemas within Eclipse.

Note: Java Development Kit (JDK) 11.

Installing Service Manager Integration Tools for Eclipse

For the Eclipse rich client (standalone) iWay Explorer, proceed to *Using Eclipse iWay Explorer* on page 83.

For the Eclipse plugin iWay Explorer, Eclipse 3.4 or higher must be installed and configured on your system. Earlier Eclipse releases are not supported.

You can download Eclipse from:

http://www.eclipse.org/

Note: You can embed Service Manager Integration Tools into Eclipse, using the Eclipse update manager as explained in the following procedure. The update manager makes it easy to add additional features and plug-ins to an Eclipse based product. You can also manually embed the tools by unzipping the iway9\etc\setup\iweclipse.zip file into the Eclipse installation directory.

Procedure: **How to Install Service Manager Integration Tools for Eclipse**

1. Open Eclipse.

   Note: If Eclipse is already open, ensure that all active projects have been saved.

2. In the Help menu, select *Software Updates*.

   The Software Updates and Add-ons window opens.

3. Go to Available Software and click the *Add Site* button.

   The Add Site window opens.

4. Type the following location:

   C:\Program Files\iway9\etc\setup\eclipse

5. Click the *Installed* button.
   A progress window opens and displays a message that requirements and dependencies are being calculated. A window then opens with information about the Service Manager Integration Tools version being upgraded.

6. Click *Next*.

7. Review the license agreement, and if you agree, select the *I accept …* radio button, and click *Next*.

8. Click *Finish*.

   When the installation completes, you must restart Eclipse.

9. Click *Yes* to restart Eclipse.

10. When Eclipse restarts, you are asked for the work space location again. Enter the following location and click *OK*.

    C:\Program Files\iway9\etc\setup\eclipse

11. Select the *Window* menu, choose *Show View*, and then *Other*.

    The Show View dialog opens.

12. Expand *Service Manager Integration Tools* and select *iWay Explorer* and *Complex Properties*.

13. Click *OK*.

An iWay Explorer tab appears in Eclipse.

Using Eclipse iWay Explorer

Using the Eclipse iWay Explorer is the same whether you run the plugin or rich client version.

Procedure: **How to Access Eclipse iWay Explorer**

1. Start Eclipse, open a project, and select the iWay Explorer tab.

   Initially, no connections are defined. You must define a connection between iWay Explorer and an iWay component, such as Service Manager or Servlet iBSP.

2. Click the *new iWay connection* (the blue shield) button to define a connection.

3. Select *iWay Configuration* and click *Next*.

4. Name the connection.

   For Service Manager or Servlet iBSP, this is your choice.

5. Specify the *Connection Type*.

   For Service Manager or Servlet iBSP, choose HTTP Connection.

6. Click *Next*.

7. Enter the connection information if the default is not correct.

   ❑ For Service Manager, the URL is the Service Manager hostname and SOAP port, for example:

   `http://hostname:9000`

   where:

   `hostname`

   Is the host name where Service Manager is installed. Use the actual host name and not localhost.

   If you changed the default SOAP port, substitute accordingly. You can click the *Local Connection* button to see the default.

   ❑ For Servlet iBSP, the URL depends on your application server port and is normally:

   `http://hostname:port/ibse/IBSEServlet`

where:

hostname

Is the host name of the application server machine. Use the actual host name and not localhost.

port

Is the HTTP port for your application server.

8. Click *Next*.

9. Check or uncheck the adapters you wish to appear and click *Finish*.

Your connection appears in the iWay Explorer tab. You can expand it to see adapters and web services. Double-click *Application Explorer* to see service adapters and double-click *Event Explorer* to see event adapters. To configure an adapter, right-click and select *Add Target*.

The available adapters vary depending on which version of Service Manager you install and which files are in the iway9\lib directory. If your adapter requires third-party drivers or libraries, they must be in the lib directory or your adapter may not appear. See *Preparing Adapters* on page 47 for information on required files.

Configuring the Repository

This section explains how to change the default database repository for TIBCO Service Manager. Information on how to migrate repositories is also provided.

In this chapter:

❏ Configuring and Creating the Repository

❏ Migrating Repositories

Configuring and Creating the Repository

TIBCO Service Manager and Servlet iBSP require repositories to store information about adapter targets, metadata, transactions, web services, and other data.

❏ For Service Manager, an HSQL database is automatically installed and configured when you install Service Manager.

❏ For Servlet iBSP, a file-based repository is available by default. This is only supported in development environments. For production or test environments, you should set Servlet iBSP to use a RDBMS repository, as explained in this section.

Creating the Repository

Scripts to create repository tables are installed with Service Manager in the ibspsql.zip file, for example:

```
C:\Program Files\iway9\etc\setup\ibspsql.zip
```

You should extract the contents of this file to a temporary directory on the machine with your database server. To extract, you can use Winzip or the jar command (jar xvf ibspsql.zip).

Then follow the steps for your type of repository:

❏ For Microsoft SQL Server, see *How to Configure a Microsoft SQL Server Repository* on page 86.

❏ For Oracle, see *How to Configure an Oracle Repository* on page 87.

❏ For Sybase, see *How to Configure a Sybase Repository* on page 87.

❏ For DB2, see *How to Configure a DB2 Repository* on page 88.

❑ For MaxDB, see *How to Configure a MaxDB Repository* on page 88.

Procedure: **How to Configure a Microsoft SQL Server Repository**

To configure a Microsoft SQL Server repository:

1. Ensure that SQL Server authentication is supported.

2. Create a SQL Server user ID.

3. Create a SQL Server database to use as the repository.

   To do this, you can use the Enterprise Manager to expand the servers and folders on the left, right-click the *Databases* folder, and choosing *New Database*. You can name the database anything you wish and can keep default settings.

4. Grant your SQL Server user ID db_owner rights to the repository database.

5. If you have not yet done so, extract the contents of the ibspsql.zip file, for example:

   ```
   C:\Program Files\iway9\etc\setup\ibspsql.zip
   ```

   Extract the files to a directory on the machine running SQL Server. After extracting files, the SQL Server files are located in an *mss* directory.

6. Open a command prompt and navigate to the *mss* directory you extracted from ibspsql.zip. The following file contains SQL to create the repository tables:

   ```
   iwse.sql
   ```

   For Japanese users, the script is named Iwse-unicode.sql.

7. Issue the following command to create the repository tables:

   ```
   osql -S hostname -d databasename -U loginID -P password -i iwse.sql
   ```

   where:

   hostname

   Is the host name of the machine where SQL Server is running.

   databasename

   Is the database name you created.

   loginID

   Is the SQL Server ID with db_owner rights.

   password

   Is the password for the SQL Server ID.

The tables should be created in your database.

8. Proceed to *Installing the JDBC Driver* on page 89.

Procedure: **How to Configure an Oracle Repository**

To configure an Oracle repository:

1. Contact your database administrator to obtain an Oracle user ID and password to create the repository.

   This user ID should have rights to create and modify tables, as well as the ability to create and execute stored procedures.

2. If you have not yet done so, extract the contents of the ibspsql.zip file, for example:

   ```
   C:\Program Files\iway9\etc\setup\ibspsql.zip
   ```

   Extract the files to a directory on the machine running Oracle. After extracting files, the Oracle files are in an oracle directory. This directory contains SQL to create the repository tables.

For Oracle 8i	`iwse.ora`
For Oracle 9i and higher	`iwse.ora9`

   Note: For Oracle version 9i and higher, only the ojdbc14.jar driver is supported. In addition, you must use the iwse.ora9 script file when configuring repositories for Oracle version 9i and higher.

3. Issue the following command while logged on as a user ID with the correct environment settings:

   ```
   sqlplus userid/password @ iwse.ora
   ```

   or

   ```
   sqlplus userid/password @ iwse.ora9
   ```

4. Proceed to *Installing the JDBC Driver* on page 89.

Procedure: **How to Configure a Sybase Repository**

To configure a Sybase repository:

1. Extract the contents of the ibspsql.zip file to the Sybase machine.

   The file is located in the following directory:

```
C:\Program Files\iway9\etc\setup\ibspsql.zip
```

The ibspsql.zip file contains the SQL that is required to create the repository. The sybase directory you extract contains the following file to create the repository tables:

```
sybase-iwse.sql
```

2. Submit this SQL to create the repository tables and structure.

   Note: This step should be performed by a Sybase DBA.

3. Proceed to *Installing the JDBC Driver* on page 89.

Procedure: **How to Configure a DB2 Repository**

To configure a DB2 repository:

1. Extract the contents of the ibspsql.zip file to the DB2 machine, which is located in the following directory:

   ```
   C:\Program Files\iway9\etc\setup\ibspsql.zip
   ```

   The DB2 directory you extract contains the following file to create the repository tables:

   ```
   db2-iwse.sql
   ```

   Note: For z/OS systems, contact TIBCO Support to obtain the correct scripts.

2. Submit this SQL to create the repository tables and structure. However, for OS/400 use db2-400-iwse.sql.

   Note: This step should be performed by a DB2 DBA.

3. Proceed to *Installing the JDBC Driver* on page 89.

Procedure: **How to Configure a MaxDB Repository**

1. Contact TIBCO Support to obtain the SQL needed for a MaxDB repository. There are several files in maxdb-ibse-install.zip. The .bat files are used for Windows and the .sh files are used for UNIX.

2. Open install.bat (or install.sh) in a text editor and edit it so that it contains a valid MaxDB username and password. You can optionally change the database name (iwse):

   ```
   dbmcli db_create iwse username,passworddbmcli -d iwse -u
   username,password -i install-maxdb-instance.txt
   ```

3. Execute install.bat.

   The database should be created.

4. Open load-tables-maxdb-iwse.bat (or load-tables-maxdb-iwse.sh) in a text editor and edit it so that it contains a MaxDB administrator username and password, not necessarily the same logon as in install.bat. In addition, make sure it contains the same database name as install.bat (iwse by default):

```
loadercli -d iwse -u dba_username,dba_password -b maxdb-iwse3.sql
```

5. Execute load-tables-maxdb-iwse.bat.

   The tables should be loaded.

   Note: If you need to drop the tables and start over, edit and submit maxdb-iwse-droptables.bat (or maxdb-iwse-droptables.sh).

Installing the JDBC Driver

Service Manager components communicate with the repository using JDBC. Therefore, a JDBC driver must be available.

Procedure: **How to Install the JDBC Driver**

1. Determine the JDBC driver for your repository.

   The required driver files depend on your database and driver type, for example:

Database Driver	Required Driver Files
SQL Server 2012	`sqljdbc42.jar`
Oracle 8i	`classes12.jar`
Oracle 9i and higher	`ojdbc14.jar`
MaxDB	`sapdbc-7_5_0_5.jar`
Sybase	`jconn2.jar`
DB2 Type 4 Universal JDBC	`db2jcc.jar` `db2jcc_license_cisuz.jar`

Database Driver	Required Driver Files
DB2 Type 2 Legacy App	`db2java.zip` See your driver documentation for more information. If both iBSP and DB2 are on z/OS or OS/400, refer to the IBM driver documentation.

2. Copy the required JDBC .jar file(s) into the iway9\lib directory, for example:

   `C:\Program Files\iway9\lib`

   For information about third-party driver files, see *Preparing Adapters* on page 47.

3. Restart Service Manager from outside the Service Manager Administration Console. On Windows platforms, you can restart it from the Services window.

4. For Servlet iBSP, add the JDBC driver to your application server CLASSPATH. See *Configuring Components* on page 65 and refer to your application server documentation for information on setting CLASSPATH.

   Tip: Depending on your application server, you may find it easier to add the driver into the ibse\WEB-INF\lib directory of the iBSP web application (ibse.war or ibse.ear).

5. Restart Service Manager.

Connecting Service Manager to the Repository

After you create the repository tables and install the JDBC driver, restart Service Manager or your application server. Then, configure Service Manager components to access the new repository.

❏ For Service Manager, see *How to Enter Connection Information for Service Manager* on page 90.

❏ For Servlet iBSP, see *How to Enter Connection Information for Servlet iBSP* on page 93.

Procedure: **How to Enter Connection Information for Service Manager**

1. Open the Service Manager Administration Console and log on:

   `http://hostname:9999`

   where:

   hostname

   Is the host name where you installed Service Manager.

2. In the left pane, click *Services Provider*.

3. Next to the *Data Provider Name* drop-down list, click the *Add* hyperlink.

   A form appears for defining the database.

4. Complete the fields as explained in the following table:

Parameter	Description
Name	Enter a name that you will use to refer to the connection.
Driver Class	Use the drop-down menu or manually enter the JDBC Class.
Connection URL	Use the drop-down menu and edit the default URL. You can also manually enter the URL. Examples are shown after this table.
User	Provide the user ID to access the repository database.
Password	Provide the password to access the repository database.

The repository URLs have the forms listed in the following table.

Database	JDBC URL
SQL Server 2012	`jdbc:sqlserver://hostname:port;databaseName=dbname`
Oracle	`jdbc:oracle:thin:@hostname:port:SID`
MaxDB	`jdbc:sapdb://hostname[:port]/DatabaseName[options]`
Sybase	`jdbc:sybase:Tds:hostname:port`

Database	JDBC URL
DB2	For DB2 Type 4 Universal JDBC driver: `jdbc:db2://hostname:port/dbname` For DB2 Type2 App driver: `jdbc:db2:dbname` See your driver documentation for more information. If both iBSP and DB2 are on z/OS or OS/400, refer to the IBM driver documentation.

where:

`hostname`

Is the host name of the database server machine.

`port`

Is the port number for the database server. The SQL Server default is 1433. The Oracle default is 1521.

`dbname`

Is the database name or DB2 database alias or location name.

`SID`

Is the ORACLE SID.

5. Click *Test*.

    You should receive a response that says:

    `The JDBC data provider test completed successfully.`

    If you receive an error, troubleshoot accordingly. Ensure that the driver is in the iway9\lib directory as explained in *How to Install the JDBC Driver* on page 89.

6. Click *Add* if the test is successful.

    Your connection appears on the Data Provider page. If you need to change its parameters, you can click its link.

7. Click *Services Provider* on the left.

8. Change the *Data Store Type* to the type of repository you wish to use.

9. Set the connection you just defined as the *Data Provider Name*.

10. Click *Update*.

11. Restart Service Manager from outside of the Service Manager Administration Console to ensure it completely restarts. On Windows platforms, use the services Window.

    When Service Manager restarts, you should reverify iBSP using the sample web service at:

    `http://`*`hostname`*`:9000`

Note: Use Service Monitor to monitor Service Manager events. Monitoring is implemented using AmberPoint components and can be enabled through the Service Manager Administration Console. For details, see the *Service Manager User's Guide*.

To migrate a repository, see *Migrating Repositories* on page 96.

Procedure: **How to Enter Connection Information for Servlet iBSP**

To enter connection information for Servlet iBSP:

1. Ensure you have added your JDBC driver to your application server CLASSPATH as explained in *How to Install the JDBC Driver* on page 89.

2. Log on to the Servlet iBSP Configuration page at:

   `http://`*`hostname:port`*`/ibse`

3. At the bottom of the page, provide the repository connection information.

   The following table lists and describes the fields.

Field	Description
Repository Type	Specify the type of repository you are using.
	Note: *Data Source* is not supported.
Repository URL	Edit the provide JDBC URL to connect to the database. Examples follow this table.

Field	Description

Repository Driver	Provide the JDBC Class to connect to the database.
	
	For SQL Server 2012:
	`com.microsoft.sqlserver.jdbc.SQLServerDriver`
	For MaxDB:
	`com.sap.dbtech.jdbc.DriverSapDB`
	For Oracle:
	`oracle.jdbc.driver.OracleDriver`
	For Sybase:
	`com.sybase.jdbc2.jdbc.SybDriver`
	For DB2 Type 4 Universal JDBC driver:
	`com.ibm.db2.jcc.DB2Driver`
	For DB2 Type2 App driver:
	`COM.ibm.db2.app.DB2Driver`
	
	See your driver documentation for more information. If both iBSP and DB2 are on z/OS or OS/400, refer to IBM driver documentation.

Repository User	Provide the user ID to access the repository database.
Repository Password	Provide the password to access the repository database.

The repository URLs have the forms listed in the following table.

Database	JDBC URL
SQL Server 2012	`jdbc:sqlserver://`*`hostname:port`*`;databaseName=`*`dbname`*
Oracle	`jdbc:oracle:thin:@`*`hostname:port`*`:SID`
MaxDB	`jdbc:sapdb://`*`hostname[:port]/`* *`DatabaseName[options]`*

Database	JDBC URL
Sybase	`jdbc:sybase:Tds:hostname:port`
DB2	For DB2 Type 4 Universal JDBC driver: `jdbc:db2://hostname:port/dbname` For DB2 Type2 App driver: `jdbc:db2:dbname` See your driver documentation for more information. If both iBSP and DB2 are on z/OS or OS/400, refer to IBM driver documentation.

where:

hostname

Is the host name of the database server machine.

port

Is the port number for the database server. The SQL Server default is 1433. The Oracle default is 1521.

dbname

Is the database name or DB2 database alias or location name.

SID

Is the ORACLE SID.

4. Click *Save*.

You should be redirected to the Servlet iBSP home page where you can test the sample web service. However, until you redeploy or restart the server, the new repository is not actually used.

5. Restart the application server.

After the server restarts or the application is redeployed, test it by going to the Servlet iBSP home page at:

`http://hostname:port/ibse/IBSEServlet`

If you receive an error, confirm the settings at the configuration page:

`http://hostname:port/ibse`

If you receive an error, ensure CLASSPATH is properly set and redeploy the iBSP web application.

File System Repositories

When Servlet iBSP is installed, it is configured to use a file system repository, so no additional steps are required. If you do not have access to a database, you can continue to store the Servlet iBSP repository information in XML files on your local machine. However, file system repositories are less secure and less efficient than using a database. In addition, file system repositories for iBSP are not supported in production environments.

For Servlet iBSP, the default location is either the root directory of the iBSP web application under the application server or a directory under iway9, for example:

```
C:\Program Files\iway9\config\base\ibserepo.xml
```

Migrating Repositories

You can migrate repositories using the Service Manager Administration Console. They can be repositories for Service Manager, the older Adapter Manager, or Servlet iBSP. The structure of the repository has not changed.

Some of the things you can migrate include:

❏ Migrate the data in the default Service Manager HSQL database to another database repository.

❏ Migrate an older Adapter Manager repository into the default Service Manager HSQL database.

❏ Migrate a Servlet iBSP database repository.

In this section:

❏ *Source* repository refers to the older existing repository you want to migrate.

❏ *Target* repository refers to the new repository you want to use.

Migration Steps

To migrate a repository, perform the following steps.

❏ Ensure you have created the new repository tables, as explained in *Creating the Repository* on page 85.

❏ Ensure the JDBC driver for both your target and source repositories are in the iway9/lib directory. See *Installing the JDBC Driver* on page 89 for more information.

❏ Define the source and target repositories as Data Providers through the Service Manager Administration Console, as explained in *How to Define the Source and Target Repositories* on page 97.

❏ Start the migration, as explained in *How to Start the Migration* on page 98.

Procedure: **How to Define the Source and Target Repositories**

You should perform this procedure if you did not yet define the target repository or if you are migrating from a different source repository than the default HSQL repository.

If you are migrating the default HSQL repository into a new repository, the source repository is already defined for you. If you performed the steps in *How to Enter Connection Information for Service Manager* on page 90, then you probably already defined the target repository. If you do not need to define the source or the target, proceed to *How to Start the Migration* on page 98.

To define the source and target repositories as Data Providers:

1. Open the Service Manager Administration Console and log on:

   `http://hostname:9999`

   where:

   `hostname`

   Is the host name where you installed Service Manager.

2. In the left pane, click *Data Provider*.

3. Click *Add* under the JDBC Connections box.

   A form appears for defining the database. Define the source or target repository.

4. Complete the fields as explained in the following table:

Parameter	Description
Name	Enter a name that you will use to refer to the connection.
Driver Class	Use the drop-down menu or manually enter the JDBC Class.

Parameter	Description
Connection URL	Use the drop-down menu and edit the default URL. You can also manually enter the URL. For examples, see *How to Enter Connection Information for Service Manager* on page 90. For SQL Server 2000, ensure the URL ends with the following: `;SelectMethod=cursor`
User	Provide the user ID to access the repository database.
Password	Provide the password to access the repository database.

5. Click *Test*.

   You should receive a response that says:

   `The JDBC data provider test completed successfully.`

   If you receive an error, troubleshoot accordingly. Ensure the driver is in the iway9\lib directory, as explained in *How to Install the JDBC Driver* on page 89.

6. Click *Add* if the test is successful.

   You connection appears on the Data Provider page. If you need to change its parameters, you can click its link.

7. If you need to define both the target and source repositories, repeat this procedure to define another repository.

Procedure: **How to Start the Migration**

1. If it is not open, open the Service Manager Administration Console and log on.

2. In the left pane, click *Services Provider*.

   The currently selected Data Store Type and Data Provider Name determines the source repository.

3. If it is not already selected, set the source repository by changing the *Data Store Type* and *Data Provider Name* and clicking *Update*. The *Data Provider Name* is the name you used when you defined the source repository.

4. Set the target repository by changing the Data Store Type and Data Provider Name.

5. Then click the *Migrate* hyperlink.

A page displays information about the migration. If the source and destination (target) are not correct, click *Services Provider* on the left to correct them. If your new database has data in it that you wish to delete, you can select the *Reset/Clean Destination* option.

6. Click *Migrate* if the source and destination (target) are correct.

   Information about the migration appears. Ensure that there are no critical errors.

   After the migration completes, iBSP is set to use the source repository. You should set it to use the target repository instead.

7. Click *Services Provider* on the left.

8. Change the *Data Store Type* to the type of repository you wish to use.

9. Set the connection you just defined as the *Data Provider Name*.

10. Restart Service Manager.

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