Installation and Deployment Guide
Version 2017.1.1
July 7, 2017
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About this Guide

- Intended Audience
- Document Organization
- Related Documentation
- Accessing the Knowledge Base
- How to Contact Us

Intended Audience

The *Installation and Deployment Guide for Ivanti Service Manager* is intended for Ivanti Service Manager administrators who are going to install Ivanti Service Manager.

Document Organization

This guide contains the following sections:

- **Ivanti Service Manager Deployment Overview:** Describes recommended and optional deployment architectures, including the Ivanti Service Manager reporting feature and ISM Voice.
- **Ivanti Service Manager Installation Prerequisites:** Provides information about confirming your role, the different accounts and passwords used in Ivanti Service Manager, using a virtual machine, enabling file streaming and full-text search in Microsoft SQL Server, and verifying server roles and features.
- **Installing the Ivanti Service Manager System:** Describes how to install Ivanti Service Manager, including the Ivanti Service Manager Operations Console, the reporting feature, ISM Discovery, and ISM Knowledge.
- **Initially Configuring the System:** Describes how to use the System Configuration Wizard to configure Ivanti Service Manager, including its servers and databases; and how to use the Ivanti Service Manager Operations Console to configure the deployment.
- **Upgrading Ivanti Service Manager from an Earlier Release:** Contains information and instructions for upgrading Ivanti Service Manager from an earlier release to the current release.
- **Using the License Manager:** Explains how to install and use the Ivanti Service Manager License Manager.
- **Troubleshooting:** Contains solutions to common problems.
Related Documentation

Ivanti Service Manager has online help available within the application.

The following additional documentation is available in the Knowledge Base. See Accessing the Knowledge Base for information about how to access these documents.

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<thead>
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<th>Document</th>
<th>Knowledge Base Article Number</th>
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<tbody>
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<td>Documentation Guide for Ivanti Service Manager Release 2017.1.1</td>
<td>27911</td>
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<tr>
<td>System Requirements and Compatibility Matrix for Ivanti Service Manager Release 2017.1.1</td>
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<td>27907</td>
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Accessing the Knowledge Base

All Ivanti Service Manager documents are located in the Knowledge Base. Contact your Ivanti Software administrator for your credentials.

To access the Knowledge Base, do the following:

2. Do the following:
   a. Enter your user name and password.
   b. Press Login.
The system may require you to log in using external authentication. If so, enter your user name and click **Sign in with your_company_name**.

3. If the system prompts you, select a role and click **Submit**. The system opens to your home page.

4. From the top tool bar, click **Knowledge**. If you do not see it, click **More...** and select **Knowledge**. You are now in the Knowledge Base.

5. To search for a specific article number, in the search box, enter the knowledge article number and press **Enter**.

**How to Contact Us**

To contact us about the documentation, or if you have any other questions or issues about Ivanti Service Manager, contact Ivanti Software Global Support services by logging an incident via Self Service at: [https://www.ivanti.com/support/ivanti-support](https://www.ivanti.com/support/ivanti-support).
Ivanti Service Manager Deployment Overview

- Hardware Considerations
- Demonstration or Proof-of-Concept Deployment
- Minimum Production Deployment
- Enterprise Production Deployment
- Security Enterprise Production Deployment
- Database Deployment Options
- Ivanti Service Manager Operations Console Deployment Options
- Reporting Services Deployment Options
- Voice Deployment Options

Hardware Considerations

The following factors drive the hardware requirements for a new Ivanti Service Manager deployment:

- Ivanti Service Manager supports separate landscapes: development (also called staging), test (also called UAT), and production. You can run these landscapes on the same server or isolate them on separate servers.

  If you choose to run them on separate servers, you must provide additional hardware. Except for the demonstration or proof-of-concept deployment, we do not recommend putting all of the landscapes on one server.

- You can adjust the amount of hardware used after you deploy your system, after you have collected usage data. The Ivanti Service Manager software is horizontally and vertically scalable, allowing you to add more hardware to increase performance without license changes.
Demonstration or Proof-of-Concept Deployment

- About the Demonstration or Proof-of-Concept Deployment
- Hardware Requirements for the Demonstration or Proof-of-Concept Deployment
- About Installing the Ivanti Service Manager Components for the Demonstration or Proof-of-Concept Deployment

About the Demonstration or Proof-of-Concept Deployment

⚠️ This deployment is only recommended for demonstration purposes. Do not use this deployment for any production environment.

You can run the entire Ivanti Service Manager system on a single server for the purpose of a demonstration or a proof-of-concept system.

Install Ivanti Service Manager, with all options enabled, onto a single server that has Microsoft SQL Server loaded locally. Most users install this deployment in a virtual environment.

*Figure 1 -- Example of Ivanti Service Manager and Databases on a Single Server*
Hardware Requirements for the Demonstration or Proof-of-Concept Deployment

- 1 server, either virtual or physical
- 1 CPU
- 4 GB memory
- 40 GB hard drive

About Installing the Ivanti Service Manager Components for the Demonstration or Proof-of-Concept Deployment

Figure 2 shows a diagram of the recommended locations of the various Ivanti Service Manager software components in this deployment.

*Figure 2 -- Ivanti Service Manager Components and Databases on a Single Server*

If you plan to include the Ivanti Service Manager reporting feature in your deployment, you must install the Microsoft SQL Server Reporting Services (SSRS) component of Microsoft SQL Server. See Prerequisites for Installing the Ivanti Service Manager Reporting Feature.
Minimum Production Deployment

- About the Minimum Production Deployment
- Hardware Requirements for the Minimum Production Deployment
- About Installing the Ivanti Service Manager Components for the Minimum Production Deployment

About the Minimum Production Deployment

Customers with 10 or fewer users often want to minimize their hardware investment. With the minimum production deployment architecture, you install all Ivanti Service Manager components, except for the Ivanti Service Manager databases, onto a single server. We recommend that you install the Ivanti Service Manager databases onto a separate Microsoft SQL server.

*Figure 3 -- Example of Ivanti Service Manager and Databases on Separate Servers*

In this deployment, all three landscapes (development [staging], testing [UAT], and production) run on the same server. As a result:

- Any issues created during the development cycle might affect production users.
- You cannot perform preupgrade testing.
Hardware Requirements for the Minimum Production Deployment

The following are the hardware requirements for the Ivanti Service Manager server:

- One server, either physical or virtual
- 2 CPU
- 4 GB memory
- 200 GB hard drive

The following are the hardware requirements for the Microsoft SQL server where the databases reside:

- One server (we recommend a physical server)
- 2 CPU
- 8 GB memory
- 1 TB hard drive
About Installing the Ivanti Service Manager Components for the Minimum Production Deployment

**Figure 4** shows a diagram of the recommended locations of the various Ivanti Service Manager software components in this deployment.

**Figure 4 -- Ivanti Service Manager Components and Databases on Separate Servers**

![Diagram of Ivanti Service Manager Components and Databases on Separate Servers]

- HEAT Server
  - Application Server
  - Configuration Server
  - Workflow Engine
  - Escalation Engine
  - Email Server
  - Metrics Server
  - Logging Service
  - Integration Service
  - Message Queue
  - License Server
  - Ops Console

- SQL Server
  - HEAT Databases
    - ConfigDB
    - HEATSM
    - ReportDB
    - HEATSM-STG
    - HEATSM-UAT
    - Metrics Cache DB
    - HEAT Reporting Service

- Separate VLAN
Enterprise Production Deployment

- About the Enterprise Production Deployment
- Hardware Requirements for the Enterprise Production Deployment
- High Availability and Load Balancing
- About Installing the Ivanti Service Manager for the Enterprise Production Deployment

About the Enterprise Production Deployment

Customers supporting large user populations of 100 or more are primarily concerned with availability and load management rather than with minimizing hardware expense. Customers with more than 100 users should use this setup as a baseline and then add the equivalent amount of hardware for each additional 100 users. The enterprise production deployment architecture splits Ivanti Service Manager into:

- Front-end web servers
- Back-end processing servers

The back-end servers handle workflow, email processing, license allocation, inventory management, and so on. This architecture also separates the production environment from development and testing.

There are two key advantages of separating development and testing from production:

- Any issues created during the development cycle do not affect production users.
- You can perform upgrade testing on the development and testing servers before upgrading the production servers.

Optionally, you can install your development and test landscapes onto separate physical servers.
Figure 5 -- Example of Ivanti Service Manager in an Enterprise Deployment

Hardware Requirements for the Enterprise Production Deployment

- Web Servers
- Processing Servers (Production)
- Processing Servers (Development and Testing)
- Microsoft SQL Server Requirements
- Microsoft SSRS Reporting Server
- Hardware Requirements when Adding Additional Users
Web Servers
The following are the hardware requirements for the Ivanti Service Manager web servers:

- Two virtual servers
- Outside the firewall
- Load balanced
- 4 CPU
- 16 GB memory
- 200 GB hard drive

Processing Servers (Production)
The following are the hardware requirements for the Ivanti Service Manager processing servers used for the production landscape:

- Two virtual servers
- Inside the firewall
- Load balanced
- 4 CPU
- 16 GB memory
- 200 GB hard drive

Processing Servers (Development and Testing)
The following are the hardware requirements for the Ivanti Service Manager processing server used for the development (staging) and testing (UAT) landscapes:

- One physical or virtual server
- 2 CPU
- 4 GB memory
- 200 GB hard drive
Microsoft SQL Server Requirements

Microsoft SQL Server is the database server for the deployment. Depending on your needs, you may have multiple database servers. The following are the requirements for the Microsoft SQL server where the databases reside:

- One physical server
- Microsoft SQL Server Release 2012
- Inside the firewall
- 8 CPU
- 24 GB memory
- 1 TB hard drive

Microsoft SSRS Reporting Server

The reporting feature requires that Microsoft SQL Server Reporting Services (SSRS) be installed and running on the database server that hosts the Ivanti Service Manager reporting feature.

Microsoft SSRS can be installed on the Microsoft SQL server or on a separate Microsoft SSRS server, depending on your preference. We recommend a separate installation in the following situations:

- Multi-tenant environments, including managed service providers and enterprises with multiple Ivanti Service Manager tenants.
- The Microsoft SQL database is used also for applications other than Ivanti Service Manager.
- Installations where the database server must remain online, because upgrading Microsoft SSRS often requires a reboot.

The following are the requirements for the Microsoft SQL Server Reporting Services (SSRS) reporting server:

- One physical server
- Microsoft SQL Server Release 2012
- Inside the firewall
- 8 CPU
- 24 GB memory
- 1 TB hard drive

Hardware Requirements when Adding Additional Users

For each additional 100 users, add this to architecture:

- Two additional Ivanti Service Manager web servers.
- Two additional Ivanti Service Manager processing servers.
System load determines the actual number of servers to add. You can add the web and processing servers on demand.

In most cases, you do not need to add more development (staging) or testing (UAT) servers.

**High Availability and Load Balancing**

You can achieve high availability through physical load balancing or by load balancing handled within Ivanti Service Manager. For example, in the configuration shown in Figure 5. The Ivanti Service Manager components are connected to one or more load-balanced servers. In this example:

- The Ivanti Service Manager web servers, which contain Ivanti Service Manager components that are user-facing, all connect to a physical load-balancing server.
- The Ivanti Service Manager process servers, which contain Ivanti Service Manager components that are not user-facing, do not connect to a physical load-balancing server, but instead use a built-in load balancer. The escalation engine, workflow engine, and email server have built-in load-balancing mechanisms.
- The Ivanti Service Manager web servers and process servers all connect to the same Ivanti Service Manager application database and configuration database. High availability for the Ivanti Service Manager databases is achieved through a cluster.

Communication within the system, such as between an Ivanti Service Manager process server and an Ivanti Service Manager web server, does not require SSL. However, external communication can use SSL.

> If you use SSL in your high-availability, load-balancing deployment, you must use a fully-qualified domain name for the server locations. See the instructions in Optional SSL Configuration. In particular, in the SSL certificate field, you must enter a fully-qualified domain name.

When using a hardware load balancer, turn on session persistence so that connections from the web browsers always get directed to the same web server.
About Installing the Ivanti Service Manager for the Enterprise Production Deployment

Figure 6 shows a diagram of the recommended locations of the various Ivanti Service Manager components.

Figure 6 – Ivanti Service Manager Components and Databases in an Enterprise Deployment
Security Enterprise Production Deployment

- About the Security Enterprise Production Deployment
- About Using a DMZ with Web Servers
- About Using a DMZ with Reverse Proxy Servers

About the Security Enterprise Production Deployment

This deployment is based on the Enterprise Production Deployment with a DMZ added to provide security where users log in from outside of the company network.

We recommend the following DMZ configurations:

- DMZ with Ivanti Service Manager web servers
- DMZ with reverse proxy servers

The DMZ is configured for authenticated access. When web servers are in the DMZ, each user must enter his user name and password to log into Ivanti Service Manager. This architecture involves the additional cost of setting up and maintaining two firewalls.

Where you implement reverse proxy servers, you can add another layer of access authentication. This architecture involves the additional cost of setting up and maintaining two reverse proxy servers and a load balancer.

About Using a DMZ with Web Servers

This option offers a greater level of security than placing your Ivanti Service Manager web servers outside of a single company firewall. Placing a second firewall between the Internet and the web servers forms a semi-trusted network that prevents external access to your Ivanti Service Manager process servers and databases.

We recommend that you harden the Ivanti Service Manager web servers by taking the following actions:

- Disabling all unnecessary services
- Running necessary services with the lowest possible privileges
- Requiring strong passwords
- Locking an account after a certain number of login failures
- Deleting or disabling unnecessary user accounts, such as the guest user account
- Renaming or changing the description of the administrator account
- Installing the latest security updates and patches on the server
- Enabling security logging and checking the logs frequently
The same Ivanti Service Manager components are installed on the web servers when they are located in the DMZ as when they are located outside of the company firewall. See About Installing the Ivanti Service Manager for the Enterprise Production Deployment.

Figure 7 -- Example of an Enterprise Deployment with Ivanti Service Manager Web Servers in the DMZ

About Using a DMZ with Reverse Proxy Servers

This option offers the greatest level of security by placing your web servers inside the company firewall. By placing reverse proxy servers in the DMZ, you prevent direct user login to the Ivanti Service Manager web servers.

In addition, by locating the web servers on the same network as the process servers and databases, you achieve a true three-tier architecture.

The same Ivanti Service Manager components are installed on the web servers when they are located inside the firewalls as when the servers are located outside.

This architecture involves the additional costs of servers to host the reverse-proxy service, as well as setting up and maintaining a second firewall. See About Installing the Ivanti Service Manager for the Enterprise Production Deployment.
Figure 8 -- Example of an Enterprise Deployment with Ivanti Service Manager Reverse Proxy Servers in the DMZ
Database Deployment Options

This section describes the different options available for the Ivanti Service Manager databases.

- About the Databases Used in Ivanti Service Manager
- Diagram Conventions
- Option D1: Separate Database Servers (Recommended and Best Practice)
- Option D2a: Single Database Server (Best Practice)
- Option D2b: Single Database Server
- Option D3: Single Configuration Database on a Single Database Server
- Option D4: Multiple Configuration Databases on a Single Server
- Option D5: Multiple Configuration Databases on Multiple Servers
- Option D6: Single Configuration Database on Separate Database Servers (for MSPs)
- Option D7: Multiple Configuration Databases on Separate Database Servers (for MSPs)

About the Databases Used in Ivanti Service Manager

The following are the databases used in Ivanti Service Manager:

- configuration database (ConfigDB)
- Ivanti Service Manager application database (IvantiSM)
- Ivanti Service Manager reporting database (ReportDB). This database is used for the reporting feature. See Reporting Services Deployment Options for more information.
- Metrics cache database (Metrics Cache DB). This database is used to cache the run-time state of the schedule jobs. Only one metrics cache database is needed in each isolated landscape. For example, if the configuration database and the Ivanti Service Manager application database are hosted on the same database server, your deployment only needs one metrics cache database.

In addition, there are generally three instances for each tenant:

- Staging
- UAT
- Production

Each tenant instance, production, staging (development), and UAT (testing), can have its own database instance or server. These are called:

<table>
<thead>
<tr>
<th>Database</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEATSM</td>
<td>Application database for production</td>
</tr>
<tr>
<td>HEATSM-STG</td>
<td>Application database for staging (development)</td>
</tr>
</tbody>
</table>
### Database Description

<table>
<thead>
<tr>
<th>Database</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEATSM-UAT</td>
<td>Application database for UAT (testing)</td>
</tr>
<tr>
<td>HEATSM-Dev</td>
<td>Application database for staging (development) and UAT (testing)</td>
</tr>
<tr>
<td>ConfigDB</td>
<td>Configuration database for production</td>
</tr>
<tr>
<td>ConfigDB-STG</td>
<td>Configuration database for staging (development)</td>
</tr>
<tr>
<td>ConfigDB-UAT</td>
<td>Configuration database for UAT (testing)</td>
</tr>
<tr>
<td>ConfigDB-Dev</td>
<td>Configuration database for staging (development) and UAT (testing)</td>
</tr>
<tr>
<td>HEATReportDB</td>
<td>Report database for production</td>
</tr>
<tr>
<td>HEATReportDB-STG</td>
<td>Report database for staging (development)</td>
</tr>
<tr>
<td>HEATReportDB-UAT</td>
<td>Report database for UAT (testing)</td>
</tr>
<tr>
<td>HEATReportDB-Dev</td>
<td>Report database for staging (development) and UAT (testing)</td>
</tr>
</tbody>
</table>

The advantage of hosting a database on its own server is that it ensures security by isolating the production landscape. It also enhances performance. When you make multiple changes or upgrades to the staging or UAT landscapes, you do not want that to affect the performance of the production landscape. Separating the different databases makes it easier to upgrade the systems, because when you upgrade the systems you have to shut them down and that affects users in the production landscape.

The advantage of hosting everything on one server is that you save money by only having to purchase and administer one server and one Microsoft SQL Server license.

### Diagram Conventions

The following conventions are used in the diagrams:

- A line item is considered a database. There can be many databases within one database engine instance.
- A barrel is considered a database engine instance. It can contain multiple database instances.
- A square or rectangle around something means it is on one server (machine). Each server can potentially host multiple database engine instances.
Option D1: Separate Database Servers (Recommended and Best Practice)

In this deployment, there are two separate database servers. One is for the production landscape and the other is for the staging and UAT landscape. The staging and UAT servers share a configuration database.
**Option D2a: Single Database Server (Best Practice)**

In this deployment, there is a single database server and one configuration database (ConfigDB-Dev).

*Figure 11 -- Example of Recommended Single Database Server*
Option D2b: Single Database Server

In this deployment, there is a single database server and either no configuration database or two configuration databases (ConfigDB-STG and ConfigDB-UAT).

Figure 12 -- Example of Alternative Single Database Servers
Option D3: Single Configuration Database on a Single Database Server

In this deployment, there is one configuration database for the production landscape and another configuration database shared between the staging and UAT landscapes.

Figure 13 -- Example of Separate Database Engine Instances on a Single Database Server
Option D4: Multiple Configuration Databases on a Single Server

In this deployment, there are separate configuration databases for the production landscape, the staging landscape, and the UAT landscape.

*Figure 14 -- Example of Multiple Configuration Databases on a Single Server*
Option D5: Multiple Configuration Databases on Multiple Servers

In this deployment, there are separate configuration databases for the production landscape, the staging landscape, and the UAT landscape and separate instances.

Figure 15 -- Example of Multiple Configuration Databases on Multiple Servers
Option D6: Single Configuration Database on Separate Database Servers (for MSPs)

A Managed Service Provider (MSP) is a service partner who provides Ivanti Service Manager for multiple tenants or outside customers.

In this deployment, there is a single configuration database shared between landscapes.

*Figure 16 -- Example of a Single Configuration Database on Separate Database Servers*

Option D7: Multiple Configuration Databases on Separate Database Servers (for MSPs)

In this deployment, there are separate configuration databases for the production landscape, the staging landscape, and the UAT landscape and separate instances.

*Figure 17 -- Example of Multiple Configuration Databases on Separate Database Servers*
Ivanti Service Manager Operations Console Deployment Options

- About the Ivanti Service Manager Operations Console Deployment Options
- Option OC1: Separate Configuration Databases and Application Servers for Production and Development (Best Practice)
- Option OC2: Two Configuration Databases and Separate Application Servers for Each Landscape (Best Practice)
- Option OC3: Separate Configuration Databases for Each Landscape (Best Practice)
- Option OC4: One Configuration Database and One Application Server
- Option OC5: One Configuration Database and Separate Application Servers for Each Landscape

About the Ivanti Service Manager Operations Console Deployment Options

- Determine your database deployment options first. In all of the Operations Console deployment options below, you can substitute any of the database deployments described in Database Deployment Options for the database deployments in the figure. So for the database engine instance shown in Option OC1 below, you could substitute Option D1, Option D2a, Option D2b, Option D3, and so on for that database engine instance.

- To use the Operations Console, the production, staging, and UAT application servers must all use the same version of Ivanti Service Manager. When you test new versions of Ivanti Service Manager, either install the new version in a separate environment or plan the Operations Console pushes before testing the new version.

- We recommend using a deployment that has either two or three configuration databases, such as Option OC1, Option OC2, or Option OC3.

Option OC1: Separate Configuration Databases and Application Servers for Production and Development (Best Practice)

You only install the Operations Console on the staging/UAT server. Do not install it on any other servers.
Option OC2: Two Configuration Databases and Separate Application Servers for Each Landscape (Best Practice)

You only install the Operations Console on the staging server. Do not install it on any other servers.
Option OC3: Separate Configuration Databases for Each Landscape (Best Practice)

The only use case for this option is to upgrade the staging or UAT landscape at different times.

You only install the Operations Console on the staging server. Do not install it on any other servers.
Option OC4: One Configuration Database and One Application Server

We do not recommend using this or any similar deployment that has only one configuration database that is used for HEATSM, HEATSM-STG, and...
HEATSM-UAT, unless you are setting up a demo environment. The reason for this only being viable for demo environments is that this deployment prevents you from being able to test future upgrades on development tenants without forcing production to upgrade at the same time.

Figure 21 -- Example of One Configuration Database and One Application Server
We do not recommend using this or any similar deployment that has only one configuration database that is used for HEATSM, HEATSM-STG, and HEATSM-UAT, unless you are setting up a demo environment. The reason for this only being viable for demo environments is that this deployment prevents you from being able to test future upgrades on development tenants without forcing production to upgrade at the same time.

You only install the Operations Console on the staging server. Do not install it on any other servers.
Figure 22 -- Example of One Configuration Database and Separate Application Servers for Each Landscape
Reporting Services Deployment Options

- About the Reporting Services Deployment Options
- Option R1: Multiple Microsoft SSRS Instances on the Same Database Server (Best Practice)
- Option R2: Separate Microsoft SSRS Instances and a Separate Database Server (Best Practice)
- Option R3: Separate Microsoft SSRS Instances
- Option R4: Multiple Microsoft SSRS Instances on a Separate Report Server
- Option R5: Single Microsoft SSRS Instance on One Database Server

About the Reporting Services Deployment Options

- Determine your database deployment options first (see Database Deployment Options), and then your Operations Console deployment options (see Ivanti Service Manager Operations Console Deployment Options). Then determine your reporting services deployment options.

In all of the reporting services deployment options below, note the following:

- You can substitute any of the database deployments described in Database Deployment Options for the database deployments in the figure. For example, for the database engine instance shown in Option R5 below, you could substitute Option D1, Option D2a/b, Option D3, and so on for that database engine instance.

- You can substitute any of the Operations Console deployments described in Ivanti Service Manager Operations Console Deployment Options for the Operations Console deployments in the figure. For example, for the single application server shown in Option R5 below, you could substitute Option OC3 for that application server.

- The Ivanti Service Manager report database can reside on a separate database instance, or on a database instance on a separate server.

- The Microsoft SSRS instance can run on the Ivanti Service Manager database server, application server, or on a separate server.

- The reporting feature should be installed on the Microsoft SSRS Server.

- We recommend using either Option R1 or Option R2.
Option R1: Multiple Microsoft SSRS Instances on the Same Database Server (Best Practice)

This deployment is the most common and recommended for simplicity and security. The advantage of this deployment is that you have a reporting feature for production that is separate from the development environments.

*Figure 23 -- Example of Multiple Microsoft SSRS Instance on One Database Server*
Option R2: Separate Microsoft SSRS Instances and a Separate Database Server (Best Practice)

Use this deployment to keep the reporting separate between the production and development environments.

*Figure 24 -- Example of Separate Microsoft SSRS Instances and a Separate Database Server*
Option R3: Separate Microsoft SSRS Instances

Use this deployment to keep the reporting separate between the production and staging/UAT environments.

Figure 25 -- Example of Separate Microsoft SSRS Instances
Option R4: Multiple Microsoft SSRS Instances on a Separate Report Server

This deployment is recommended if you need to maintain your database in a locked down environment and keep it separate from the development environment. We also recommend this deployment if you already have a server with a Microsoft SSRS instance for other applications.

*Figure 26 -- Example of a Multiple Microsoft SSRS Instances on a Separate Report Server*
Option R5: Single Microsoft SSRS Instance on One Database Server

We do not recommend using this deployment unless you are setting up a demo environment.

Figure 27 -- Example of a Single Microsoft SSRS Instance on One Database Server
Voice Deployment Options

- About Voice
- About this Deployment
- Installing and Configuring Voice
- Integrating Voice with Ivanti Service Manager

About Voice

ISM Voice is the telephony application that integrates automated call routing and management and computer telephone integration to Ivanti Software applications such as Ivanti Service Manager. The server components of Voice are referred to as IP Communications Management (IPCM).

IPCM uses the next-generation, standards-based IP communication transport, called Session Initiation Protocol (SIP). Ivanti Service Manager and Voice are typically installed and maintained on separate servers.

About this Deployment

- Agent Login Sequence
- Incoming Call Sequence

Agent Login Sequence

Figure 28 shows the Voice agent login sequence.

*Figure 28 -- Agent Login Sequence*
1. The agent logs into a secure (HTTPS) connection.
2. The system verifies the Voice server IP address or domain name.
3. The system obtains the session key from the ISM Voice server IP address or domain name.
4. The system verifies the session key (TCP 5743).
5. The system makes the phone connection (SIP UDP 5060).
6. The system validates the session key (HTTPS).

**Incoming Call Sequence**

*Figure 29* shows the sequence of events for ISM Voice incoming calls.

*Figure 29 -- Incoming Call Sequence*

1. The system receives a call (SIP UDP 500).
2. The IVR searches and updates the record (HTTPS).
3. The call is forwarded to the agent (SIP UDP 5060, RTP UDP, TCP 5743).
4. The record appears to the agent (HTTPS).

**Installing and Configuring Voice**

For information about installing and configuring ISM Voice, see the *IP Communications Management Administrator Guide*. See Related Documentation for information accessing documentation from the
Integrating Voice with Ivanti Service Manager

For complete information about integrating Voice with Ivanti Service Manager, see *Working with Voice* in the Ivanti Service Manager online help.
Ivanti Service Manager Installation

Prerequisites

Before you install Ivanti Service Manager, do the following:

- Confirm your role. See About Roles.
- Create the needed accounts. See About the Different Accounts Used in Ivanti Service Manager.
- Meet the system, hardware, and software prerequisites. This information is contained in the System Requirements and Compatibility Matrix for Ivanti Service Manager Release 2017.1.1. See Related Documentation.
- Configure the ports needed for your deployment. This information is contained in the System Requirements and Compatibility Matrix for Ivanti Service Manager Release 2017.1.1. See Related Documentation.
- If you are going to deploy Ivanti Service Manager as a virtual image, review the requirements at About Using a Virtual Machine with Ivanti Service Manager.
- Ensure that the FILESTREAM feature is enabled on the Microsoft SQL Server. See Okay Enabling Attachment File Streaming.
- If you are going to deploy the reporting feature, ensure that Microsoft SQL Server Reporting Services (SSRS) is enabled. See Prerequisites for Installing the Ivanti Service Manager Reporting Feature.
- Enable full-text search for Microsoft SQL Server. See Enabling Full-Text Search.
- (Optional) Verify the server roles and features described in Verifying Server Roles and Features (Optional).
- Determine the directories in which to install the Ivanti Service Manager components on the host that you are logged into.
About Roles

- Administrator Account Permissions
- Database Access Rights Needed for Ivanti Service Manager
- Database Access Rights Needed for the Reporting Feature

Administrator Account Permissions

Use your account that has local administrator permissions to install Ivanti Service Manager, including all optional components. This administrator account must have permission to create and modify folders, files, and registry keys.

Database Access Rights Needed for Ivanti Service Manager

The following are the minimum access rights required for the account of the user running the System Configuration Wizard:

<table>
<thead>
<tr>
<th>Role</th>
<th>Access Right</th>
</tr>
</thead>
<tbody>
<tr>
<td>Server</td>
<td>public</td>
</tr>
<tr>
<td></td>
<td>dbcreator</td>
</tr>
</tbody>
</table>

If you do not want to give this permission to the user running the System Configuration Wizard, you must go into the Microsoft SQL Server Management Studio and manually assign the service account as the db_owner for the configuration database and the Ivanti Service Manager databases.

Database Access Rights Needed for the Reporting Feature

The following are the minimum access rights used in Microsoft SQL Server Management Studio for Ivanti Service Manager when also using the reporting feature:

<table>
<thead>
<tr>
<th>Role</th>
<th>Access Right</th>
</tr>
</thead>
<tbody>
<tr>
<td>Server</td>
<td>public</td>
</tr>
<tr>
<td></td>
<td>dbcreator</td>
</tr>
<tr>
<td></td>
<td>securityadmin *</td>
</tr>
<tr>
<td>Database</td>
<td>db_owner of master</td>
</tr>
<tr>
<td></td>
<td>db_owner of msdb</td>
</tr>
</tbody>
</table>
* The securityadmin role, and the db_owner of the master Microsoft database, are only needed if you set up Microsoft SSRS and create a new report server database. If you have already configured Microsoft SSRS and do not make any changes to it, you do not need this role.

The securityadmin role creates the following Microsoft SSRS-related roles in the master, msdb, report server, and report server temporary databases:

- RSExecRole
- SQLAgentOperatorRole
- SQLAgentReaderRole
- SQLAgentUserRole

The service account for Microsoft SSRS requires:

<table>
<thead>
<tr>
<th>Database</th>
<th>Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSDB</td>
<td>RSExecRole</td>
</tr>
<tr>
<td></td>
<td>SQLAgentOperatorRole</td>
</tr>
<tr>
<td></td>
<td>SQLAgentReaderRole</td>
</tr>
<tr>
<td></td>
<td>SQLAgentUserRole</td>
</tr>
<tr>
<td>Master</td>
<td>RSExecRole</td>
</tr>
<tr>
<td>Report server</td>
<td>RSExecRole</td>
</tr>
<tr>
<td></td>
<td>db_owner</td>
</tr>
<tr>
<td>Report server</td>
<td>RSExecRole</td>
</tr>
<tr>
<td>temporary</td>
<td>db_owner</td>
</tr>
</tbody>
</table>

Installation and Deployment Guide for Ivanti Service Management
About the Different Accounts Used in Ivanti Service Manager

Before you install and configure Ivanti Service Manager, you must create and know the credentials for the following accounts:

- IT Account
- Database Account
- Service Account

During configuration of Ivanti Service Manager, you create the following accounts:

- Administrator Account for the Configuration Database
- Administrator Account for Ivanti Service Manager
- Administrator Account for the Reporting Service
- Administrator Account for the Operations Console

IT Account

This is the account that you are logged into when installing Ivanti Service Manager and running the System Configuration Wizard.

You must create this account before you start the installation. This account must have administrator privileges on the servers on which you install Ivanti Service Manager. Your IT department sets up this account for you.

Database Account

You must create this account before you start the installation.

You enter your credentials for the Ivanti Service Manager database account on the following System Configuration Wizard pages:

- Configuration Application
- Ivanti Service Manager Application
- Metrics Server
- HEAT Discovery Application Server

If you plan on installing the reporting feature, you also enter your credentials for the Ivanti Service Manager database account on the following System Configuration Wizard pages:

- Microsoft SSRS Configuration
- Reporting Service Configuration
Service Account

You must create this account before you start the installation and configuration and it must have administrator privileges on the Ivanti Service Manager application server.

A Ivanti Service Manager service account is only required when you:

- Do not use the local system account for the Microsoft IIS application pool identity and Windows service.
- Install the reporting feature.

You enter your credentials for the Ivanti Service Manager service account on the following System Configuration Wizard pages:

- HEAT Application Server Settings
- Microsoft SSRS Configuration

Administrator Account for the Configuration Database

This account enables you to log into the configuration database.

You create this account during system configuration on the Configuration Application page of the System Configuration Wizard.

There will probably be different accounts used for different tenants.

Administrator Account for Ivanti Service Manager

This account enables you to log into Ivanti Service Manager, with access to the Service Desk Console and Configuration Console.

You create this account during system configuration on the Ivanti Service Manager Application page of the System Configuration Wizard.

There will probably be different accounts used for different tenants.

Administrator Account for the Reporting Service

This account enables you to log into the reporting feature.

You create this account during system configuration on the Reporting Service Configuration page of the System Configuration Wizard.

Administrator Account for the Operations Console

This account enables you to log into the Operations Console.
You create this account during system configuration when you check **Use this host for Operations Console** on the **HEAT Application Server Settings** page of the System Configuration Wizard.
About Passwords Used in Ivanti Service Manager

We recommend that you follow industry standards for creating strong passwords.

About Using a Virtual Machine with Ivanti Service Manager

You can also deploy Ivanti Service Manager as a virtual image. If you use a virtual machine, always keep the same universally unique identifier (UUID). See your virtual machine documentation for more information.
Okay Enabling Attachment File Streaming

- About Enabling Attachment File Streaming
- Task 1: Enabling the FILESTREAM Feature
- Task 2: Setting up Ivanti Service Manager
- Task 3: Running the File Stream Attachment Script

About Enabling Attachment File Streaming

Microsoft SQL Server 2008 and later versions come with enhanced support for unstructured data in the form of the FILESTREAM data type, which stores unstructured data files in the NTFS file system while storing the metadata about the unstructured data files in the Microsoft SQL Server database. For more information, see https://technet.microsoft.com/en-us/library/bb933993(v=sql.105).aspx.

Beginning with Release 2016.1.1, Ivanti Service Manager supports the FILESTREAM attachment type when you perform the tasks below.

This procedure is only required for deployments that store FILESTREAM attachments.

Task 1: Enabling the FILESTREAM Feature

You must enable the FILESTREAM feature on the Microsoft SQL Server instances where you plan to install the configuration database and the Ivanti Service Manager application database. The database administrator normally performs this task.

1. On the database server, go to the Windows apps menu and click SQL Server Configuration Manager.
2. Navigate to the SQL Server Services node and double-click the Microsoft SQL Server instance to modify. For example, select SQL Server (MSSQLSERVER).
3. Click the FILESTREAM tab.

4. Check Enable FILESTREAM for Transact-SQL access and Enable FILESTREAM for file I/O access.

5. Enter a Windows share name for the files.

6. Check Allow remote clients access to FILESTREAM data.

7. Click OK.

8. On the database server, go to the Windows apps menu and click SQL Server Management Studio.

9. In Microsoft SQL Server Management Studio, connect to the database server.

10. Right-click the server and choose Properties from the pop-up menu.

11. Under Select a page, click Advanced.

12. Double-click the entry called FILESTREAM Access Level until it displays Full access enabled.

13. Click OK.

14. (Optional) If you see a restart required message, restart the Microsoft SQL Server.
Task 2: Setting up Ivanti Service Manager

The Ivanti Service Manager application database and the configuration database are Microsoft SQL databases. On Microsoft SQL databases, user accounts with the `db_owner` fixed database role can perform all configuration and maintenance activities on the database.

These steps are in addition to those described under Configuring Ivanti Service Manager.

1. On the database server, go to the Windows apps menu and click **System Configuration Wizard**.
2. On the Configuration Application page, specify a configuration database user account that has a `db_owner` role on Microsoft SQL Server. This is for the **User Name** field. See Configuring the Configuration Database.
3. When you create a new configuration database, specify the directory path to the MDF and LDF database files.

![Figure 32 -- Creating a New Configuration Database](image)

4. On the Ivanti Service Manager Application page, specify a Ivanti Service Manager application database user account that has a db_owner role on Microsoft SQL Server. This is for the User Name field. See Configuring the Ivanti Service Manager Application.

5. When you create a new Ivanti Service Manager application database, specify an additional path to the server.

**Task 3: Running the File Stream Attachment Script**

The FileStreamAttachment.sql script is included on the Software product CD. The script creates an attachment filestream database file group and a filestream.

Before you run the script, open it in Microsoft SQL Server Management Studio and read the script notes carefully, so that you understand what the script does.

1. On the Microsoft SQL Server hosting the configuration database, run the FileStreamAttachment.sql script.

2. On the Microsoft SQL Server hosting the Ivanti Service Manager application database, run the FileStreamAttachment.sql script.

When you create your Ivanti Service Manager application database, you can now specify the FILESTREAM attachment type. See Configuring the Ivanti Service Manager Application.
Prerequisites for Installing the Ivanti Service Manager Reporting Feature

- About Microsoft SSRS
- Checking if Microsoft SSRS is Installed
- Installing Microsoft SSRS

About Microsoft SSRS

The Ivanti Service Manager reporting feature requires that the 64-bit version of Microsoft SQL Server and Microsoft SQL Server Reporting Services (SSRS) are installed and running on the Ivanti Service Manager database server. The reporting feature does not support the 32-bit version of Microsoft SQL Server and Microsoft SQL Server Reporting Services (SSRS).

Checking if Microsoft SSRS is Installed

To verify that Microsoft SSRS is installed on your system, do the following:

1. Open the Microsoft Windows Services dialog box and look for an entry called SQL Server Reporting Services.

   Figure 33 -- Windows Services Dialog Box

   ![Figure 33 -- Windows Services Dialog Box](image)

   The name in parentheses is the Microsoft SSRS instance name. See Figure 33. During the reporting feature configuration, you must enter this instance name.
The instance name cannot contain any special characters, such as \, : ; ... and so on. The instance names can contain $ and _. See https://technet.microsoft.com/en-us/library/aa176590%28v=sql.80%29.aspx.

If the names of the current Microsoft SSRS instances have special characters, you must install an additional Microsoft SSRS instance with an instance name free of special characters.

2. Choose the appropriate action:
   - If Microsoft SSRS is already installed and the instance name (the name in parentheses) has no special characters ( -, _, #, and so on), make sure that:
     - The value in the Status column is set to Running.
     - The value in the Startup Type column is set to either Automatic or Automatic (Delayed Start).
   - If Microsoft SSRS is already installed but the instance name has special characters ( -, _, #, and so on), use the Microsoft SQL Server Installation Center to add a new Microsoft SSRS instance with an instance name free of special characters.
   - If Microsoft SSRS is not installed, use the Microsoft SQL Server Installation Center to add a Microsoft SSRS component to an existing Microsoft SQL installation.

Installing Microsoft SSRS

Microsoft SQL Server Reporting Services (SSRS) is an optional installation feature of Microsoft SQL Server. It is a server-based, report-generating software system.

The Microsoft SSRS feature is disabled by default. This section describes how to enable and configure the Microsoft SSRS feature of Microsoft SQL Server.

1. During Microsoft SQL Server installation, in the Feature Selection page of the Microsoft SQL Server setup wizard, check Reporting Services - Native.
2. As you work your way through the Microsoft SQL Server setup wizard, verify that Reporting Services - Native is part of the server configuration.

3. When the installation is complete, go back to Windows Services and verify that Microsoft SQL Server Reporting Services is present. See Figure 34.

With Microsoft SSRS present and running, the database server is ready for you to install and configure Ivanti Service Manager.
Enabling Full-Text Search

- About Full-Text Search
- Enabling the Full-Text Search Feature

About Full-Text Search

The full-text search feature of Microsoft SQL Server is a specialized indexing and querying service for character-based data in Microsoft SQL Server database tables.

By default, the application database is configured to index these incident fields:

- Owner
- ProfileFullName
- Resolution
- Subject
- Symptom

The full-text search feature is disabled by default.

Enabling the Full-Text Search Feature

This section describes how to enable and configure the full-text search feature of Microsoft SQL Server.

1. During Microsoft SQL Server installation, in the Feature Selection page of the Microsoft SQL Server setup wizard, check Full-Text and Semantic Extractions for Search.

2. In the Server Configuration page of the Microsoft SQL Server setup wizard, ensure that the Microsoft SQL Full-text Filter Daemon Launcher is configured with the local service account.

Figure 35 -- Server Configuration
3. In the Services panel for the system, ensure that the status for SQL Full-text Filter Daemon Launcher says Running.

Figure 36 -- Services Dialog Box

4. Verify that full-text search is configured in Microsoft SQL Server Management Studio by doing the following:

   a. Open the Files page from the Database Properties dialog box.

   b. Ensure that Use full-text indexing is checked.

   c. If it is not checked, verify that the full-text search services are running as described in Step 3.
**Figure 37 -- Checking the Use Full-Text Indexing Option**
Verifying Server Roles and Features (Optional)

You can optionally verify which server roles and features are installed by the Ivanti Service Manager installer.

- If you install Ivanti Service Manager on Windows Server 2008 R2, verify the Microsoft IIS Release 7.5 configuration. See Verifying Windows Server 2008 R2 Roles and Features.
- If you install Ivanti Service Manager on Windows Server 2012, verify the Microsoft IIS Release 8.0 configuration. See Verifying Windows Server 2012 Roles and Features.

Verifying Windows Server 2008 R2 Roles and Features

1. Go to the Start menu and click Administrative Tools > Server Manager.
2. In the Navigation pane, expand Roles > Web Server (IIS).
3. Verify that these role services are installed under the Web Server section:
   - Common HTTP features
     - Static Content
     - Default Document
     - Directory Browsing
     - HTTP Errors
   - Application Development
     - ASP.NET
     - .NET Extensibility
     - ISAPI Extensions
     - ISAPI Filters
   - Health and Diagnostics
     - HTTP Logging
   - Security
     - Request Filtering
   - Performance
     - Static Content Compression
     - Dynamic Content Compression
   - Management Tools
IIS Management Console

Check the box of any listed server role that is not installed.

4. In the Navigation pane, expand Features > Add Features.

5. Verify that these items are selected for .NET Framework features:
   - ASP.NET 4.5
   - WCF Services
     - HTTP Activation
   - Windows Process Activation Service
     - Process Model
     - Configuration APIs

Check the box of any listed feature that is not installed.

6. Click Next and then click Install.

Verifying Windows Server 2012 Roles and Features

1. Go to the Windows apps menu and click Server Manager.

2. Under configure this local server, click Add roles and features.

3. On the Roles page, verify that these server roles are installed under Web Server (IIS) > Web Server:
   - Common HTTP features
     - Default Document
     - Directory Browsing
     - HTTP Errors
     - Static Content
   - Health and Diagnostics
     - HTTP Logging
   - Performance
     - Static Content Compression
     - Dynamic Content Compression
   - Security
     - Request Filtering
   - Application Development
     - .NET Extensibility
- ASP.NET
- ISAPI Extensions
- ISAPI Filters

Under Web Server (IIS) > Management Tools:
- IIS Management Console

Check the box of any listed server role that is not installed.

4. On the Features page, verify that these features are selected:
   - NET Framework 4.5
   - ASP.NET 4.5
   - WCF Services > HTTP Activation
   - Windows Process Activation Service
     - Process Model
     - Configuration APIs

Check the box of any listed feature that is not installed.

5. Click **Next** and then click **Install**.
Installing the Ivanti Service Manager System

- Installation Overview
- Installing Ivanti Service Manager
- Installing the Reporting Feature
- Installing HEAT Discovery on a Dedicated Server
- Installing the Knowledge Uploader (Knowledge Import Tool)

Installation Overview

This section describes how to install Ivanti Service Manager for a new, complete system using the recommended deployment as described in Ivanti Service Manager Deployment Overview.

- Installing Ivanti Service Manager in the Production Environment
- Installing Ivanti Service Manager in the Staging and UAT Environments
- Installing the Reporting Feature
- Installing the Ivanti Service Manager Operations Console

Installing Ivanti Service Manager in the Production Environment

To install Ivanti Service Manager in the production environment, do the following:

- Install all Ivanti Service Manager features except for the Operations Console. See Installing Ivanti Service Manager.
- Use the System Configuration Wizard to configure your production environment. See Configuring Ivanti Service Manager.

Installing Ivanti Service Manager in the Staging and UAT Environments

- If you are hosting the staging and UAT environments on one server, follow the steps below.
- If you are hosting the staging and UAT environments on separate servers, follow the steps below once for the staging environment and once for the UAT environment.

To install Ivanti Service Manager in the staging and UAT environments, do the following:

- Install all Ivanti Service Manager features including the Operations Console. See Installing Ivanti Service Manager.
If you are hosting the staging and UAT environments on separate servers, we recommend only installing the Operations Console on the staging server and not on both.

- Use the System Configuration Wizard to configure your staging and UAT environments. See Configuring Ivanti Service Manager.

**Installing the Reporting Feature**

To install the reporting feature, do the following:

- Install the reporting feature on the Ivanti Service Manager database server. See Installing the Reporting Feature.
- Use the System Configuration Wizard to configure the reporting feature. See Configuring the Reporting Feature.

**Installing the Ivanti Service Manager Operations Console**

You use the Ivanti Service Manager Operations Console to create the staging and UAT instances of the tenant. (The system automatically created the production instance of the tenant.)

If you have any problems with the installation, you can review the installation log file that resides with the other system temporary files in the system temporary folder at %tmp%.

See Configuring the Deployment on the Ivanti Service Manager Operations Console.
Installing Ivanti Service Manager

Where to Install Ivanti Service Manager

Before you begin installation, be clear on your deployment plan for Ivanti Service Manager. See Ivanti Service Manager Deployment Overview.

- For the Demonstration or Proof-of-Concept Deployment, you install Ivanti Service Manager onto the Ivanti Service Manager server. With this deployment, you must install Microsoft SQL Server and Microsoft SQL Server Reporting Services (SSRS) on your server before you install Ivanti Service Manager.
- For the Minimum Production Deployment, you install Ivanti Service Manager onto the Ivanti Service Manager server.
- For the Enterprise Production Deployment, you install Ivanti Service Manager onto each of your Ivanti Service Manager processing servers and web servers, as described below.

Installing Ivanti Service Manager

Installation is basically the same for all hosts in your deployment, except for the features to be installed, which happens in Step 6.

Do the following on each production server in your deployment:

1. Access the installation folder on the Software product CD or zip file and run IvantiServiceManager.exe. Right-click and select Run as Administrator to ensure proper installation.

   The installer checks for the prerequisite software components. If any of those components is not installed, the system prompts you to install them now.

2. Click Install at the prompt. Installation of the prerequisite software can take several minutes. If you are prompted to restart the system, click Yes. The system displays the Welcome dialog box. The installer checks for space and other requirements before displaying the Next button.

3. Click Next. The system displays the License Agreement dialog box.

4. Choose I accept the terms in the license agreement and click Next. The system displays the Destination Folder dialog box.

5. Click Next to accept the default installation folder, or click Change and select a different folder. The system displays the Setup Type dialog box.
6. Your selection of features from the Setup Type dialog box depends on the role of the individual host in your deployment plan.

- For the Demonstration or Proof-of-Concept Deployment, choose Complete, click Next, and install all components.

- For the Minimum Production Deployment, choose Complete, click Next, and install all components.

- For the Enterprise Production Deployment, your choice depends on the role of the host:
  - **Production processing server:** Choose Custom, click Next, and install all components except for the Ivanti Service Manager Operations Console. You must install this server first before you install the staging, UAT, or web servers.
  - **Staging or UAT processing servers:** Choose Complete, click Next, and install all components.
  - **Web servers:** Choose Custom, click Next, and only install the Ivanti Service Manager application server.

For the Enterprise Production Deployment, note the following:

- If your deployment includes different processing servers for production, staging, and UAT, you must install the License Manager in every one of those landscapes.

- You can choose Complete and install all Ivanti Service Manager features on all of your servers, but doing that takes up more disk space than necessary.

When installing components, note the following:

- To not install a component, click the down arrow next to the server icon next to the category name, highlight the component, right click, and select **This feature will not be available.**

- If your deployment includes DSM, you do not need to install the DSM Integration service because that component has been incorporated into Ivanti Service Manager since Release 2015.2.

7. Click **Next.** The system displays the Ready to Install the Program dialog box.

8. Click **Install.** The system begins installing Ivanti Service Manager and displays a status dialog box, showing the installation progress of each module over the next few minutes.

9. Click **OK** if the system displays a dialog box saying that reboot is required after installation.

10. If the system displays a dialog box saying that some of the files that need to be updated are currently in use, choose **Automatically close and attempt to restart applications** and click **OK.**

    When the installation is completed, the system displays the System Configuration Wizard.
11. Go to Configuring Ivanti Service Manager for instructions about using the System Configuration Wizard.
Installing the Reporting Feature

About Installing the Reporting Feature

Ivanti Service Manager deployments can have multiple reporting tenant instances. To use the reporting feature in a multi-tenant environment, we highly recommend that you install a separate Microsoft SSRS instance for the reporting feature only. For example, a deployment may have one reporting server for the production instance of the tenant and another reporting server for the staging and UAT instances of the tenant. See Enterprise Production Deployment.

Where to Install the Reporting Feature

Where you install the reporting feature depends on which deployment you have chosen. See Ivanti Service Manager Deployment Overview.

- For the Demonstration or Proof-of-Concept Deployment, you install the reporting feature onto the Ivanti Service Manager database server, after you have installed Ivanti Service Manager.
- For the Minimum Production Deployment, you install the reporting feature on the Ivanti Service Manager database server.
- For the Enterprise Production Deployment, you can install the reporting feature on the Ivanti Service Manager database servers or on a dedicated reporting server. See Reporting Services Deployment Options.

Installing the Reporting Feature

Before you begin, ensure that you have met all of the prerequisites for installing the Ivanti Service Manager reporting feature. See Prerequisites for Installing the Ivanti Service Manager Reporting Feature. In particular, be sure that Microsoft SSRS is installed and running. See Checking if Microsoft SSRS is Installed.

To install the reporting feature, do the following:

1. Access the installation folder on the Software product CD or zip file and run ReportingServices.exe. Right-click and select Run as Administrator to ensure proper installation.

   The installer checks for the prerequisite software components. If any of those components is not installed, the system prompts you to install them now.
2. Select **Install** at the prompt. Installation of the prerequisite software can take several minutes. If you are prompted to restart the system, click **Yes**. The system displays the **Welcome** dialog box. The installer checks for space and other requirements before displaying the **Next** button.

3. Click **Next**. The system displays the **License Agreement** dialog box.

4. Select **I accept the terms in the license agreement** and click **Next**. The system displays the **Destination Folder** dialog box.

5. Click **Next** to accept the default installation folder, or click **Change...** and select a different folder.

6. Click **Next**. The system displays the **Ready to Install the Program** dialog box.

7. Click **Install**. The system begins installing the Ivanti Service Manager reporting feature and displays a status dialog box showing the installation progress over the next few minutes.

   When the components are installed, the system automatically launches the System Configuration Wizard.

8. Go to **Configuring the Reporting Feature** for instructions about using the System Configuration Wizard.
Installing HEAT Discovery on a Dedicated Server

In small deployments, you install HEAT Discovery with the other Ivanti Service Manager components on the Ivanti Service Manager production servers. For an Enterprise Production Deployment, you can either install HEAT Discovery on the production servers or, to reduce the load on the production servers, you can configure a dedicated HEAT Discovery server. If you install HEAT Discovery on your production servers and then experience a significant load increase, we recommend configuring a dedicated HEAT Discovery server.

This topic describes how to install HEAT Discovery on a dedicated server.

1. Install Ivanti Service Manager on your production servers. See Installing Ivanti Service Manager.

2. On the server dedicated to HEAT Discovery, access the installation folder on the Software product CD or zip file and run IvantiServiceManager.exe. Right-click and select Run as Administrator to ensure proper installation.

   The installer checks for the prerequisite software components. If any of those components is not installed, the system prompts you to install them now.

3. Click Install at the prompt. Installation of the prerequisite software can take several minutes. If you are prompted to restart the system, click Yes. The system displays the Welcome dialog box. The installer checks for space and other requirements before displaying the Next button.

4. Click Next. The system displays the License Agreement dialog box.

5. Select I accept the terms in the license agreement and click Next. The system displays the Destination Folder dialog box.

6. Click Next to accept the default installation folder or click Change... and select a different folder. The system displays the Setup Type dialog box.

7. Select the following components for the Custom Setup dialog box. Under HEAT Discovery, choose:
   - HEAT Discovery Application Server
   - HEAT Discovery Web Server

8. Click Next. The system displays the Ready to Install the Program dialog box.

9. Click Install. The system begins installing HEAT Discovery and displays a status dialog box showing the installation progress of each component over the next few minutes.

   When the components are installed, the system automatically displays the System Configuration Wizard.
10. Go to Configuring the HEAT Discovery Application Server for instructions about using the System Configuration Wizard.
Installing the Knowledge Uploader (Knowledge Import Tool)

- About the Knowledge Uploader (Knowledge Import Tool)
- Installing the Knowledge Uploader (Knowledge Import Tool)
- Initially Configuring and Logging Into the NXT Knowledge Import Tool
- Using the NXT Knowledge Import Tool
- Initially Configuring and Logging Into the Knowledge Import Tool
- Using the Knowledge Import Tool

About the Knowledge Uploader (Knowledge Import Tool)

You can import knowledge articles from HEAT Classic, ITSM, or a local or networked file system into Ivanti Service Manager. Ivanti Service Manager currently has two knowledge import tools: the NXT Knowledge Server Tool (for NXT formats such as ITSM or HEAT Classic) and the Knowledge Server Tool (to use with file systems). These tools are collectively called the Knowledge Uploader and are also called the Knowledge Import Tool.

For information about using these tools after you have installed and configured them, see Using the Knowledge Uploader in the Ivanti Service Manager online help.

Installing the Knowledge Uploader (Knowledge Import Tool)

Most installations of Ivanti Service Manager automatically include the Knowledge Uploader (also called the Knowledge Import Tool).

The following procedure is necessary only if you did not install the Knowledge Uploader when you installed Ivanti Service Manager.

On the server or servers that you are going to use as the production environment, do the following:

1. Access the installation folder on the Software product CD or zip file and run IvantiServiceManager.exe. Right-click and select Run as Administrator to ensure proper installation.

   The installer checks for the prerequisite software components. If any of those components is not installed, the system prompts you to install them now.
2. Click **Install** at the prompt. Installation of the prerequisite software can take several minutes. If you are prompted to restart the system, click **Yes**. The system displays the **Welcome** dialog box. The installer checks for space and other requirements before displaying the **Next** button.

3. Click **Next**. The system displays the **License Agreement** dialog box.

4. Choose **I accept the terms in the license agreement** and click **Next**. The system displays the **Destination Folder** dialog box.

5. Click **Next** to accept the default installation folder or click **Change...** and select a different folder. The system displays the **Setup Type** dialog box.

6. Select **Custom** in the **Setup Type** dialog box and click the **Knowledge Import Tool** under Setup Tools. See **Figure 38**.

**Figure 38** – **Custom Setup and the Knowledge Import Tool**

7. Click **Next**. The system displays the **Ready to Install the Program** dialog box.

8. Click **Install**. The system begins installing Ivanti Service Manager and displays a status dialog box showing the installation progress of each component over the next few minutes.

When the installation is finished, the system displays the **InstallShield Wizard Completed** dialog box.

9. Click **Finish**. When the file installation is finished, the system displays the System Configuration Wizard.
10. Close the System Configuration Wizard, as there is no specific configuration for the Knowledge Uploader in the System Configuration Wizard.

The system now has two new applications on it. They are called Knowledge Import Tool and Knowledge Import Tool (NXT).

Initially Configuring and Logging Into the NXT Knowledge Import Tool

There are two knowledge tools. This topic is about the NXT Knowledge Import Tool and NOT the Knowledge Import Tool.

After you have installed Ivanti Service Manager, including the Knowledge Uploader (also called the Knowledge Import Tool), do the following to initially configure and log into the NXT Knowledge Import Tool:

1. On the system where you installed Ivanti Service Manager, open the application called Knowledge Import Tool NXT. The system displays the NXT Knowledge Server Configuration dialog box. See Figure 39.

Figure 39 -- NXT Knowledge Server Configuration Dialog Box
2. Enter information into the fields.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
</table>
| **Server Version**| The version of the NXT server that you are taking the knowledge articles from. To determine the server version, open the program and find the server information. You can choose from any of the following:  
  - Knowledge Service V5.0.4003.3  
  - Knowledge Service Plus V9.6.1.13  
  - Knowledge Service Plus V9.6.1.14 |
| **Server Address**| Enter the following:  
  - The protocol type (uses TCP by default)  
  - The server path of the NXT server that you are taking the knowledge articles from  
  - The port (uses 2242 by default) |
| **User Name**     | The user name of a person who can access the NXT server that you are taking the knowledge articles from.                                    |
| **Password**      | The password associated with the user name.                                                                                                 |
| **Save password** | Saves the password.                                                                                                                             |

To change these settings after the initial configuration, from the menu bar select **Configuration > Configure NXT server**.

3. Click **Continue**.

4. The system displays the **Login** dialog box. See **Figure 40**.

**Figure 40**  —  **Knowledge Server Tool Login**
5. Enter information into the fields.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>User Name</td>
<td>The user name of a person who can access Ivanti Service Manager.</td>
</tr>
<tr>
<td>Password</td>
<td>The password associated with the user.</td>
</tr>
<tr>
<td>Tenant</td>
<td>The tenant to log into. You can select either ConfigDB to log into the configuration database or HEATSM to log into Ivanti Service Manager.</td>
</tr>
<tr>
<td>Save password</td>
<td>Saves the password.</td>
</tr>
</tbody>
</table>

To change these settings after the initial configuration, from the menu bar select **Configuration > Configure application server**.

6. Click **Continue**. The system displays the **Select role** dialog box.

7. Select the role to log in as and click **Continue**. The system displays the **Knowledge base upload tool** page.

*Figure 41 — Knowledge Base Upload Tool*

Using the NXT Knowledge Import Tool

There are two knowledge tools. This topic is about the **NXT Knowledge Import Tool** and NOT the Knowledge Import Tool.

Follow these steps to import knowledge into Ivanti Service Manager.
1. Click **Select Articles** to select the knowledge articles to import. The system displays the **NXT articles selection** dialog box.

2. Expand the list to see where knowledge articles are located, and then highlight one or more articles.

*Figure 42 -- Select the Knowledge Articles to Import*

3. Click **OK**. The system lists the selected articles on the bottom part of the page.

4. Select the articles to upload and click **Upload** to launch the Article Creation wizard and start the upload process.

   The Article Creation wizard page contains two main areas: a Selected Documents area on the left containing the list of files to import, and a Document Properties area on the right that contains two tabs. One tab is called **Default Values** and the other is called **Selected Documents**.

5. To remove a document from the Selected Documents section, check it and click **Remove selected**. By default, the knowledge uploader imports all of the documents in the Selected Documents, even if you do not select them.

6. Optionally, use the Document Properties section to specify the properties that the knowledge uploader displays together with the files in Ivanti Service Manager. You can specify properties for all files (using the Default values tab) or for individual files (using the Selected Document tab after highlighting the file in the Selected Documents section).

   You can specify these properties:

   - **Article Type**: The article type. Select from Document, Error Message, Issue Resolution, Patch, Q&A, or Reference.
- **Article Status**: The status of the article. Select from Approved, Draft, Expired, Failed Review, Pending Review, Published, or Submitted.

- **Target collection**: The target. Select from Company Policy & Procedure, Customer Knowledge, Internal Knowledge, IT Knowledge, or Service Desk.

- **Category**: The category for this knowledge article.

- **Subject**: The subject of the article.

- **Resolution**: The resolution details if the knowledge article contains this information.

- **Description**: A description for the knowledge article.

7. Click **Import**. The system starts importing the selected knowledge articles.

   If you select a file that has already been imported into the knowledge base, the system displays the Collision warning dialog box.

8. Depending on what you want to do with the file that has already been imported, click one of the following:
   - **Apply for all**: Applies your choice to all previously imported files that are found during the import process.
   - **Update**: Overwrites the file that already exists in the Knowledge Base with the file that is being imported.
   - **Create New**: Does not overwrite the file being imported with the file that already exists in the Knowledge Base. After importing, there are two knowledge articles with the same name in the Knowledge Base.
   - **Cancel**: Cancels the import process.

   The system displays a dialog box with the status of the import.

9. Click **OK**.

10. Optionally, do the following:
   - Review the import logs by clicking the **Log** tab. You can clear or save the log.
   - Review the import history by clicking the **Import History** tab. Click a number in the **Imported** column to display more information about an import session.
Initially Configuring and Logging Into the Knowledge Import Tool

There are two knowledge tools. This topic is about the Knowledge Import Tool and NOT the NXT Knowledge Import Tool.

After you have installed Ivanti Service Manager, including the Knowledge Uploader, do the following to initially configure and log into the Knowledge Import Tool:

1. On the system where you installed Ivanti Service Manager, open the application called Knowledge Import Tool. The system displays the Select role dialog box.

2. Select the role to log in as and click Continue. The system displays the Knowledge base upload tool page.

*Figure 43 -- Knowledge Base Upload Tool*
Using the Knowledge Import Tool

There are two knowledge tools. This topic is about the Knowledge Import Tool and NOT the NXT Knowledge Import Tool.

Follow these steps to import knowledge into Ivanti Service Manager.

1. Specify the article file type to search for, by doing the following:
   a. Click the Settings icon 🗼 in the Looking for section. The system displays the File search filters dialog box.
   b. In the Add New drop-down list, select one or more file types:
      ■ Microsoft office documents: Files that have .doc, .docx, .xls, and .xlsx extensions.
      ■ PDF files: Files that have a .pdf extension.
      ■ Images: Files that have .bmp, .jpg, and .gif extensions.
   c. Optionally, you can add more file types by clicking Custom. The system adds a line item to the filter list called Custom. Click the line item to open it for editing. You can change the filter name and specify one or more extensions. Click OK. The system adds the file types that you specified to the Looking for section.

2. Specify which local or network folders to search for knowledge articles and then perform the search:
   a. Click the Settings icon 🗼 in the In Folders section. The system displays the Import folders dialog box.
   b. Click Add New. The system displays the Browse For Folder navigation dialog box.
   c. Navigate to a folder and highlight it. (To optionally add a new subfolder to the folder, click Make New Folder.)
   d. Click OK. The system adds the folder to the list of folders to search. If you created a new folder, the system adds it to the file system as an empty folder.
   e. Optionally, check Recursive for a folder to specify that the system should search the subfolders within the folder.
   f. Optionally, check Monitor for changes to configure the knowledge uploader to monitor all of the folders on the list for changes to the file types that you specified in step 1b.
   g. Repeat steps b-f to continue to add folders to the list as necessary.
   h. Click OK.
The knowledge uploader performs the search and displays all of the files that meet the search criteria.

3. Select the files to upload:
   a. If you think the contents of the scanned folders might have changed, click Rescan Folders to regenerate the file list.
   b. In the file list, check the files to upload, or click Select All to upload all of the files.
   c. Click Upload to launch the Article Creation wizard and start the upload process.

The Article Creation wizard page contains two main areas: a Selected Documents area on the left containing the list of files to import, and a Document Properties area on the right that contains two tabs. One tab is called Default Values and the other is called Selected Documents.

4. To remove a document from the Selected Documents section, check it and click Remove selected. By default, the knowledge uploader imports all of the documents in the Selected Documents, even if you do not select them.

5. Optionally, use the Document Properties section to specify the properties that the knowledge uploader displays together with the files in Ivanti Service Manager. You can specify properties for all files (using the Default values tab) or for individual files (using the Selected Document tab after highlighting the file in the Selected Documents section).

You can specify these properties:

- **Article Type**: The article type. Select from Document, Error Message, Issue Resolution, Patch, Q&A, or Reference.
- **Article Status**: The status of the article. Select from Approved, Draft, Expired, Failed Review, Pending Review, Published, or Submitted.
- **Target collection**: The target. Select from Company Policy & Procedure, Customer Knowledge, Internal Knowledge, IT Knowledge, or Service Desk.
- **Category**: The category for this knowledge article.
- **Use file name as Subject**: Check to use the article file name to fill in the Subject field.
- **Subject**: Only use this field if you did not check Use file name as Subject. Enter a subject for the article.
- **Resolution**: Enter the resolution if the knowledge article contains one.
- **Description**: Enter a description for the knowledge article.

6. Click Import. The import process begins.

If you select a file that has already been imported into the knowledge base, the system displays the Collision warning dialog box.
7. Depending on what you want to do with the file that has already been imported, click one of the following:

- **Apply for all**: Applies your choice to all previously imported files that are found during the import process.
- **Update**: Overwrites the file that already exists in the knowledge base with the file that is being imported.
- **Create New**: Does not overwrite the file being imported with the file that already exists in the knowledge base. After importing, there are two knowledge articles with the same name in the knowledge base.
- **Cancel**: Cancels the import process.

The system displays an Import dialog box with the status of the import.

8. Click **OK**.

9. Optionally, do the following:

- Review the import logs by clicking the **Log** tab. You can clear or save the log.
- Review the import history by clicking the **Import History** tab. Click a number in the **Imported** column to display more information about an import session.
Initially Configuring the System

As part of the Ivanti Service Manager installation, you must configure the system using the System Configuration Wizard. The wizard walks you through the first-time set up and configuration.

The tabs that you see in the wizard depend on which components that you installed. You may see all of the tabs or you may just see a subset of them.

See the following sections:

- Using the System Configuration Wizard
- Configuring Ivanti Service Manager
- Configuring the Reporting Feature
- Configuring HEAT Discovery
- Configuring the Deployment on the Ivanti Service Manager Operations Console
- Optional SSL Configuration
- Optional LDAP Configuration
- About Configuring with ADFS
- About Configuring Throttling Settings
Using the System Configuration Wizard

The System Configuration Wizard provides an interface in which you can perform various configuration tasks for the initial setup of Ivanti Service Manager.

- Starting the System Configuration Wizard Manually
- Navigating the System Configuration Wizard
- Actions to Perform in Each Page

Starting the System Configuration Wizard Manually

The System Configuration Wizard starts automatically after you finish installing Ivanti Service Manager.

You can also start the System Configuration Wizard manually after your system is configured. See Changing Feature Settings by Running the System Configuration Wizard.

Navigating the System Configuration Wizard

The System Configuration Wizard contains the areas shown in Figure 44.
Figure 44 -- System Configuration Wizard Areas

In the configuration step area, the page that you are currently working on is highlighted in yellow.

After you complete a page and click **Next**, the system places a green check mark next to the completed page name to show that it has been completed.

The configuration step area is not a navigation pane. You cannot go to a page by clicking it in the configuration step area. Instead, click the **Next** and **Previous** buttons to move through the pages sequentially.

The page display area shows the wizard page itself, including the fields and controls that you set the various parameters.
Actions to Perform in Each Page

The System Configuration Wizard page numbers can change depending on the features you choose to install.

Unless otherwise noted, the settings that you specify in each wizard page are stored in the Configuration Database.

**Configuration Application page:**

- Specify the name of the configuration database and the authentication method that is used by all supported web applications when connecting to the configuration database.
- Create or recreate the configuration database.
- If you use Windows Integrated Security for the configuration database, specify the Windows domain credentials for the service account.

See Configuring the Configuration Database.

**Ivanti Service Manager Application page:**

- Specify the name and authentication method for the server where the Ivanti Service Manager application database resides.
- Load the demo database on a server other than the server where the Ivanti Service Manager application database resides. This option allows you to review the demo database while the Ivanti Service Manager application database continues to run in its current configuration.
- Specify the application name, attachment location, client authorization key, and the type of name to use when accessing the application.

See Configuring the Ivanti Service Manager Application.

**HEAT Application Server Settings page:**

- Specify the location of the configuration server and the host name.
- Specify if you will use this server for surveys or the reporting feature.
- If you use Windows Integrated Security for the Ivanti Service Manager application server, specify the Windows domain credentials for the service account.

See Configuring the Application Server Settings.

**Other Feature Settings page:**

- Specify the log file and temporary file locations on the configuration server.
- Specify different server hosts and whether to use SSL for the Ivanti Service Manager application server.
- Specify the inbound web server information.
See Configuring Other Feature Settings.

HEAT Metrics Server page:
- Specify the locations for the log file and the Ivanti Service Manager configuration server.
- Map applications to the metrics server.
  See Configuring the Metrics Server.

Microsoft SSRS Configuration page:
- Appears when you install the reporting feature.
- Specify information about the Microsoft SQL Server database for the reporting feature.
  See Configuring the Reporting Feature.

HEAT Reporting Service Configuration page:
- Appears when you install the reporting feature.
- Specify information about the Ivanti Service Manager report database for the reporting feature.
  See Configuring the Reporting Feature.

HEAT Discovery Application Server page:
- Specify information about the configuration of the HEAT Discovery application server.
  See Configuring the HEAT Discovery Application Server.

HEAT Discovery Web Server page:
- Specify information about the configuration of the HEAT Discovery web server.
- Upgrade the configuration database and the Ivanti Service Manager application database.
  See Configuring the HEAT Discovery Web Server.
Configuring Ivanti Service Manager

The following sections contain step-by-step instructions for the procedures that you can perform through the System Configuration Wizard.

- About Entering Server Location Names in the System Configuration Wizard
- Configuring the Configuration Database
- Configuring the Ivanti Service Manager Application
- Configuring the Application Server Settings
- Configuring Other Feature Settings
- Configuring the Metrics Server
- Configuring the HEAT Discovery Application Server
- Configuring the HEAT Discovery Web Server
- Finishing the System Configuration
- Installing the Demo Data Package

About Entering Server Location Names in the System Configuration Wizard

For all of the fields in the System Configuration Wizard that ask for a server location, unless noted otherwise, you can enter one of three things:

- An IP address
- A machine name
- A fully-qualified domain name

We recommend that you use the same naming format in all server location fields, if possible.

If you are using SSL, you must enter a fully-qualified domain name.

If you have a load-balanced system, we recommend using a fully-qualified domain name.
Configuring the Configuration Database

After you have installed Ivanti Service Manager, the System Configuration Wizard starts automatically and displays the Configuration Application page.

On this page, you will do the following:

- Specify the name of the configuration database and the authentication method that is used by all supported web applications when connecting to the configuration database.
- Create or recreate the configuration database.
- If you use Windows Integrated Security for the configuration database, specify the Windows domain credentials for the service account.

*Figure 45 – Configuration Application Page*
1. Enter values into the fields:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Target Environment</strong></td>
<td>Choose one of the following:</td>
</tr>
<tr>
<td><strong>Deployment</strong></td>
<td>- Single Server Deployment: If you are setting up the Minimum Production Deployment.</td>
</tr>
<tr>
<td></td>
<td>- Multiple Server Deployment: If you are setting up the Enterprise Production Deployment.</td>
</tr>
<tr>
<td><strong>Target Landscape</strong></td>
<td>(Only if you selected Multiple Server Deployment) Click the down arrow. The system displays the Target Landscapes dialog box.</td>
</tr>
<tr>
<td></td>
<td>- On the first server that you configure, check Production and click OK.</td>
</tr>
<tr>
<td></td>
<td>- On subsequent servers, check any combination of landscapes other than production and enter values in the subsequent fields. See below.</td>
</tr>
<tr>
<td></td>
<td><img src="image" alt="Target Landscapes Dialog Box" /></td>
</tr>
</tbody>
</table>

**Figure 46 — Target Landscapes Dialog Box**

<table>
<thead>
<tr>
<th><strong>Production Configuration Server</strong></th>
<th>(Only if you selected Multiple Server Deployment and selected anything other than Production in the Target Landscape field) The host or domain name of the configuration server for the production instance. Do not enter the information for any other instance; you must enter the information for the production instance.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Port</strong></td>
<td>(Only if you selected Multiple Server Deployment and selected anything other than Production in the Target Landscape field) The port number of the production server. The default is 80, or 443 if you check Use SSL.</td>
</tr>
</tbody>
</table>
Parameter | Description
---|---
Use SSL | (Only if you selected **Multiple Server Deployment** and selected anything other than **Production** in the **Target Landscape** field) Check to enable SSL encryption to the server.

2. Click **OK** to close the **Target Landscapes** dialog box.

3. Enter values into the fields:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Use SSL</strong></td>
<td><strong>(Only if you selected Multiple Server Deployment and selected anything other than Production in the Target Landscape field)</strong> Check to enable SSL encryption to the server.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
</table>
| **Configuration Database Server Name** | The server where the configuration database is located. Do one of the following:  
- Accept the default value.  
- Enter the name of the server of the configuration database.  
- Browse for a server name by clicking the down arrow and selecting **<Browse for more...>**. The system displays any Microsoft SQL Server instances in your network. Choose a server and click **OK**.  

**NOTE**: Do not choose **localhost** unless you are setting up a Demonstration or Proof-of-Concept Deployment. |
| **Configuration Database Name** | The name of the configuration database. The default name is ConfigDB and you cannot change the name. |
| **Authentication Method** | Select one of the following:  
- **Windows Authentication**: Uses Microsoft Windows authentication. If you select this option, the system displays the current login account.  
- **SQL Authentication**: Uses Microsoft SQL authentication. If you select this option, enter the user name and password below. |
| **User Name** | *(Only if you selected SQL Authentication)* The user name associated with the Microsoft SQL authentication.  

**NOTE**: If your deployment store FILESTREAM attachments, specify a configuration database user account that has a db_owner role on Microsoft SQL Server. See Task 2: Setting up Ivanti Service Manager. |
| **Password** | *(Only if you selected SQL Authentication)* The password associated with the user name for the Microsoft SQL authentication. |

4. Click **Test Connection** to test the connection to the configuration database server. The system displays **Connection successful!** if the connection is good. You must have a working connection to create a database. You cannot continue with the configuration if this connection does not work.
5. Depending if there is already a configuration database, click **Load Configuration Database** or **Re-Create & Load Configuration DB**. If the configuration database already exists, the system asks if you want to recreate the database. Click **Yes**. The system displays the **New Database** dialog box.

**Figure 47 -- New Database Dialog Box**

6. Enter values into the fields:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Configuration Database Name</td>
<td>The name of the configuration database. The default name is ConfigDB and cannot be changed.</td>
</tr>
<tr>
<td>Configuration Database Location</td>
<td>The location for the configuration database.</td>
</tr>
<tr>
<td><strong>NOTE</strong>: If you have customized the existing configuration database, specify a different location; otherwise, the system overwrites your customization when you load the recreated database.</td>
<td></td>
</tr>
<tr>
<td>Collation</td>
<td>The set of rules that describe how to compare and sort strings, such as the order in which letters are sorted and whether case matters.</td>
</tr>
<tr>
<td>Advanced Options</td>
<td></td>
</tr>
<tr>
<td>Logical Name</td>
<td>The logical name of the configuration database. This name is stored as a file name, and is a separate entity from the read-only database name that is displayed in Microsoft SQL Server Management Studio.</td>
</tr>
</tbody>
</table>
### Parameter | Description
--- | ---
**File Type** | The file type, either database records or database logs. These values are read-only.
**Initial Size (MB)** | The initial file size, in MB, when creating the configuration database. Autogrowth | Specifies how the database will expand when it reaches its maximum file size. We recommend having at least 1 GB or 10% to start with. Click ... to update the values.
**Path** | The location of the file. Click ... to update the location.
**File Name** | The name of the file.

7. Click **OK**. The system creates the configuration database and installs it on the configuration database server that you specified. Several progress dialog boxes appear as various Microsoft SQL scripts execute to create and load the configuration database. After the system loads the configuration database, the **Configuration Application** page displays *Configuration database loaded*.

8. Click **Next**. The system refreshes the **Configuration Application** page. (If you end up on the next page of the System Configuration Wizard, click **Previous** to return to the **Configuration Application** page.)

9. Enter values into the fields:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Configuration Server Domain Name</strong></td>
<td>The fully-qualified domain name of the configuration server in this format: config.servername.com.</td>
</tr>
<tr>
<td><strong>License Server</strong></td>
<td>The name of the license server. We recommend using a fully-qualified domain name.</td>
</tr>
<tr>
<td><strong>Port</strong></td>
<td>The port number of the license server. The default is 80, or 443 if you check <strong>Use SSL</strong>.</td>
</tr>
<tr>
<td><strong>Use SSL</strong></td>
<td>Check if the license server uses SSL.</td>
</tr>
<tr>
<td><strong>IvantiSM License File-Production</strong></td>
<td>The name of the license file for the Ivanti Service Manager production instance. Click <strong>Browse...</strong>, navigate to the license file, and click <strong>Open</strong>. License files have a .lic suffix.</td>
</tr>
</tbody>
</table>

**NOTE**: The system displays either one or both of the license fields, depending on your landscape environment. At this point, you only need to enter one license, which allows the License Manager to start and run Ivanti Service Manager. You can import additional licenses, if needed, at a later time from within the License Manager. See **Using the License Manager**.
10. Create the administrator account for the configuration database. You only need to create this account once. If you return to this page in the System Configuration Wizard later, these fields are not displayed.

Enter values into the fields:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Login ID</td>
<td>The system automatically displays the login ID of HSWAdmin. You cannot change this.</td>
</tr>
<tr>
<td>Password</td>
<td>The password associated with the administrator. Record this password for future reference. If you lose the password, you must recreate and load the configuration database.</td>
</tr>
<tr>
<td>Confirm Password</td>
<td>Re-enter the password associated with the administrator.</td>
</tr>
<tr>
<td>First Name</td>
<td>The first name of the administrator.</td>
</tr>
<tr>
<td>Last Name</td>
<td>The last name of the administrator.</td>
</tr>
<tr>
<td>Email Address</td>
<td>The email address of the administrator.</td>
</tr>
</tbody>
</table>

11. Do one of the following:
   - If you chose **Single Server Deployment**, click **Next**. The system displays the Ivanti Service Manager Application page.
   - If you chose **Multiple Server Deployment**, repeat all of the steps in this procedure to create a configuration database for each of your tenants. Then click **Next**. The system displays the Ivanti Service Manager Application page.
Configuring the Ivanti Service Manager Application

On this page you will do the following:

- Specify the name and authentication method for the server where the application database resides.
- Load the demo database on a server other than the server where the application database resides. This option allows you to review the demo database while the application database continues to run in its current configuration.
- Specify the application name, attachment location, client authorization key, and the type of name to use when accessing the application.

The first time that you see this page, there is no application database, as shown in Figure 48.

**Figure 48 -- Application Page: No Database**

1. Enter values into the fields:
<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
</table>
| Application Database Server | The server where the application database is located. Usually this is the same server where the configuration database is located (specified earlier on the Configuration Application page). Do one of the following:  
  ■ Accept the default value.  
  ■ Enter the name of the server of the application database.  
  ■ Browse for a server name by clicking the down arrow and selecting <Browse for more...>. The system displays any Microsoft SQL Server instances in your network. Choose a server and click OK.  
  
  **NOTE:** Do not choose localhost unless you are setting up a Demonstration or Proof-of-Concept Deployment. |
| Application Database Name   | The name of the application database. The default name is HEATSM. The name that you specify here is used when the application database is created, and later, recreated. |
| Authentication Method      | Select one of the following:  
  ■ SQL Authentication: Uses Microsoft SQL authentication. If you select this option, enter the user name and password below.  
  
  See Configuring the Reporting Feature for information on the appropriate database authentication type. |
| User Name                 | (Only if you selected SQL Authentication) Enter the user name associated with the Microsoft SQL authentication. |
| Password                  | (Only if you selected SQL Authentication) Enter the password associated with the user name for the Microsoft SQL authentication. |

2. Click **Test Connection** to test the connection to the application database server. The system displays *Connection successful!* if the connection is good. You must have a working connection to create a database. You cannot continue with the configuration if this connection does not work.

3. Depending if there is already an application database, click **Load Application Database** or **Re-Create & Load Application DB**. If the application database already exists, the system asks if you want to recreate the database. Click **Yes**. The system displays the **New Database** dialog box.
4. Enter values into the fields:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Database Name</td>
<td>The name of the application database. The default name is HEATSM and cannot</td>
</tr>
<tr>
<td></td>
<td>be changed.</td>
</tr>
<tr>
<td>Application Database Location</td>
<td>The location for the application database.</td>
</tr>
<tr>
<td></td>
<td><strong>NOTE</strong>: If you have customized the existing application database, specify</td>
</tr>
<tr>
<td></td>
<td>a different location; otherwise, the system overwrites your customization</td>
</tr>
<tr>
<td></td>
<td>when you load the recreated database.</td>
</tr>
<tr>
<td>Collation</td>
<td>The set of rules that describe how to compare and sort strings, such as the</td>
</tr>
<tr>
<td></td>
<td>order in which letters are sorted and whether case matters.</td>
</tr>
<tr>
<td>Advanced Options</td>
<td></td>
</tr>
<tr>
<td>Logical Name</td>
<td>The logical name of the application database. This name is stored as a file</td>
</tr>
<tr>
<td></td>
<td>name, and is a separate entity from the read-only database name that is</td>
</tr>
<tr>
<td></td>
<td>displayed in Microsoft SQL Server Management Studio.</td>
</tr>
<tr>
<td>File Type</td>
<td>The file type, either database records or database logs. These values are</td>
</tr>
<tr>
<td></td>
<td>read-only.</td>
</tr>
<tr>
<td>Initial Size (MB)</td>
<td>The initial file size, in MB, when creating the application database.</td>
</tr>
</tbody>
</table>
Parameter | Description
--- | ---
Autogrowth | Specifies how the database will expand when it reaches its maximum file size. We recommend having at least 1 GB or 10% to start with. Click ... to update the values.
Path | The location of the file. Click ... to update the location.
File Name | The name of the file.

5. Click **OK**.

The system creates the application database and installs it on the application database server that you specified. The system displays several progress dialog boxes as the system executes various Microsoft SQL scripts that create and load the application database. After the system loads the application database, the system displays *Application Database loaded*.

6. (Optional) Click **Advanced Options** to open the Landscape Advanced Options dialog box. See the "Adding a Landscape" topic in the *Operations Console User Guide for Ivanti Service Manager* for more information about these patterns. See Related Documentation.

*Figure 50 -- Landscape Advanced Options Dialog Box*

7. Click **Next**. The system refreshes the Application page. See *Figure 51*. (If you end up on the next page of the System Configuration Wizard, click **Previous** to return to the Application page.)
Figure 51 -- Application Page: Newly Created Database

8. Ivanti Service Manager comes with optional transaction data that you can use to test and view the analytic metrics, financial, ITFM, and other features.

To include demo data, ensure that Don’t include Demo data is unchecked. You must install the demo data manually after the System Configuration Wizard finishes. See Installing the Demo Data Package.

9. Enter values into the fields:
<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Application Name</strong></td>
<td>The name of the application.</td>
</tr>
<tr>
<td><strong>Attachment Type</strong></td>
<td>The location of the folder on the application database server where any Ivanti Service Manager attachments reside. Select one of the following:</td>
</tr>
<tr>
<td></td>
<td>■ Database</td>
</tr>
<tr>
<td></td>
<td>■ FILESTREAM</td>
</tr>
<tr>
<td></td>
<td>■ File System</td>
</tr>
<tr>
<td><strong>Client Auth Key</strong></td>
<td>The authentication key that is used when the web services API accesses Ivanti Service Manager.</td>
</tr>
<tr>
<td><strong>Import Remote Control License File</strong></td>
<td>(Optional) If you are going to use the remote control feature, you must have a remote control license. Select one of the following:</td>
</tr>
<tr>
<td></td>
<td>■ Contact Ivanti Software to get the license. See How to Contact Us.</td>
</tr>
<tr>
<td></td>
<td>■ To import the remote control license file, click Browse... next to the Import Remote Control License File field.</td>
</tr>
<tr>
<td></td>
<td>■ Browse to the location of the license file and click OK to select it.</td>
</tr>
<tr>
<td><strong>To access the application</strong></td>
<td>Select whether to use the application database server machine name or the fully-qualified domain name for access to the application database server:</td>
</tr>
<tr>
<td></td>
<td>■ <strong>Use machine name to access Ivanti application</strong>: When other Ivanti Service Manager components log into the application server, they use the</td>
</tr>
<tr>
<td></td>
<td>machine name of the server. For example, they use <strong>SERVER-01</strong>. If you choose this option, the system detects the current machine name and uses it</td>
</tr>
<tr>
<td></td>
<td>automatically; you do not need to specify the machine name.</td>
</tr>
<tr>
<td></td>
<td>■ <strong>Use domain name to access Ivanti application</strong>: When other Ivanti Service Manager components log into the application server, they use the</td>
</tr>
<tr>
<td></td>
<td>fully-qualified domain name of the server. For example, they use <strong>SERVER-01.company.com</strong>. If you plan on using SSL for connecting to the application</td>
</tr>
<tr>
<td></td>
<td>server (configured later on the Other Feature Settings page), you must enter a fully-qualified domain name here, either for an individual machine or for</td>
</tr>
<tr>
<td></td>
<td>a load-balanced instance.</td>
</tr>
<tr>
<td><strong>Application server domain name</strong></td>
<td>(Only if you selected <strong>Use domain name to access Ivanti application</strong>) The domain name of the application server.</td>
</tr>
</tbody>
</table>
11. Create the administrator account for the application database. This login ID and password allows you to access the Ivanti Service Manager Service Desk Console and Configuration Console. See Logging into Ivanti Service Manager. You only need to create this account once. If you return to this page in the System Configuration Wizard later, these fields are not displayed.

Enter values into the fields:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Login ID</td>
<td>The system automatically displays the login ID of IvantiAdmin. You cannot change this.</td>
</tr>
<tr>
<td>Password</td>
<td>The password associated with the administrator. Record this password for future reference. If you lose the password, you must recreate and load the application database.</td>
</tr>
<tr>
<td>Confirm Password</td>
<td>Re-enter the password associated with the administrator.</td>
</tr>
<tr>
<td>First Name</td>
<td>The first name of the administrator.</td>
</tr>
<tr>
<td>Last Name</td>
<td>The last name of the administrator.</td>
</tr>
<tr>
<td>Email Address</td>
<td>The email address of the administrator.</td>
</tr>
</tbody>
</table>

12. If you chose Multiple Server Deployment on the Configuration Application page, your system has multiple tenants. Each tenant must have an administrator account, so that the administrator can access the Ivanti Service Manager Service Desk Console and Configuration Console.

To create a new administrator account for another tenant instance, do the following:

a. In the Application Database Name field at the top of this page, enter the next tenant to get an account.

For example, if you named your production tenant HEATSM, your staging tenant HEATSM-STG, and your UAT tenant HEATSM-UAT, then the first time that you are on this page, enter HEATSM in the Application Database Name field. The second time that you are on this page, enter HEATSM-STG in the Application Database Name field. The third time that you are on this page, enter HEATSM-UAT in the Application Database Name field.

b. Create the administrator account for the application database for the tenant. See step 11 above.

c. Click Next. The system displays the Application Server Settings page.

d. Click Previous to return to the Ivanti Service Manager Application page.

e. Repeat steps a. through d. for the next tenant.

13. After all of your tenants have an administrator account, click Next to advance to the Application Server Settings page.
Configuring the Application Server Settings

You set connections to other databases in Ivanti Service Manager (ISM) on the Application Server Settings page. You will do the following:

- Specify the location of the configuration server and the host name.
- Specify if you will use this server for surveys or the reporting feature.
- If you use Windows Integrated Security for the Application Server, specify the Windows domain credentials for the service account.

**Figure 52 -- Application Server Settings Page**

1. Enter values into the fields:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Configuration Server Location</td>
<td>The host name or domain name of the configuration server. The default value is the name of the server that you are logged into now.</td>
</tr>
<tr>
<td></td>
<td>If the host that you are logged into now is not the configuration server, enter the machine name or fully-qualified domain name of your Configuration Server.</td>
</tr>
<tr>
<td></td>
<td>If you check Use SSL below, you must enter the fully-qualified domain name of the configuration server.</td>
</tr>
<tr>
<td>Port</td>
<td>The port number of the configuration server. The default is 80, or 443 if you check Use SSL.</td>
</tr>
</tbody>
</table>
### Parameter | Description
--- | ---
Use SSL | Check to use SSL for connections to the configuration server. **NOTE:** We do not recommend enabling SSL on the configuration server until you have fully tested Ivanti Service Manager to ensure that it works with SSL. For information on configuring Ivanti Service Manager with SSL, see [Optional SSL Configuration](#).

2. Click **Test Connection** to test the connection to the configuration server. The system displays a success or failure message. Click **OK** to close the message.

3. Enter values in the fields:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Host Name</td>
<td>The location of the system that hosts the Application Server. The default value is the server that you are logged into now. Do one of the following:</td>
</tr>
<tr>
<td></td>
<td>■ If you are installing all Ivanti Service Manager components on the same host, accept the default value.</td>
</tr>
<tr>
<td></td>
<td>■ If you enter a different location, it must be a machine name. Do <em>not</em> enter a fully-qualified domain name.</td>
</tr>
<tr>
<td>Use this host for Ivanti Operations Console</td>
<td>Uses this server for the Ivanti Service Manager Operations Console. <strong>NOTE:</strong> If you have an Enterprise Production Deployment, we recommend that you only install and use the Ivanti Service Manager Operations Console on the staging (STG) instance of the tenant.</td>
</tr>
<tr>
<td>Landscape Type</td>
<td>(Only if you checked <strong>Use this host for Ivanti Operations Console</strong>) Displays the landscape type and cannot be changed.</td>
</tr>
<tr>
<td>Database Server</td>
<td>(Only if you checked <strong>Use this host for Ivanti Operations Console</strong>) Displays the database server and cannot be changed.</td>
</tr>
<tr>
<td>Operations Console Backup Location</td>
<td>(Only if you checked <strong>Use this host for Ivanti Operations Console</strong>) The backup location for the Ivanti Service Manager Operations Console. The backup location can either be on a database server or on a network folder. Do one of the following:</td>
</tr>
<tr>
<td></td>
<td>■ Accept the default location.</td>
</tr>
<tr>
<td></td>
<td>■ Enter a new location.</td>
</tr>
</tbody>
</table>
|  | ■ Click **Browse**... and navigate to a new location.
<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Backup &amp; Restore</td>
<td>(Only if you checked Use this host for Ivanti Operations Console) The database to test to ensure you can back up and restore it. Select one from the drop-down list. We recommend that you select the configuration database since it is small. Click test to test the connection. The system displays a message with the results of the test. Click OK to close the message.</td>
</tr>
<tr>
<td>Use this host for Survey</td>
<td>Uses this server for the Ivanti Service Manager survey component. If you use Windows Authentication for the configuration server, the system prompts you for the Windows domain account and credentials. See Configuring the Configuration Database. This setting is already configured if all Ivanti Service Manager components are installed on one server.</td>
</tr>
<tr>
<td>Use these settings for Reporting Service</td>
<td>Uses this server for the Ivanti Service Manager reporting feature. Usually, you configure the reporting feature on the Microsoft SSRS Configuration and Ivanti Reporting Service Configuration pages. However, if you have two different domains and the reporting feature server cannot reach the web server, you can configure these settings to enable the servers to communicate.</td>
</tr>
<tr>
<td>Use SSL for Reports</td>
<td>(Only if you checked Use these settings for Reporting Service) Uses SSL for reports.</td>
</tr>
<tr>
<td>Use Windows Authentication for SSRS</td>
<td>(Only if you checked Use these settings for Reporting Service) Uses Windows authentication for reports. If you plan on sharing the same Microsoft SSRS instance with other applications besides the reporting feature, you must use Windows authentication.</td>
</tr>
<tr>
<td>Web Service Virtual Directory</td>
<td>(Only if you checked Use these settings for Reporting Service) The name of the web service virtual directory.</td>
</tr>
<tr>
<td>Ivanti Web Application Pool Identity Account</td>
<td>(Only if you checked Use these settings for Reporting Service) The application pool identity for the Ivanti Service Manager web application pool. Select one of the following:</td>
</tr>
<tr>
<td></td>
<td>■ Keep existing account</td>
</tr>
<tr>
<td></td>
<td>■ Specify new account</td>
</tr>
<tr>
<td></td>
<td>If you select Specify new account, click Set to enter the credentials.</td>
</tr>
<tr>
<td>Parameter</td>
<td>Description</td>
</tr>
<tr>
<td>---------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>User Name</td>
<td>(Only if you checked <strong>Use these settings for Reporting Service</strong> and selected <strong>Specify new account</strong> for the Ivanti Web Application Pool Identity Account field) The user name for the application pool identity for the Ivanti Service Manager web application pool.</td>
</tr>
<tr>
<td>Password</td>
<td>(Only if you checked <strong>Use these settings for Reporting Service</strong> and selected <strong>Specify new account</strong> for the Ivanti Web Application Pool Identity Account field) The password associated with the user above. Click <strong>OK</strong>.</td>
</tr>
</tbody>
</table>

4. If you are using Microsoft SQL authentication for the configuration server, the system displays this message: "Local system account will be used for IIS Application Pool Identity and Windows Service". See **Service Account** for more information about this account.

   To use a different account, do the following:

   a. Check **Use a different account**.

   b. Click **Set**.

   c. Enter the user name for the service account.

   d. Enter the password associated with the service account.

   e. Click **OK**.

5. Each tenant in a multiple server deployment must have an administrator account. If you selected **Multiple Server Deployment** on the **Configuration Application** page, click **Previous** to return to the **Ivanti Service Manager Application** page and create additional tenant accounts.
Configuring Other Feature Settings

On this page you will do the following:

- Specify the log file and temporary file locations on the configuration server.
- Specify different servers and ports and whether to use SSL for the other Ivanti Service Manager servers.
- Specify the inbound web server information.

*Figure 53 -- Other Feature Settings Page*
1. Enter values into the fields:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Log File Location</strong></td>
<td>The folder on the server that you are logged into now where the log files are located.</td>
</tr>
<tr>
<td></td>
<td>Do one of the following:</td>
</tr>
<tr>
<td></td>
<td>■ Accept the default value.</td>
</tr>
<tr>
<td></td>
<td>■ Enter the name of the folder where the log files are located.</td>
</tr>
<tr>
<td></td>
<td>■ Browse for a different folder by clicking <strong>Browse</strong>... Select a new folder and click <strong>OK</strong>.</td>
</tr>
<tr>
<td><strong>Temp Folder Location</strong></td>
<td>The folder on the server that you are logged into now where the temporary files are located. The temporary folder is used to cache JavaScript files and to enable integration server and Ivanti Service Manager Operations Console features.</td>
</tr>
<tr>
<td></td>
<td>Do one of the following:</td>
</tr>
<tr>
<td></td>
<td>■ Accept the default value.</td>
</tr>
<tr>
<td></td>
<td>■ Enter the name of the folder where the temporary files are located.</td>
</tr>
<tr>
<td></td>
<td>■ Browse for a different folder by clicking <strong>Browse</strong>... Select a new folder and click <strong>OK</strong>.</td>
</tr>
<tr>
<td><strong>Cache Location</strong></td>
<td>The folder on the server that you are logged into now where the cached files are located.</td>
</tr>
<tr>
<td></td>
<td>Do one of the following:</td>
</tr>
<tr>
<td></td>
<td>■ Accept the default value.</td>
</tr>
<tr>
<td></td>
<td>■ Enter the name of the folder where the cached files are located.</td>
</tr>
<tr>
<td></td>
<td>■ Browse for a different folder by clicking <strong>Browse</strong>... Select a new folder and click <strong>OK</strong>.</td>
</tr>
<tr>
<td>Parameter</td>
<td>Description</td>
</tr>
<tr>
<td>------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Customize Server</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Application Server</strong></td>
<td>Where the application server is located. The default value is the server that you are logged into now.</td>
</tr>
<tr>
<td></td>
<td>Do one of the following:</td>
</tr>
<tr>
<td></td>
<td>▪ Accept the default value.</td>
</tr>
<tr>
<td></td>
<td>▪ Enter the name where the application server is located.</td>
</tr>
<tr>
<td></td>
<td>If you use SSL, you must enter a fully-qualified domain name.</td>
</tr>
<tr>
<td><strong>NOTE</strong>:</td>
<td>If you choose a different server for the application server and check <strong>Use SSL</strong>, SSL is only enabled for the application server. It does not enable SSL for the configuration server.</td>
</tr>
<tr>
<td><strong>Port</strong></td>
<td>The port number of the application server. The default is 80, or 443 if you check <strong>Use SSL</strong>.</td>
</tr>
<tr>
<td><strong>Use SSL</strong></td>
<td>Enables SSL encryption to the application server.</td>
</tr>
<tr>
<td><strong>Message Queue Server</strong></td>
<td>Where the message queue server is located. The default value is the server that you are logged into now.</td>
</tr>
<tr>
<td></td>
<td>Do one of the following:</td>
</tr>
<tr>
<td></td>
<td>▪ Accept the default value.</td>
</tr>
<tr>
<td></td>
<td>▪ Enter the name where the Ivanti Service Manager message queue server is located.</td>
</tr>
<tr>
<td></td>
<td>If you use SSL, you must enter a fully-qualified domain name.</td>
</tr>
<tr>
<td><strong>Port</strong></td>
<td>The port number of the message queue server. The default is 7200.</td>
</tr>
<tr>
<td><strong>Use SSL</strong></td>
<td>Enables SSL encryption to the message queue server.</td>
</tr>
<tr>
<td><strong>Integration Server</strong></td>
<td>Where the integration server is located. The default value is the server that you are logged into now.</td>
</tr>
<tr>
<td></td>
<td>Do one of the following:</td>
</tr>
<tr>
<td></td>
<td>▪ Accept the default value.</td>
</tr>
<tr>
<td></td>
<td>▪ Enter the server where the Ivanti Service Manager integration server is located.</td>
</tr>
<tr>
<td></td>
<td>If you use SSL, you must enter a fully-qualified domain name.</td>
</tr>
<tr>
<td><strong>Port</strong></td>
<td>The port number of the Ivanti Service Manager integration server. The default is 80, or 443 if you check <strong>Use SSL</strong>.</td>
</tr>
<tr>
<td>Parameter</td>
<td>Description</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Use SSL</td>
<td>Enables SSL encryption to the Ivanti Service Manager integration server.</td>
</tr>
<tr>
<td>HEAT Discovery Application Server</td>
<td>Where the HEAT Discovery application server is located. The default value is the server that you are logged into now.</td>
</tr>
<tr>
<td></td>
<td>Do one of the following:</td>
</tr>
<tr>
<td></td>
<td>■ Accept the default value.</td>
</tr>
<tr>
<td></td>
<td>■ Enter the server where the HEAT Discovery application server is located.</td>
</tr>
<tr>
<td></td>
<td>If you use SSL, you must enter a fully-qualified domain name.</td>
</tr>
<tr>
<td>Port</td>
<td>The port number of the HEAT Discovery application server. The default is 8382, or 443 if you check Use SSL.</td>
</tr>
<tr>
<td>Use SSL</td>
<td>Enables SSL encryption to the HEAT Discovery application server.</td>
</tr>
<tr>
<td>Inbound Web Service Settings</td>
<td></td>
</tr>
<tr>
<td>Inbound Web Server</td>
<td>Where the inbound web server is located. The default value is the server that you are logged into now.</td>
</tr>
<tr>
<td></td>
<td>Do one of the following:</td>
</tr>
<tr>
<td></td>
<td>■ Accept the default value.</td>
</tr>
<tr>
<td></td>
<td>■ Enter the server where the Ivanti Service Manager inbound web server is located.</td>
</tr>
<tr>
<td></td>
<td>If you use SSL, you must enter a fully-qualified domain name.</td>
</tr>
<tr>
<td>Port</td>
<td>The port number of the Ivanti Service Manager inbound web server. The default is 80, or 443 if you check Use SSL.</td>
</tr>
<tr>
<td>Use SSL</td>
<td>Enables SSL encryption to the Ivanti Service Manager inbound web server.</td>
</tr>
</tbody>
</table>

You can set a list of remote hosts to block and a list of remote hosts to trust. By default, the list is empty.

2. To designate a list of blocked servers, do the following:
   a. Next to the Trusted Host & Remote Host Blocked List field, click Set.
   b. In the Remote Host Blocked List area, click the plus icon.
   c. Enter the starting IP address and the ending IP address for the blocked servers.
   d. If you are blocking web scripts, check Is Web Script.
   e. Click OK.

3. To designate a list of trusted servers, do the following:
a. Next to the **Trusted Host & Remote Host Blocked List** field, click **Set**.

b. In the **Integration Trusted Host List** area, click the plus icon.

c. Enter a name for the trusted host list.

d. Enter the starting IP address and the ending IP address for the trusted servers.

e. Click **OK**.

*Figure 54 -- Edit Integration Trusted Host and Remote Host Blocked List Dialog Box*

---

4. To restart the Ivanti Service Manager services after you exit the System Configuration Wizard, check **Restart services after setting configuration files**.

5. Verify that the Ivanti Service Manager services restart after the wizard closes.

6. If you did not check **Restart services after setting configuration files**, restart the Ivanti Service Manager services manually.

7. Click **Next**. The system displays the **Metrics Server** page.
Configuring the Metrics Server

Perform these steps to configure one or more Metrics Server databases, which you can use to analyze data. Your deployment can have multiple Metrics Server databases to improve performance.

On this page, you will do the following:

- Specify the locations for the log file and the configuration server.
- Map applications to the Metrics Server.

*Figure 55 -- Metrics Server Page*
1. Enter values into the fields:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Metrics Cache Database Connection</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Database Server Name</strong></td>
<td>Where the metrics cache database server is located. The default value is the</td>
</tr>
<tr>
<td></td>
<td>server where the application server is located.</td>
</tr>
<tr>
<td></td>
<td>Do one of the following:</td>
</tr>
<tr>
<td></td>
<td>■ Accept the default value.</td>
</tr>
<tr>
<td></td>
<td>■ Enter the name of the server of the metrics cache database.</td>
</tr>
<tr>
<td></td>
<td>■ Browse for a server name by clicking the down arrow and selecting</td>
</tr>
<tr>
<td></td>
<td>&lt;Browse for more...&gt;. The system displays all available database servers</td>
</tr>
<tr>
<td></td>
<td>in the network for your connection. Choose a server and click OK.</td>
</tr>
<tr>
<td><strong>NOTE</strong>: Do not choose localhost unless you are setting up a Demonstration or Proof-of-Concept Deployment.</td>
<td></td>
</tr>
<tr>
<td><strong>Database Name</strong></td>
<td>The name of the metrics cache database.</td>
</tr>
<tr>
<td></td>
<td>Do one of the following:</td>
</tr>
<tr>
<td></td>
<td>■ Accept the default value.</td>
</tr>
<tr>
<td></td>
<td>■ Enter the name of the metrics cache database.</td>
</tr>
<tr>
<td><strong>Authentication Method</strong></td>
<td>Select one of the following:</td>
</tr>
<tr>
<td></td>
<td>■ <strong>Windows Authentication</strong>: Uses Microsoft Windows authentication.</td>
</tr>
<tr>
<td></td>
<td>■ <strong>SQL Authentication</strong>: Uses Microsoft SQL authentication. If you select this option, enter the user name and password below.</td>
</tr>
<tr>
<td></td>
<td><strong>NOTE</strong>: The metrics cache database server is not compatible with SSL if your system has Windows authentication set up.</td>
</tr>
<tr>
<td><strong>User Name</strong></td>
<td>(Only if you selected SQL Authentication) The user name associated with the</td>
</tr>
<tr>
<td></td>
<td>Microsoft SQL authentication.</td>
</tr>
<tr>
<td><strong>Password</strong></td>
<td>(Only if you selected SQL Authentication) The password associated with the</td>
</tr>
<tr>
<td></td>
<td>user name for the Microsoft SQL authentication.</td>
</tr>
</tbody>
</table>

2. Click **Test Connection** to test the connection to the metrics cache database server. The system displays a success or failure message below the **Test Connection** button. You must have a working connection to create a database. You cannot continue with the configuration if this connection does not work.

3. Do one of the following:
   ■ If this is the initial setup, go to **Creating a New Metrics Server Database**.
If your system already has a metrics server database, go to Recreating the Metrics Server Database.

Creating a New Metrics Server Database

An initial installation does not have a metrics server database. Follow these steps to create one.

1. Click Create & Load Metrics Server DB. The system displays the New Database dialog box.

   **Figure 56 -- New Database Dialog Box**

2. In the Location field, select a location for the metrics server database.

3. Click Advanced Options to view and reconfigure these metrics server database settings:
   - **Logical name**: The logical name of the metrics database. This name is stored as a file name, and is a separate entity from the read-only database name that is displayed in Microsoft SQL Server Management Studio.
   - **File type**: The file type, either database records or database logs. These values are read-only.
   - **Initial size in MB**: The initial file size, in MB, when creating the metrics database.
   - **Autogrowth size**: Specifies how the database will expand when it reaches its maximum file size. We recommend having at least 1 GB or 10% to start with. Click ... to update the values.
   - **The location of the database**: The location of the file. Click ... to update the location.
   - **File name**: The name of the file.

4. Click OK in the New Database dialog box.
The **Configuration Server Location** field indicates the location of the system that hosts the configuration server. The default value is the name of the host that you are logged into now.

5. If this is the system that hosts the configuration server, accept the default value.

If the host that you are logged into now is not the configuration server, enter the machine name or fully-qualified domain name of your configuration server.

If you use SSL, you enter the fully-qualified domain name of the configuration server.

6. Enter the port number in the **Port** field. The default value is 80. If you click **Use SSL**, it changes to 443.

7. Select whether to use SSL for connections to the configuration server.

If you use SSL, you must provide a fully-qualified domain name in the **Configuration Server Location** field.

8. Click **Test Connection** to test the connection to the configuration server. A pop-up message notifies you of success or failure.

- We do not recommend enabling SSL on the configuration server until you have fully tested Ivanti Service Manager to ensure that it works with SSL.

- For information on configuring Ivanti Service Manager with SSL, see Optional SSL Configuration.

9. Enter the following information to register a server in a multi-server deployment to the metrics server database:

- Accept the default server name or enter a different name.
- Optional. Enter a description of the server.
- The default server name value is the name of the host that you are logged into now. You must use this name or localhost.
- Check the box to use SSL encryption.
- Check the box to enable this metrics server.

10. Click **Save**.

11. To map an application to the new metrics server to an application, check **Map**. You can reference the same metrics server to multiple Ivanti Service Manager applications.

- To change this server at a later time, run the System Configuration Wizard, advance to the Metrics Server page, and click **Remove**.
12. Click **Next**. The system displays the HEAT Discovery Application Server page.

**Recreating the Metrics Server Database**

If you are upgrading or repairing Ivanti Service Manager, you already have a metrics server database, and the Metrics Server page looks like **Figure 57**.

**Figure 57 -- Metrics Server Page**

1. To recreate the metrics server database, click **Re-Create & Load Metrics Server DB**. The system displays the **New Database** dialog box.

2. Perform steps 2 through 12 in **Creating a New Metrics Server Database**.
If you have customized the existing metrics server database, specify a different location in the Metrics Server Database Location field in the New Database dialog box. Otherwise, the system overwrites your customization when you load the recreated database.
Configuring the HEAT Discovery Application Server

On this page you will specify information about the configuration of the HEAT Discovery application server and the HEAT Discovery configuration database. Follow these steps:

- Starting the Configuration for the HEAT Discovery Application Server
- Configuring a System without a HEAT Discovery Configuration Database (Creating a New One)
- Configuring a System with a HEAT Discovery Configuration Database (Editing One that Already Exists)

Starting the Configuration for the HEAT Discovery Application Server

The first time that you see this page, there is no HEAT Discovery configuration database, as shown in Figure 58.

*Figure 58 -- HEAT Discovery Application Server Page: No Database*
1. Enter values into the fields:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Configuration Server</td>
<td>The host name or fully-qualified domain name of the configuration server. The default value is the name of the host that you are logged into now. Do one of the following:</td>
</tr>
<tr>
<td></td>
<td>■ Accept the default value.</td>
</tr>
<tr>
<td></td>
<td>■ Enter the name of the server of the configuration server.</td>
</tr>
<tr>
<td></td>
<td>If you use SSL, you must enter a fully-qualified domain name.</td>
</tr>
<tr>
<td>Port</td>
<td>The port number of the configuration server. The default is 80, or 443 if you check Use SSL.</td>
</tr>
<tr>
<td>Use SSL</td>
<td>Enables SSL encryption to the configuration server.</td>
</tr>
</tbody>
</table>

2. Click Test Connection to test the connection to the configuration server. The system displays a success or failure message. Click OK to close the message. You must have a working connection to the server. You cannot continue with the configuration if this connection does not work.

3. Enter values into the fields:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log File Location</td>
<td>The folder on the server that you are logged into now where the log files are located. The default location for the log files is C:\Logs. Do one of the following:</td>
</tr>
<tr>
<td></td>
<td>■ Accept the default value.</td>
</tr>
<tr>
<td></td>
<td>■ Enter the name of the folder where the log files are located.</td>
</tr>
<tr>
<td></td>
<td>■ Browse for a different folder by clicking Browse.... Select a new folder and click OK.</td>
</tr>
<tr>
<td>Message Queue Server</td>
<td>Where the Ivanti Service Manager message queue server is located. The default value is the server that you are logged into now. Do one of the following:</td>
</tr>
<tr>
<td></td>
<td>■ Accept the default value.</td>
</tr>
<tr>
<td></td>
<td>■ Enter the name where the Ivanti Service Manager message queue server is located.</td>
</tr>
<tr>
<td></td>
<td>If you use SSL, you must enter a fully-qualified domain name.</td>
</tr>
<tr>
<td>Port</td>
<td>The port number of the Ivanti Service Manager message queue server. The default is 7200.</td>
</tr>
<tr>
<td>Parameter</td>
<td>Description</td>
</tr>
<tr>
<td>-----------</td>
<td>-------------</td>
</tr>
<tr>
<td><strong>Use SSL</strong></td>
<td>Enables SSL encryption to the Ivanti Service Manager message queue server.</td>
</tr>
<tr>
<td><strong>HEAT Discovery Application Server</strong></td>
<td>Where the HEAT Discovery application server is located. The default value is the server that you are logged into now.</td>
</tr>
<tr>
<td>Do one of the following:</td>
<td></td>
</tr>
<tr>
<td>■ Accept the default value.</td>
<td></td>
</tr>
<tr>
<td>■ Enter the name where the HEAT Discovery application server is located.</td>
<td></td>
</tr>
<tr>
<td>If you use SSL, you must enter a fully-qualified domain name.</td>
<td></td>
</tr>
<tr>
<td><strong>Port</strong></td>
<td>The port number of the HEAT Discovery application server. The default is 80, or 443 if you check Use SSL.</td>
</tr>
<tr>
<td><strong>Use SSL</strong></td>
<td>Enables SSL encryption to the HEAT Discovery application server.</td>
</tr>
<tr>
<td><strong>HEAT Discovery Database Setup</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Database Server</strong></td>
<td>The name of the system proposed for the HEAT Discovery configuration database. The default value is the server that you are logged into now.</td>
</tr>
<tr>
<td>Do one of the following:</td>
<td></td>
</tr>
<tr>
<td>■ Accept the default value.</td>
<td></td>
</tr>
<tr>
<td>■ Enter the name of the HEAT Discovery configuration database server.</td>
<td></td>
</tr>
<tr>
<td>■ Browse for a server name by clicking the down arrow and selecting &lt;Browse for more...&gt;. The system displays any Microsoft SQL Server instances in your network. Choose a server and click OK.</td>
<td></td>
</tr>
<tr>
<td><strong>Database Name</strong></td>
<td>The name of the HEAT Discovery configuration database. The default name is HEATDiscoveryConfig and you cannot change the name.</td>
</tr>
<tr>
<td><strong>Authentication Method</strong></td>
<td>There are two authentication methods for the HEAT Discovery configuration database, one for creation and one for access.</td>
</tr>
<tr>
<td>Select the authentication method for creating the HEAT Discovery configuration database:</td>
<td></td>
</tr>
<tr>
<td>■ <strong>Windows Authentication</strong>: Uses Microsoft Windows authentication.</td>
<td></td>
</tr>
<tr>
<td>■ <strong>SQL Authentication</strong>: Uses Microsoft SQL authentication. If you select this option, enter the user name and password below.</td>
<td></td>
</tr>
<tr>
<td><strong>User Name</strong></td>
<td>(Only if you selected SQL Authentication) The user name associated with the Microsoft SQL authentication.</td>
</tr>
<tr>
<td><strong>Password</strong></td>
<td>(Only if you selected SQL Authentication) The password associated with the user name for the Microsoft SQL authentication.</td>
</tr>
</tbody>
</table>
4. Click **Test Connection** to test the connection to the HEAT Discovery configuration database server. The system displays a success or failure message. Click **OK** to close the message. You must have a working connection to create a database. You cannot continue with the configuration if this connection does not work.

5. Do one of the following:
   - If this is the initial setup, go to Configuring a System without a HEAT Discovery Configuration Database (Creating a New One).
   - If your system already has a HEAT Discovery configuration database, go to Configuring a System with a HEAT Discovery Configuration Database (Editing One that Already Exists).

**Configuring a System without a HEAT Discovery Configuration Database (Creating a New One)**

An initial installation does not have a HEAT Discovery configuration database. The system displays this: "No HEAT Discovery (HEATDiscoveryConfig) Database is detected."

Follow these steps to create one.

1. Enter values into the fields:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create &amp; Load HEAT Discovery DB</td>
<td>Click to create and load a new HEAT Discovery configuration database. The system displays the <strong>New Database</strong> dialog box.</td>
</tr>
</tbody>
</table>

![Figure 59 -- New Database Dialog Box](image)

- **HEAT Discovery Database Name**
  - The name of the HEAT Discovery configuration database. The default name is HEATDiscoveryConfig and you cannot change the name.

- **HEAT Discovery Database Location**
  - The location for the HEAT Discovery configuration database.
Parameter | Description
--- | ---
Collation | The set of rules that describe how to compare and sort strings, such as the order in which letters are sorted and whether case matters.

**Advanced Options**

Logical Name | The logical name of the HEAT Discovery configuration database. This name is stored as a file name, and is a separate entity from the read-only database name that is displayed in Microsoft SQL Server Management Studio.

File Type | The file type, either database records or database logs. These values are read-only.

Initial Size (MB) | The initial file size, in MB, when creating the HEAT Discovery configuration database.

Autogrowth | Specifies how the database will expand when it reaches its maximum file size. We recommend having at least 1 GB or 10% to start with. Click ... to update the values.

Path | The location of the file. Click ... to update the location.

File Name | The name of the file.

2. Click **OK** in the New Database dialog box. The system creates the HEAT Discovery configuration database.

3. To restart the Ivanti Service Manager services after you finish the installation, check **Restart services after setting configuration files**.

4. Click **Next**. The system displays the HEAT Discovery Web Server page.

**Configuring a System with a HEAT Discovery Configuration Database (Editing One that Already Exists)**

If you are upgrading or repairing Ivanti Service Manager, you already have a HEAT Discovery configuration database.

1. To recreate the HEAT Discovery configuration database, click **Re-Create & Load HEAT Discovery DB**. The system displays a confirmation message.

   ⚖️ If you have customized the existing HEAT Discovery configuration database, specify a different location in the HEAT Discovery Database Location dialog box. Otherwise, the system overwrites your customization when you recreate the database.

2. Click **OK** at the confirmation message.
3. To restart the Ivanti Service Manager services after you finish the installation, check **Restart services after setting configuration files**.

4. Click **Next**. The system displays the **HEAT Discovery Web Server** page.
Configuring the HEAT Discovery Web Server

Configure the relationship between Ivanti Service Manager, the HEAT Discovery web server, and the HEAT Discovery application server from the HEAT Discovery Web Server page of the System Configuration Wizard.

The system displays the HEAT Discovery Web Server page. See Figure 60.

*Figure 60 -- HEAT Discovery Web Server Page*
1. Enter values into the fields:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Configuration Server</td>
<td>The host name or fully-qualified domain name of the configuration server. The default value is the name of the host that you are logged into now.</td>
</tr>
<tr>
<td></td>
<td>Do one of the following:</td>
</tr>
<tr>
<td></td>
<td>■ Accept the default value.</td>
</tr>
<tr>
<td></td>
<td>■ Enter the name of the server of the configuration server.</td>
</tr>
<tr>
<td></td>
<td>If you use SSL, you must enter a fully-qualified domain name.</td>
</tr>
<tr>
<td>Port</td>
<td>The port number of the configuration server. The default is 80, or 443 if you check Use SSL.</td>
</tr>
<tr>
<td>Use SSL</td>
<td>Enables SSL encryption to the configuration server.</td>
</tr>
</tbody>
</table>

2. Click Test Connection to verify the connection to the configuration server.

3. Enter values into the fields:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Server</td>
<td>Where the application server is located. The default value is the server that you are logged into now.</td>
</tr>
<tr>
<td></td>
<td>Do one of the following:</td>
</tr>
<tr>
<td></td>
<td>■ Accept the default value.</td>
</tr>
<tr>
<td></td>
<td>■ Enter the name where the application server is located.</td>
</tr>
<tr>
<td></td>
<td>If you use SSL, you must enter a fully-qualified domain name.</td>
</tr>
<tr>
<td>Port</td>
<td>The port number of the application server. The default is 80, or 443 if you check Use SSL.</td>
</tr>
<tr>
<td>Use SSL</td>
<td>Enables SSL encryption to the application server.</td>
</tr>
<tr>
<td>HEAT Discovery Application Server</td>
<td>Where the HEAT Discovery application server is located. The default value is the server that you are logged into now.</td>
</tr>
<tr>
<td></td>
<td>Do one of the following:</td>
</tr>
<tr>
<td></td>
<td>■ Accept the default value.</td>
</tr>
<tr>
<td></td>
<td>■ Enter the name where the HEAT Discovery application server is located.</td>
</tr>
<tr>
<td></td>
<td>If you use SSL, you must enter a fully-qualified domain name.</td>
</tr>
<tr>
<td>Port</td>
<td>The port number of the HEAT Discovery application server. The default is 8382, or 443 if you check Use SSL.</td>
</tr>
<tr>
<td>Parameter</td>
<td>Description</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Use SSL</td>
<td>Enables SSL encryption to the HEAT Discovery application server.</td>
</tr>
<tr>
<td>HEAT Discovery Web Server</td>
<td>Where the HEAT Discovery web server is located. The default value is the server that you are logged into now.</td>
</tr>
<tr>
<td></td>
<td>Do one of the following:</td>
</tr>
<tr>
<td></td>
<td>■ Accept the default value.</td>
</tr>
<tr>
<td></td>
<td>■ Enter the name where the HEAT Discovery web server is located.</td>
</tr>
<tr>
<td></td>
<td>If you use SSL, you must enter a fully-qualified domain name.</td>
</tr>
<tr>
<td>Port</td>
<td>The port number of the HEAT Discovery web server. The default is 80, or 443 if you check Use SSL.</td>
</tr>
<tr>
<td>Use SSL</td>
<td>Enables SSL encryption to the HEAT Discovery web server.</td>
</tr>
<tr>
<td>MDI Server</td>
<td>Where the MDI server is located. (The Mobile Device Inventory [MDI] service is bundled with HEAT Discovery.) The default value is the server that you are logged into now.</td>
</tr>
<tr>
<td></td>
<td>Do one of the following:</td>
</tr>
<tr>
<td></td>
<td>■ Accept the default value.</td>
</tr>
<tr>
<td></td>
<td>■ Enter the name where the MDI server is located.</td>
</tr>
<tr>
<td>Port</td>
<td>The port number of the MDI server. The default is 8734.</td>
</tr>
<tr>
<td>Message Queue Server</td>
<td>Where the message queue server is located. The default value is the server that you are logged into now.</td>
</tr>
<tr>
<td></td>
<td>Do one of the following:</td>
</tr>
<tr>
<td></td>
<td>■ Accept the default value.</td>
</tr>
<tr>
<td></td>
<td>■ Enter the name where the Ivanti Service Manager message queue server is located.</td>
</tr>
<tr>
<td></td>
<td>If you use SSL, you must enter a fully-qualified domain name.</td>
</tr>
<tr>
<td>Port</td>
<td>The port number of the Ivanti Service Manager message queue server. The default is 7200.</td>
</tr>
<tr>
<td>Use SSL</td>
<td>Enables SSL encryption to the Ivanti Service Manager message queue server.</td>
</tr>
</tbody>
</table>
### Log File Location

The folder on the server that you are logged into now where the log files are located. The default location for the log files is C:\Logs on the HEAT Discovery web server.

Do one of the following:
- Accept the default value.
- Enter the name of the folder where the log files are located.
- Browse for a different folder by clicking **Browse**... Select a new folder and click **OK**.

4. To restart the Ivanti Service Manager services after you exit the System Configuration Wizard, check **Restart services after setting configuration files**.

5. Verify that the Ivanti Service Manager services restart after the wizard closes.

6. If you did not check **Restart services after setting configuration files**, restart the Ivanti Service Manager services manually.
Finishing the System Configuration

When you have finished configuring the ISM Discovery web server, do the following:

1. Click Finish. The System Configuration Wizard closes and the system displays the Completed page of the install wizard.

2. Click Finish.

3. Restart the host server that you just configured.

4. Verify that you can access Ivanti Service Manager by navigating to http://server_name/HEAT.
Installing the Demo Data Package

Only perform this procedure if you did NOT check Don’t include Demo data on the Ivanti Service Manager Application page of the System Configuration Wizard. See Configuring the Ivanti Service Manager Application for information about the Ivanti Service Manager Application page.

Ivanti Service Manager comes with additional transaction database that you can use to test and view the analytic metrics, financial, IT Financial Management, and other Ivanti Service Manager features.

Follow these steps to install the demo data package:

1. Navigate to: C:\Program Files\HEAT\Software\HEAT\SystemConfigurationWizard\DB\AppServer\SQL\DemoData.
2. Extract the Demo Data Pkg.rar file.
3. Use Microsoft SQL Management Studio to restore the file called DemoData_Database.bak. This file was created based on Microsoft SQL Release 2008 R2.
4. Back up the current Ivanti Service Manager database.
5. Use Microsoft SQL Management Studio to open the script called Demo Data Transfer Script.sql. The script updates the names of the source and target databases, based on your environment.
6. Use Microsoft SQL Management Studio to run the script called Demo Data Transfer Script.sql.
7. Use Microsoft SQL Management Studio to open the script called ITFM Demo Data Update.sql. The script updates the IT Financial Management dates in the database.
8. Use Microsoft SQL Management Studio to run the script called ITFM Demo Data Update.sql.
Configuring the Reporting Feature

If your Ivanti Service Manager deployment includes the reporting feature, you need to set up authentication. Authentication is only needed for the reporting feature, and not for deployments that do not use the reporting feature.

- Authenticating the Application Database
- Configuring Microsoft SSRS
- Configuring the Reporting Feature

Authenticating the Application Database

When you configure Ivanti Service Manager, you set the authentication for the application database on the Ivanti Service Manager Application page of the System Configuration Wizard, as shown in Figure 61.

*Figure 61 — Ivanti Service Manager Application Page with Database Authentication*

You can select either **Windows Authentication** or **SQL Authentication**. (When you configure the reporting feature, you have an opportunity to review and change the authentication method, if necessary, on the Microsoft SSRS Configuration page. See Configuring the Reporting Feature.)

- If you select **Windows Authentication**, you can use the Microsoft SSRS service account, the Microsoft IIS app pool identity account, or any other account, but they must have permission to access the application database and the Microsoft SSRS database.
- If you select **SQL Authentication**, you can use a different system account.

We recommend having separate authentication for Microsoft SSRS, the application database, and the Microsoft SSRS database.
Configuring Microsoft SSRS

Figure 62 -- Microsoft SSRS Configuration Page
1. Enter values into the fields:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Report Server Host</td>
<td>The name of the Ivanti Service Manager reporting feature server. The default name is the name of the server that you are currently logged into. You cannot change this value.</td>
</tr>
<tr>
<td>Microsoft SSRS Instance</td>
<td>The instance of Microsoft SSRS to use for the Reporting feature. Select a value from the drop-down list.</td>
</tr>
</tbody>
</table>

2. (Recommended) Click **Backup** to back up your Microsoft SSRS configuration. (If prompted, enter a password to unlock the backup file, and then click **OK**.) The system displays the **New SSRS Configuration Backup** dialog box with information about the backup.

*Figure 63 -- New SSRS Configuration Backup Dialog Box*

3. To change the location of the backup, click **Browse...**, select a new location, and click **OK**.

4. Click **OK** to close the dialog box. The system displays the **Backup Encryption Key** dialog box. (If you do not see this dialog box immediately, the system displays it after you click **Next** at the bottom of the page when you are done with the configuration on this page of the System Configuration Wizard.)
5. Do the following:
   ■ (Optional) Enter a new file location.
   ■ Enter a password.
   ■ Confirm the password.
   ■ Click OK.

6. Select a Microsoft SSRS authentication type:
   ■ **Windows Authentication**: Shares the Microsoft SSRS instance with multiple applications, including Ivanti Service Manager.
   ■ **Custom Authentication**: Does not share the Microsoft SSRS instance with any other applications. The Microsoft SSRS instance is used for Ivanti Service Manager only. With custom authentication, you can have a multi-tenant environment.

   If you have multiple instances of Microsoft SSRS, choose each instance carefully before choosing the authentication method to use with that instance.
   ■ If you plan to share the same Microsoft SSRS instance with other applications besides the reporting feature, you must use Windows authentication.
   ■ If you plan to create a multiple-tenant environment, you must use custom authentication.
   ■ If you plan to use a dedicated Microsoft SSRS instance only for the reporting feature, you can use either Microsoft SSRS authentication type.

⚠️ If you select a Microsoft SSRS instance and select **Custom Authentication**, the System Configuration Wizard overwrites the existing Microsoft SSRS configuration.

If the Microsoft SSRS instance that you selected is shared with another application, the Ivanti Service Manager installer deletes the configuration for that application. Before proceeding, be sure that the Microsoft SSRS instance is not in use by another application.
7. Enter values into the fields:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
</table>
| **Service Account**              | Select the service account to use. This can be the same account that is used for the IIS application pool identity and the Windows service, that you entered on the Application Server Settings page. You can select one of the following:  
  ■ **Use built-in account** (NOTE: You cannot select this option if you selected Windows Authentication for the Microsoft SSRS authentication type in step 5.)  
  ■ **Use another account**                                                                                                                                                                                                                                                   |
| **Use built-in account**         | (Only if you selected Use built-in account) Select the built-in account to use. This can be the same account that is used for the IIS application pool identity and the Windows service, that you entered on the Application Server Settings page. You can select one of the following:  
  ■ **Local System**: This account has the most permissions.  
  ■ **Network Service**: We recommend that you use this account.  
  ■ **Local Service**                                                                                                                                                                                                                                                         |
| **Account**                      | (Only if you selected Use another account) The name of the service account. Use the format domain/name.                                                                                                                                                                                                                                       |
| **Password**                     | (Only if you selected Use another account) The password associated with the service account.                                                                                                                                                                                                                                               |
| **Web Service Virtual Directory**| The name of the web service virtual directory. The system automatically fills in this field with the value that you entered in the Web Service Virtual Directory field on the Application Server Settings page. See Configuring the Application Server Settings.  
  The default value for the web service virtual directory is ReportServer + _SSRS_instance_name.  
  Do one of the following:  
  ■ Accept the default value.  
  ■ Enter a new value.  
  Click **Advanced**... to configure multiple identities for the reporting feature web service.                                                                                                                                 |

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Report Manager Virtual Directory</td>
<td>The name of the report manager virtual directory. The default value is <code>Reports + _SSRS_instance_name</code>. Do one of the following:</td>
</tr>
<tr>
<td></td>
<td>■ Accept the default value.</td>
</tr>
<tr>
<td></td>
<td>■ Enter a new value.</td>
</tr>
<tr>
<td></td>
<td>Click <strong>Advanced</strong>... to configure multiple identities for the report manager.</td>
</tr>
<tr>
<td>Database Server</td>
<td>The name of the database server. The system automatically displays the default Microsoft SQL server name. Do one of the following:</td>
</tr>
<tr>
<td></td>
<td>■ Accept the default value.</td>
</tr>
<tr>
<td></td>
<td>■ Enter the name of the server of the configuration database in this format: machinename\instance.</td>
</tr>
<tr>
<td></td>
<td>■ Browse for a server name by clicking the down arrow and selecting <code>&lt;Browse for more...&gt;</code>. The system displays any Microsoft SQL Server instances in your network. Choose a server and click <strong>OK</strong>.</td>
</tr>
<tr>
<td></td>
<td><strong>NOTES:</strong></td>
</tr>
<tr>
<td></td>
<td>■ Do not choose <strong>localhost</strong> unless you are setting up a Demonstration or Proof-of-Concept Deployment.</td>
</tr>
<tr>
<td></td>
<td>■ To restore the Microsoft SQL server name if you changed the name previously, open Microsoft SQL Server Management Studio. The system displays the Microsoft SQL server name in the <strong>Connect to Server</strong> dialog box.</td>
</tr>
<tr>
<td>Database Name</td>
<td>The name of the reporting database. The default name is <code>ReportServer + $SSRS instance name</code>.</td>
</tr>
<tr>
<td>Credentials</td>
<td>The credentials to use with the reporting feature. Select one of the following:</td>
</tr>
<tr>
<td></td>
<td>■ SQL Server Credentials</td>
</tr>
<tr>
<td></td>
<td>■ Windows Credentials</td>
</tr>
<tr>
<td></td>
<td>■ Service Credentials</td>
</tr>
<tr>
<td>User Name</td>
<td>The user name for the credential used with the reporting feature.</td>
</tr>
<tr>
<td>Password</td>
<td>The password associated with the credential used with the reporting feature.</td>
</tr>
</tbody>
</table>
8. Click **Test Connection**. The system displays *Connection successful!* if the connection is good.

9. Enter values into the fields:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMTP Server</td>
<td>The server that sends out the reports. The system automatically verifies the SMTP server name that you enter. If the name is not valid, the system displays an error message.</td>
</tr>
<tr>
<td>Sender Address</td>
<td>The email address for the account that sends out the reports.</td>
</tr>
</tbody>
</table>

10. Click **Next**. The system displays the *Ivanti Reporting Service Configuration* page. See **Configuring the Reporting Feature**. (If the system displays the Backup Encryption Key dialog box, see step 5.)

### Configuring the Reporting Feature

You configure the reporting feature on the **Reporting Service Configuration** page. See **Figure 64**.

**Figure 64 -- Reporting Service Configuration Page**
1. Enter values into the fields:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Configuration Server</td>
<td>The host name of the configuration server. The default value is the name of the server that you are logged into now. If the host that you are logged into now is not the configuration server, enter the machine name or fully-qualified domain name of your configuration server. If you check Use SSL below, you must enter the fully-qualified domain name of the configuration server.</td>
</tr>
<tr>
<td>Port</td>
<td>The port number of the configuration server. The default is 80, or 443 if you check Use SSL.</td>
</tr>
<tr>
<td>Use SSL</td>
<td>Check to use SSL for connections to the configuration server.</td>
</tr>
</tbody>
</table>

**NOTE:** We do not recommend enabling SSL on the configuration server until you have fully tested Ivanti Service Manager to ensure that it works with SSL. For information on configuring Ivanti Service Manager with SSL, see Optional SSL Configuration.

2. Click Test Connection to test the connection to the configuration server. The system displays a success or failure message. Click OK to close the message.

3. Enter values into the fields:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Account Type</td>
<td>The database account type. Select from one of the following: SQL Server Credentials, Windows Credentials</td>
</tr>
<tr>
<td>User Name</td>
<td>The user name for the Ivanti Service Manager database read-only account.</td>
</tr>
<tr>
<td>Password</td>
<td>The password associated with the user name.</td>
</tr>
</tbody>
</table>

**NOTE:** If you selected Custom Authentication in step 6 of Configuring Microsoft SSRS, this option automatically displays as SQL Server Credentials and you cannot change it.

4. Click Test Connection to test the connection to the configuration server. The system displays Connection successful! if the connection is good.

5. Click Modify to add servers to or remove servers from the list of Ivanti Service Manager application servers that are used with the reporting feature.
6. Enter values into the fields:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Report User Name</td>
<td>(Only if you selected Custom Authentication in step 6 of Configuring Microsoft SSRS) The user name for the user who configures the reporting feature.</td>
</tr>
<tr>
<td>Report User Password</td>
<td>(Only if you selected Custom Authentication in step 6 of Configuring Microsoft SSRS) The password associated with the user name.</td>
</tr>
</tbody>
</table>

7. To verify that the configuration settings work, do the following:

   a. Click Reprovision Report Now to update the sample report data to the application. See Figure 64. If the systems returns an exception such as "Cannot Decrypt the Symmetric Key", see Troubleshooting.

   b. Log into Ivanti Service Manager as a Report Manager.

   c. Ensure that you can see the sample reports and create one.

8. When you see confirmation that the out-of-the-box reports have been provisioned, that is, the last line of this step changes from OOB Reports (not provisioned yet) to OOB Reports (provisioned on date), click Finish to close the System Configuration Wizard.

   The system displays the Completed page of the System Configuration Wizard.

9. Restart your system (the host server that you just configured).

10. After the system restarts, ensure that you can access Ivanti Service Manager. Go to http://server_name/HEAT and ensure that the reporting feature is functional.
Configuring HEAT Discovery

This topic describes how to configure HEAT Discovery.

- Configuring HEAT Discovery on a Dedicated Server
- Configuring HEAT Discovery on the Production Servers

Configuring HEAT Discovery on a Dedicated Server

After you have installed the HEAT Discovery components, the System Configuration Wizard automatically starts and displays the Configuration Application page.

1. On the Configuration Application page, do the following:
   b. Under Setup Connection, verify that the configuration matches the settings that you configured for the Ivanti Service Manager production servers. See Configuring the Configuration Database.
   c. Click Next.

2. On the Ivanti Service Manager Application page, do the following:
   a. Verify that the configuration matches the settings that you configured for the Ivanti Service Manager production servers. See Configuring the Ivanti Service Manager Application.
   b. Check HEAT Discovery Stand alone.
   c. Click Next.

3. On the Application Server Settings page, do the following:
   a. Verify that the configuration matches the settings that you configured for the Ivanti Service Manager production servers.
   b. Click Next.

4. On the Other Features Settings page, do the following:
   a. Under Customize Server, in the HEAT Discovery Application Server field, enter the name of the HEAT Discovery dedicated server.
      ■ If you are not using SSL, enter the host name.
      ■ If you are using SSL, enter the fully-qualified domain name.
   b. Verify that the rest of the configuration matches the settings that you configured for the Ivanti Service Manager production servers. See Configuring Other Feature Settings.
c. Click Next.

5. On the Metrics Server page, do the following:
   a. Verify that the configuration matches the settings that you configured for the Ivanti Service Manager production servers. See Configuring the Metrics Server.
   b. Click Next.

6. On the HEAT Discovery Application Server page, do the following:
   a. In the HEAT Discovery Application Server field, enter the name of the HEAT Discovery dedicated server.
      - If you are not using SSL, enter the host name.
      - If you are using SSL, enter the fully-qualified domain name.
   b. Verify that the rest of the configuration matches the settings that you configured for the Ivanti Service Manager production servers. See Configuring the HEAT Discovery Application Server.
   c. Click Next.

7. On the HEAT Discovery Web Server page, do the following:
   a. In the HEAT Discovery Application Server field, enter the name of the HEAT Discovery dedicated server.
      - If you are not using SSL, enter the host name.
      - If you are using SSL, enter the fully-qualified domain name.
   b. Verify that the rest of the configuration matches the settings that you configured for the Ivanti Service Manager production servers. See Configuring the HEAT Discovery Web Server.
   c. Click Finish.

   The system displays the Completed page of the System Configuration Wizard.

8. Restart your system (the host server you just configured).

9. After the system restarts, ensure that you can access Ivanti Service Manager. Go to http://server_name/HEAT and ensure that the system is functional.

Configuring HEAT Discovery on the Production Servers

Now that there is a dedicated HEAT Discovery server in your deployment, you must configure your production servers to recognize it.
On each production server in your deployment, do the following:

1. Go to the Windows apps menu and click **System Configuration Wizard**. The system opens the System Configuration Wizard and displays the Configuration Application page.

2. On the Configuration Application page, click **Next**.

3. On the Ivanti Service Manager Application page, click **Next**.

4. On the Application Server Settings page, click **Next**.

5. On the Other Features Settings page, do the following:
   a. In the HEAT Discovery Application Server field, enter the name of the HEAT Discovery dedicated server.
      - If you are not using SSL, enter the host name.
      - If you are using SSL, enter the fully-qualified domain name.
   b. Click **Next**.

6. On the Metrics Server page, click **Next**.

7. On the HEAT Discovery Application Server page, do the following:
   a. In the HEAT Discovery Application Server field, enter the name of the HEAT Discovery dedicated server.
      - If you are not using SSL, enter the host name.
      - If you are using SSL, enter the fully-qualified domain name.
   b. Click **Next**.

8. On the the HEAT Discovery Web Server page:
   a. In the HEAT Discovery Application Server field, enter the name of the HEAT Discovery dedicated server.
      - If you are not using SSL, enter the host name.
      - If you are using SSL, enter the fully-qualified domain name.
   b. Click **Finish**.
Configuring the Deployment on the Ivanti Service Manager Operations Console

- Configuring the Ivanti Service Manager Operations Console
- Creating the Staging and UAT Instances of the Tenants
- Making Configuration Changes to Tenants

Perform these steps from the Operations Console, which you installed in the staging/UAT environment.

<i>This section only contains brief, high-level instructions.</i>

For complete information about using the Operations Console, including how to log in, see the Operations Console User Guide for Ivanti Service Manager. See Related Documentation.

Configuring the Ivanti Service Manager Operations Console

To log into the Operations Consoles, do the following:

1. In the Start menu, click the down arrow to see the Apps menu, and then click HEAT Operations Console.

2. Enter your user name and password and then click Login.

<i>The default user name is admin and the default password is manage.</i>
3. Use the Operations Console to update the values for the Ivanti Service Manager application database by doing the following:

   a. Click the **Landscape** tab.
   
   b. Click **Database Server** on the left.
   
   c. Click **Add Database Server**.
   
   d. Enter a database login ID and password and set the data and backup locations. See the example values in **Figure 66**.
For the data and backup locations, change the application pool identity so that it has read access. See Figure 67.
See the *Working with Database Servers* section of the *Operations Console User Guide for Ivanti Service Manager* for complete details about editing a database server. See Related Documentation.

4. Delete the Ivanti Service Manager application databases on the staging and UAT instances of the tenant, by doing the following:

   a. Click the **Tenants** tab.
   
   b. Click **Expanded View** to view all the details about the tenants.
   
   c. Find the staging instance of the tenant and click **Deactivate**.
   
   d. Click **Deactivate** at the confirmation prompt.
   
   e. For the staging instance of the tenant, click **Delete**.
   
   f. Check **Skip Backup** and click **Delete** at the confirmation prompt.
g. Repeat steps c. through f. for the UAT instance of the tenant.

You now have three instances of the configuration database and a production instance of the tenant.

See the Editing a Tenant section of the Operations Console User Guide for Ivanti Service Manager Release 2017.1.1 for complete details about deleting tenants and tenant instances. See Related Documentation.

Creating the Staging and UAT Instances of the Tenants

To create the staging and UAT instances of the tenant, based on the production instance, do the following:

1. Log into the Operations Console.
2. Click the Tenants tab.
3. Navigate to the production instance of the tenant and click Manage Migration.
4. Create the staging instance of the tenant, by doing the following:
   a. In the migration dashboard, click Push which is located inside the arrow going from the production instance of the tenant to the staging instance of the tenant. See Figure 68.
Figure 68 -- Creating a Staging Instance of the Tenant

The system displays the Copy Production to Staging dialog box.

b. In the Target DB Option field, select From live MSSQL backup. See Figure 69.
5. Create the UAT instance of the tenant:
   a. In the migration dashboard, click **Push** which is located inside the arrow going from the production instance of the tenant to the UAT instance of the tenant. See Figure 68. The system displays the Copy Production to UAT dialog box.
   b. In the **Target DB Option** field, select **From live MSSQL backup**. See Figure 69.
   c. Click **Execute**.

You can now customize Ivanti Service Manager and use the Operations Console to push those customizations to the other instances of the tenant.

### Making Configuration Changes to Tenants

1. Log into the Operations Console.
2. Click the **Tenants** tab.
3. Make configuration changes in the staging instance of the tenant.
4. Push the configuration changes that you made in the staging instance of the tenant to the UAT instance of the tenant by doing the following:
a. Click **Push** which is located inside the arrow going from the staging instance of the tenant to the UAT instance of the tenant. See Figure 68. The system displays the Copy Staging to UAT dialog box.

b. You can use simple mode by leaving **Advanced Mode** unchecked, or you can use advanced mode by checking **Advanced Mode**. If you use advanced mode, select **Copy Configuration** in the **Operation** field and check your options. See Figure 69.

c. Click **Execute**.

5. Verify that the configuration changes that you made to the staging instance of the tenant (in step 3) were successfully migrated to the UAT instance of the tenant.

6. Make additional configuration changes in the staging instance of the tenant as needed.

7. After you have finished making configuration changes and have verified them, push the configuration changes from the UAT instance of the tenant to the production instance of the tenant.
Optional SSL Configuration

The HEAT Metrics Server is not compatible with SSL if your Ivanti Service Manager system has Windows authentication set up.

- About the SSL Configuration
- Configuring SSL for the Configuration and Application Databases
- Configuring SSL for the Application Database Only

About the SSL Configuration

For all fields in the System Configuration Wizard that ask for a server location, when using SSL, you must enter a fully-qualified domain name (FQDN). This is because SSL needs a certificate and the certificate authority requires an FQDN.

You can configure Ivanti Service Manager for SSL. This configuration is optional. There are three scenarios:

- The Ivanti Service Manager application database and the configuration database both use SSL. See Configuring SSL for the Configuration and Application Databases.
- The Ivanti Service Manager application database uses SSL but the configuration database does not use SSL. See Configuring SSL for the Application Database Only.
- Neither the Ivanti Service Manager application database nor the configuration database uses SSL. In this scenario, do not check SSL on any of the pages of the System Configuration Wizard.

Configuring SSL for the Configuration and Application Databases

To configure both your Ivanti Service Manager application database and the configuration database to use SSL, follow all of the steps in all of these sections:

- Before You Begin
- Configuring SSL in Microsoft IIS Manager
- Configuring SSL in the System Configuration Wizard

Before You Begin

- Ensure that https:\localhost:443 displays the Microsoft IIS Manager welcome page.
- Ensure that your system has a valid certificate.
Configuring SSL in Microsoft IIS Manager

1. In Microsoft IIS Manager, navigate to **Sites > Default Web Site** and select **SSL Settings**.
2. On the **SSL Settings** page, check **Require SSL** and under client certificates, select **Ignore**.
3. Navigate to **Sites > HEAT** and select **SSL Settings**.
4. On the **SSL Settings** page, check **Require SSL** and under client certificates, select **Ignore**.
5. Navigate to **Sites > CentralConfig** and select **SSL Settings**.
6. On the **SSL Settings** page, check **Require SSL** and under client certificates, select **Ignore**.
7. Navigate to **Sites > FRSSurveyProxy** and select **SSL Settings**.
8. On the **SSL Settings** page, check **Require SSL** and under client certificates, select **Ignore**.
9. Add an SSL port by doing the following:
   a. Navigate to **Sites > Default Web Site**, right click, and select **Edit Bindings**....
   b. Click **Add**....
   c. In the Add Site Binding dialog box, for the **Type** field, select **HTTPS** and in the **SSL certificate** field, select the certificate that you received from the certificate authority. The system automatically enters 443 for the port.
   d. In the **IP Address** field, enter a fully-qualified domain name.
   e. Click **OK**.
10. Verify that you can access https://fully_qualified_domain_name.

Configuring SSL in the System Configuration Wizard

1. In the System Configuration Wizard, on the **Configuration Application** page, ensure that the value in the **Configuration Server Domain Name** field uses a fully-qualified domain name. Do not use a machine name.
2. On the bottom of the Ivanti Service Manager Application page, ensure that you check **Use domain name to access HEAT Application** and enter a fully-qualified domain name for the Ivanti Service Manager application server. Do not use a machine name.
3. On the HEAT Application Server Settings page, do the following:
   - Ensure that you enter the fully-qualified domain name in the Configuration Server Location field.
   - Check Use SSL.
   - Enter the fully-qualified domain name in the Host Name field.
4. On the Other Feature Settings page, for the Ivanti Service Manager application server, check **Use SSL**.
5. On the HEAT Metrics Server page, check **Use SSL**.
Configuring SSL for the Application Database Only

To configure your Ivanti Service Manager application database to use SSL but not the configuration database, follow all of the steps in all three sections:

- **Before You Begin**
- **Configuring SSL in Microsoft IIS Manager**
- **Configuring SSL in the System Configuration Wizard**
Before You Begin

- Ensure that https:\localhost:443 displays the Microsoft IIS Manager welcome page.
- Ensure that your system has a valid certificate.

Configuring SSL in Microsoft IIS Manager

1. In Microsoft IIS Manager, navigate to Sites > Default Web Site and select SSL Settings.
2. On the SSL Settings page, ensure that Require SSL is not checked. Under client certificates, select Ignore.
3. Navigate to Sites > HEAT and select SSL Settings.
4. On the SSL Settings page, check Require SSL and under client certificates, select Ignore.
5. Navigate to Sites > CentralConfig and select SSL Settings.
6. On the SSL Settings page, ensure that Require SSL is not checked. Under client certificates, select Ignore.
7. Navigate to Sites > FRSSurveyProxy and select SSL Settings.
8. On the SSL Settings page, check Require SSL and under client certificates, select Ignore.
9. Add an SSL port by doing the following:
   a. Navigate to Sites > Default Web Site, right click, and select Edit Bindings....
   b. Click Add....
   c. In the Add Site Binding dialog box, for the Type field, select HTTPS and in the SSL certificate field, select the certificate that you received from the certificate authority. The system automatically enters 443 for the port.
   d. In the SSL certificate field, enter a fully-qualified domain name.
   e. Click OK.
10. Verify that you can access https://local_host.

Configuring SSL in the System Configuration Wizard

1. In the System Configuration Wizard, on the Ivanti Service Manager Application page, ensure that the Ivanti Service Manager application database uses a fully-qualified domain name and not a machine name. See
2. On the HEAT Application Server Settings page, do the following:

- Ensure that **Use SSL** is not checked.
- Ensure that you enter the fully-qualified domain name in the **Configuration Server Location** field.
- Ensure that you enter the host name, and not the fully-qualified domain name, in the **Host Name** field.
3. On the **Other Feature Settings** page, check **Use SSL**.

This is the *only* place in the System Configuration Wizard where you check **Use SSL**. Do *not* check **Use SSL** on any other page.
Figure 77 -- Other Feature Settings Page

The image shows the Other Feature Settings page of the System Configuration Wizard in the Ivanti Service Manager deployment guide. The page includes configuration settings for various servers and services, including HEAT Application Server, HEAT Message Queue Server, HEAT Integration Server, and HEAT Discovery Application Server. The HEAT Application Server settings are highlighted, showing the server name `SERVER2012.company.com`, port `443`, and a checkbox for using SSL.
Optional LDAP Configuration

Ivanti Service Manager supports LDAP. LDAP is configured from the Configuration Console.

After installation, go to the online help and view the topic called *Configuring LDAP Settings*. 
About Configuring with ADFS

Ivanti Service Manager supports ADFS. ADFS is configured from the Configuration Console.

After installing the system, go to the online help and view the topic called *Working with ADFS/SAML*.
About Configuring Throttling Settings

- About Throttling
- Configuring Outbound Throttling Settings

About Throttling

In Ivanti Service Manager, throttling is when the system intentionally slows the speed of web services. We use this process to regulate the network traffic and to minimize bandwidth congestion. When using web services, Ivanti Service Manager may limit the message rate, based on overall load. If you exceed the rate of 100,000 API calls per day, you may find your responses slowed to an appropriate rate. This helps ensure that you get a fair share of resources, and Ivanti Software can prevent unintended performance degradation from runaway integrations and denial of service attempts.

For more information about using the Ivanti Service Manager integration web services, go to the online help and view the topic called *Working with the HEAT Integration Web Service*.

Configuring Outbound Throttling Settings

In on-premise implementations, your web service use only affects your environment. If you exceed the recommended rate, you may see performance implications. You can adjust your outbound throttling thresholds to maximize performance. The hardware capacity of your system also affects the values that you set these parameters to.

The following are the outbound throttling parameters:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ResetRuntimeCacheExpectedTimeout</td>
<td>The amount of time, in ms, that the system allocates to reset the runtime cache operation. If it takes longer than this, the system moves the operation to the pending actions and marks the server as unhealthy.</td>
</tr>
<tr>
<td>ResetRuntimeCacheUnhealthyDelayTime</td>
<td>If the server is considered unhealthy, this is the amount of time, in ms, to delay things. After this amount of time has passed, the system executes the action.</td>
</tr>
<tr>
<td>PendingActionCleanupPeriod</td>
<td>How often, in ms, to clean up the pending actions that are stored in memory.</td>
</tr>
<tr>
<td>PendingActionsThreshold</td>
<td>The amount of memory, in bytes, used to store all of the pending actions. Whenever a pending action exceeds the timeout value, the system adds the action to the pending action collection in memory.</td>
</tr>
<tr>
<td>ThrottlingEnable</td>
<td>Turns on or off outbound throttling.</td>
</tr>
</tbody>
</table>

Change the throttling parameters as follows:
1. Navigate to the AppServer folder and open the web.config file using a text editor such as Notepad.

2. Search for and find the following strings:

   ```xml
   <!--Expected timeout on executing reset runtime cache action during throttling (value in milliseconds)-->  
   <add key="ResetRuntimeCacheExpectedTimeout" value="1000" />

   <!--Expected delaying on executing reset runtime cache before executing action in during throttling (value in milliseconds)-->  
   <add key="ResetRuntimeCacheUnhealthyDelayTime" value="5000" />

   <!--Expected period to clean up the pending actions (value in milliseconds)-->  
   <add key="PendingActionCleanupPeriod" value="300000" />

   <!--Expected size threshold of pending actions collection -->  
   <add key="PendingActionsThreshold" value="15728640" />

   <add key="ThrottlingEnable" value="true" />
   ```

3. Change the values as needed.

4. Save the file.

5. Perform a Microsoft IIS reset.
Logging into Ivanti Service Manager

- Logging In Using the Standard Login Dialog Box
- Logging In Using the Standard Login Dialog Box with an Application Menu
- Adding the Application Menu Option to the Standard Login Dialog Box

Logging In Using the Standard Login Dialog Box

The standard login dialog box enables you to access Ivanti Service Manager on the host that you are logged into now. You see this dialog box when you click the any of the following:

- The Ivanti Service Manager desktop shortcut
- The Windows apps menu shortcut

In the dialog box, enter your user name and password, and then click Login.

*Figure 78 -- Standard Login Dialog Box*

The default user name for Ivanti Service Manager is HEATAdmin. You created the password when you configured the application database. See Configuring the Ivanti Service Manager Application.

Logging In Using the Standard Login Dialog Box with an Application Menu

This login dialog box enables you to access the following:
The Ivanti Service Manager system on the host that you are logged into now.

- Individual tenants, such as staging or UAT, if you have more than one.
- The configuration database (ConfigDB).

**Figure 79 -- Logging In with the Application Menu**

In the dialog box, enter your user name and password, select an application, and click **Login**.

- The default user name for the configuration database (ConfigDB) is HSWAdmin. You chose the password when you created the database. See Configuring the Configuration Database.
- The default user name for Ivanti Service Manager is HEATAdmin. You chose the password when you created the application database. See Configuring the Ivanti Service Manager Application.

**Adding the Application Menu Option to the Standard Login Dialog Box**

To see the login dialog box with the application menu option (only for server-side login), do the following:

1. Go to C:\Program Files\HEAT Software\HEAT\AppServer\.
2. Right-click the HEAT.url file, and choose **Properties**.
3. Change the host name and port number to **localhost**. For example, change http://SERVER2012:80/HEAT to http://localhost/HEAT.
4. Click **OK**.
5. Open a directory window or a browser window and enter either localhost/HEAT or http://localhost/HEAT.
Adding Features and Changing Settings

- Adding and Deleting Features
- Changing Feature Settings by Running the System Configuration Wizard

Adding and Deleting Features

Adding features to or deleting features from an existing Ivanti Service Manager system is much easier than upgrading the system.

If you have an Enterprise Production Deployment, your action might apply to just one, some, or all of the servers, depending on the features that you are adding or deleting.

To add servers to your deployment, follow the instructions under Installing the Ivanti Service Manager System

To add features or delete features, do the following:

1. Access the installation folder on the Ivanti Software product CD or zip file and run IvantiServiceManager.exe. Right-click and select Run as Administrator to ensure proper installation.
   
   The installer checks for the prerequisite software components. If any of those components is not installed, the system prompts you to install them now.

2. Select Install at the prompt. Installation of the prerequisite software can take several minutes.

3. If you are prompted to restart the system, select Yes. The system displays the Welcome dialog box.

4. Click Next. The system displays the Program Maintenance dialog box.

5. Choose Modify and click Next. The system displays the Custom Setup dialog box.
6. Click the down arrow on each feature and make your selection.

Adding features requires more hard-drive space. If there is not enough space on your hard drive, the installer displays a message.

7. Click **Next** and then click **Install**.

The Ivanti Service Manager installation begins. The system displays a status dialog box showing the installation progress of each component over the next few minutes.

8. If you cancel the installation at any time, click **Finish** to close the installer.

When the components are installed, the system automatically launches the System Configuration Wizard.

9. Go to **Configuring Ivanti Service Manager** for instructions about using the System Configuration Wizard.
Changing Feature Settings by Running the System Configuration Wizard

To change settings without adding or deleting features, you do not need the Ivanti Software product CD or zip file.

1. In the Start menu, click the down arrow to see the Apps menu, and then click System Configuration Wizard.

   ![Note](image)
   
   You must click Run as administrator when you start the System Configuration Wizard manually.

2. Go to Configuring Ivanti Service Manager for instructions about using the System Configuration Wizard.
Upgrading Ivanti Service Manager from an Earlier Release

About Upgrading

About Upgrading from Earlier Releases
Upgrading from HEAT Service Management Release 2016.2.x
Upgrading from HEAT Service Management Release 2014.3 or Earlier

About Upgrading Landscapes

During an Ivanti Service Manager upgrade, you can upgrade the development (staging) or testing (UAT) landscapes and test them without affecting the production landscape. After you have verified that the development (staging) or testing (UAT) landscape upgrade was successful, go ahead with production landscape upgrade.

About Upgrading the Reporting Feature

You must upgrade both Ivanti Service Manager and the reporting feature at the same time. The versions of the software for both Ivanti Service Manager and the reporting feature must be the same.

About Upgrading Your Licenses

Versions of HEAT Service Management before Release 2015.1 used a different licensing structure. When you upgrade to Ivanti Service Manager Release 2017.1.1, the system automatically uses the licenses that you used in the previous release.

In the System Configuration Wizard, on the Configuration Application page, there are fields to enter the license files. The system populates these fields automatically based on your previous license file. See Configuring the Configuration Database.
About Upgrading the DSM Integration

If your Ivanti Service Manager deployment includes a DSM integration, you must configure and verify your DSM integration for the new release.

Although there is a DSM integration service component in the Ivanti Service Manager installer, it is only used for DSM integrations prior to HEAT Service Management Release 2015.2.

For DSM integrations after HEAT Service Management Release 2015.2, you must use the package from the Ivanti App Store.

After you have upgraded Ivanti Service Manager, access the Ivanti Software App Store and the DSM integration by doing the following:

1. Log into https://support.heatsoftware.com/.
2. Go to the Ivanti Software App Store by selecting App Store from the top menu.
3. From within the Ivanti Software App Store, open the DSM integration package.
5. Follow the instructions to configure and verify your DSM integration.

For more information about DSM, see Working with DSM in the online help and the DSM HEAT Integration – HEAT Desktop and Server Management Booklet. See Related Documentation.

About Upgrading from Earlier Releases

To upgrade to Ivanti Service Manager Release 2017.1.1, you must upgrade your system to every HEAT Service Management release between your currently installed release and Ivanti Service Manager Release 2017.1.1 in sequential order. See the table below.

<table>
<thead>
<tr>
<th>Upgrade From Release</th>
<th>Uninstall</th>
<th>Install Release</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013.1.x</td>
<td></td>
<td>2013.2.2</td>
</tr>
<tr>
<td>2013.2.x</td>
<td>The current HEAT Service Management version and the Inventory Management component, if present. See Uninstalling the Inventory Management Component.</td>
<td>2014.1.1</td>
</tr>
<tr>
<td>2014.1.x</td>
<td></td>
<td>2014.2.1</td>
</tr>
<tr>
<td>2014.2.x</td>
<td></td>
<td>2014.3.1</td>
</tr>
<tr>
<td>2014.3.x</td>
<td></td>
<td>2015.1</td>
</tr>
<tr>
<td>Upgrade From Release</td>
<td>Uninstall</td>
<td>Install Release</td>
</tr>
<tr>
<td>----------------------</td>
<td>-----------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>2015.1.x</td>
<td>Nothing.</td>
<td>2015.2</td>
</tr>
<tr>
<td>2015.2.x</td>
<td></td>
<td>2016.1</td>
</tr>
<tr>
<td>2016.1.x</td>
<td></td>
<td>2016.2</td>
</tr>
<tr>
<td>2016.2.x</td>
<td></td>
<td>2017.1.1</td>
</tr>
</tbody>
</table>

For example, if you are currently on HEAT Service Management Release 2014.1.x and you want to upgrade to HEAT Service Management Release 2017.1.1, you must do the following:

1. Uninstall HEAT Service Management Release 2014.1.x and the Inventory Management component, if present. See Uninstalling the Inventory Management Component.

2. Install HEAT Service Management Release 2014.2.x.


10. Install Ivanti Service Manager Release 2017.1.1

### Upgrading from HEAT Service Management Release 2016.2.x

If you are upgrading to Ivanti Service Manager Release 2017.1.1, you can just install it over HEAT Service Management Release 2016.2.x. You do not have to uninstall HEAT Service Management Release 2016.2.x.

If you have a multiple server environment, you must shut off the notifications to the web servers before you upgrade the system. This is because when you make metadata changes as part of the upgrade, the system tries to synchronize them, but because the versions are different, the system hangs or takes a lot of time. See step 2 below.

Perform these steps on the system that hosts the HEAT Service Management components:

1. Back up the following items:
   - HEAT Service Management Configuration Database (ConfigDB)
2. (Optional, if your system uses multiple servers) Deactivate the web servers by doing the following:
   a. Log into the Configuration Database. See the Configuration Database Guide for Ivanti Service Manager Release 2017.1.1 for information about using the configuration database. See Related Documentation.
   b. Open the Web Servers workspace. The system displays a list of web servers.
   c. Open a web server record.
   d. Uncheck Server is Active.
   e. Click Save.
   f. Repeat for all of the web servers.

3. Access the installation folder on the Ivanti product CD or zip file and run IvantiServiceManager.exe. Right-click and select Run as Administrator to ensure proper installation.
   
The installer checks for the prerequisite software components. If any of those components is not installed, the system prompts you to install them now.

4. Click Install at the prompt. Installation of the prerequisite software can take several minutes. If you are prompted to restart the system, click Yes.

5. In the Upgrade Confirmation dialog box, click Yes. The system displays the Welcome dialog box. The installer checks for space and other requirements before displaying the Next button.

6. In the Welcome dialog box, click Next. The system displays the License Agreement dialog box.

7. Choose I accept the terms in the license agreement and click Next. The system displays the Destination Folder dialog box.

8. Click Next to accept the default installation folder, or click Change and select a different folder. The system displays the Setup Type dialog box.

9. Your selection of features from the Setup Type dialog box depends on the role of the individual host in your deployment plan.
   - For the Demonstration or Proof-of-Concept Deployment, choose Complete, click Next, and install all components.
   - For the Minimum Production Deployment, choose Complete, click Next, and install all components.
   - For the Enterprise Production Deployment, your choice depends on the role of the host:
- **Production processing server**: Choose **Custom**, click **Next**, and install all components except for the Operations Console.
- **Staging or UAT processing servers**: Choose **Complete**, click **Next**, and install all components.
- **Web servers**: Choose **Custom**, click **Next**, and only install the Ivanti Service Manager application server.

For the **Enterprise Production Deployment**, note the following:

- If your deployment includes different processing servers for production, staging, and UAT, you must install the License Manager in every one of those landscapes.
- You can choose **Complete** and install all Ivanti Service Manager features on all of your servers, but doing that takes up more disk space than necessary.

When installing components, note the following:

- To not install a component, click the down arrow next to the server icon next to the category name, highlight the component, right click, and select **This feature will not be available**.
- If your deployment includes DSM, you do not need to install the DSM integration service because that component has been incorporated into HEAT Service Management since Release 2015.2.

10. Click **Next**. The system displays the **Ready to Install the Program** dialog box.

11. Click **Install**. The system begins installing Ivanti Service Manager and displays a status dialog box, showing the installation progress of each module over the next few minutes.

12. Click **OK** if the system displays a dialog box saying that reboot is required after installation.

13. If the system displays a dialog box saying that some of the files that need to be updated are currently in use, choose **Automatically close and attempt to restart applications** and click **OK**.

When the installation is completed, the system displays the **System Configuration Wizard**.

14. Go through the pages in the wizard making any changes that might be necessary.

![](image)

If you already have an existing administrator account, you do not need to create a new account. Just enter the information for your existing administrator account.

15. Notice that the system table version and metadata package version for the configuration database are not the latest versions.
16. Click Finish.

17. Restart the host server.

18. (Optional) If you also installed the Ivanti Service Manager reporting feature, you must upgrade it to the match the release number of your Ivanti Service Manager system. Access the installation folder on the Ivanti Software product CD or download folder and run ReportingService.exe to upgrade Ivanti Service Manager reporting feature.

19. Log in to the configuration database and activate the web servers that you deactivated in step 2.

Upgrading from HEAT Service Management Release 2014.3 or Earlier

- About Upgrading From HEAT Service Management Release 2014.3 or Earlier
- Uninstalling the Inventory Management Component

About Upgrading From HEAT Service Management Release 2014.3 or Earlier

Beginning with HEAT Service Management Release 2015.1, the Inventory Management component is known as HEAT Discovery. As a result, before you can upgrade to Ivanti Service Manager Release 2017.1.1, if you are upgrading from Release 2014.3 or earlier, you must first uninstall the Inventory Management component.

Uninstalling the Inventory Management Component

Perform these steps on the system that hosts HEAT Service Management:

1. Click the arrow at the bottom of the Start menu to view the Apps menu.

2. Mouse-over the Uninstall FrontRange... icons to find the one for the Inventory Management component.
3. Click **Uninstall FrontRange Solutions Inventory Management**.

4. In the confirmation dialog box, click **Yes**.
Using the License Manager

- About the License Manager
- Types of Licenses
- About License Bundles
- Using the License Manager

About the License Manager

Use the License Manager to track your license usage.

For the Demonstration or Proof-of-Concept Deployment and Minimum Production Deployment, the License Manager is installed on the Ivanti Service Manager server along with the other Ivanti Service Manager components.

For the Enterprise Production Deployment, the License Manager is installed on the Ivanti Service Manager processing servers along with the other Ivanti Service Manager components.

During installation, the System Configuration Wizard enabled you to import one production license, one non-production license, or both, depending on your landscape environment. You can import additional licenses, if needed. See Importing Licenses.

Types of Licenses

Ivanti Service Manager mainly uses production and non-production licenses:

<table>
<thead>
<tr>
<th>License Type</th>
<th>Description</th>
<th>Expiration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production</td>
<td>Used to access the production landscape of a tenant.</td>
<td>Does not expire unless the MAC address is unspecified. In that instance, the license expires after 30 days. If you move the license to a new server with a different MAC address, then you must acquire a new license tied to the new MAC address.</td>
</tr>
<tr>
<td>Development</td>
<td>A non-production license used to access the staging and UAT landscapes.</td>
<td>Expires according to the maintenance agreement between your organization and Ivanti Software.</td>
</tr>
<tr>
<td>License Type</td>
<td>Description</td>
<td>Expiration</td>
</tr>
<tr>
<td>--------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Not For Resale</td>
<td>A non-production license, mainly used by Ivanti Service Manager partners. It can also be used for staging, UAT, or testing if you already have development licenses.</td>
<td>Expires after 30 days if you do not specify the MAC address. After you set the MAC address, it expires according to the maintenance agreement between your organization and Ivanti Software.</td>
</tr>
<tr>
<td>Evaluation</td>
<td>A non-production license used by potential customers. Has the maximum number of named and concurrent user licenses.</td>
<td>Expires after 30 days. Is not associated with a MAC address.</td>
</tr>
</tbody>
</table>

There are two types of user licenses, for both production and non-production licenses:

- **Concurrent licenses**: For any user who is currently logged into the system. This is a shared pool of licenses. The concurrent license that is used is specified by the bundle that is specified for each role.

- **Named user licenses**: Specific to a certain user. The user can log in to the system from many places at one time and it is counted as only one license. You specify which users are named users in the employee record, and you can change which employees get a named user license at any time.

## About License Bundles

- **List of License Bundles and Components**
- **Assigning a Bundled License to a Role**
- **License Tracking in Ivanti Service Manager**

Ivanti Service Manager has defined several license bundles, which are sets of modules, or user interfaces. Each role is associated with a license bundle.

## List of License Bundles and Components

<table>
<thead>
<tr>
<th>License Bundle</th>
<th>Components</th>
</tr>
</thead>
<tbody>
<tr>
<td>HelpDesk</td>
<td>Knowledge</td>
</tr>
<tr>
<td></td>
<td>Incident</td>
</tr>
<tr>
<td></td>
<td>Problem</td>
</tr>
<tr>
<td></td>
<td>Self Service</td>
</tr>
<tr>
<td></td>
<td>Service Catalog</td>
</tr>
</tbody>
</table>
The following are considered license add-on modules:

<table>
<thead>
<tr>
<th>Add-on Module</th>
<th>Components</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discovery</td>
<td>HEAT Discovery</td>
</tr>
<tr>
<td>Voice</td>
<td>Voice</td>
</tr>
<tr>
<td>Mobile</td>
<td>HEAT Mobile</td>
</tr>
</tbody>
</table>

Assigning a Bundled License to a Role

To assign a bundled license to a role, follow the procedure in the "Assigning a Bundled License to a Role" topic in the Ivanti Service Manager online help. By default, roles do not have a license bundle associated with them.
so you must assign a license bundle to each role manually. If you do not, you may get license violation errors logged in your system even though you have the correct licenses.

If you have imported licenses but do not see the correct license bundles displayed in the Configuration Console, clear the validation cache.

Go to Configure > Cache Management and then click **Reset cached validation lists only**.

See the Ivanti Service Manager online help for more information.

**License Tracking in Ivanti Service Manager**

You cannot use Ivanti Service Manager unless you have a license. When you purchased Ivanti Service Manager, you also purchased a set number of licenses. If needed, you can purchase additional licenses.

If you consume more seats than you have licenses for, the system does not log you out. It does, however, log an event into a log file. For example, if you have 10 concurrent licenses and try to log in 11 times, the system allows it.

Due to the way that web browsers work, it is very possible for one user to consume more than one license. For example, if a user logs in to Ivanti Service Manager using Microsoft Internet Explorer and then opens Google Chrome and logs in again, another license is consumed. If this happens, the system logs a license violation error that you can view in the License Manager in the System Audit Information workspace.

**Using the License Manager**

- Logging Into the License Manager
- Configuring Landscape Information
- Importing Licenses
- Viewing the HEAT Discovery Node Count
- Viewing the Active Licenses
- Configuring the Email Address for Notifications
- Configuring the SMTP Settings
- Working with Scheduled Jobs
- Viewing Reports

**Logging Into the License Manager**

The License Manager uses the same credentials that are used to access the configuration database.

To log into the License Manager, follow these steps:
1. In the Start menu, click the down arrow to see the Apps menu, and then click License Server.

2. Select a landscape.

3. Enter your user ID and password. This is the same user ID and password that you use for the configuration database.

4. Click Continue.

Figure 81 -- License Manager Log In Screen

Configuring Landscape Information

You can create, edit, and delete information about the landscapes to which the License Manager is associated.

1. Log into the License Manager.

2. Click either Configure Landscapes in the top right corner of the login page or click Configure Landscape Information from any page in the License Manager. The system opens a new browser window and displays the Enter Landscape Information page.
3. To allow the Operations Console to use this landscape, check **Used by the Operations Console** on the line associated with the landscape.

   The Operations Console can only use one landscape at a time.

4. To edit the information for an existing landscape, do the following:
   a. Click **Edit** on the line associated with the landscape. The system displays the **Edit Landscape** page.
   b. Make changes as needed.
   c. Click **Save**.

5. To delete the landscape information, do the following:
   a. Click **Delete** on the line associated with the landscape.
   b. Click **Delete** at the confirmation message.

6. When you configured Ivanti Service Manager using the System Configuration Wizard, the system automatically created a link to the landscape.

   Therefore, in general, you do not need to add a link to a landscape. However, if you do need to add a new link to a landscape, follow these steps:
   a. Click **Create New**. The system displays the **Create Landscape** page.
   b. In the **ConfigService API URL** field, enter the URL of the configuration server.
c. Check **Used by the Operations Console** if the system should use this link to connect with the Operations Console. The Operations Console can only connect to one landscape.

d. Click **Load Landscape Types** and then select a landscape from the drop-down list.

e. Click **Create**.

**Importing Licenses**

When you initially configured the License Manager in the System Configuration Wizard, you imported either one production license file, one non-production license file, or both. (See Configuring Ivanti Service Manager.)

If your deployment has multiple License Managers, when you import a license, ensure that you are importing it on the server that has the same MAC address as the license file.

For example, say you installed License Managers on the following:

- Application Server 1 with a MAC address of AA:10:23:10:00
- Application Server 2 with a MAC address of BB:10:23:10:00

Then you ask for and receive a production license for MAC address AA:10:23:10:00. You import the license from the License Manager that is installed on Application Server 1. After you have imported the license, the License Managers on both Ivanti Service Manager application servers respect the license. You do not need a second license for the second Application Server.

To import additional license files, follow these steps:

1. Log into the License Manager.

2. Click **Licensing > Import License Files**. The system displays the Licensing - Import License Files page.
3. Click **Upload License File**

4. Navigate to and select a license file and click **Open**.

   The system adds the license to the system. This page shows the following information:

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>File Name</td>
<td>The name of the license file that you uploaded.</td>
</tr>
<tr>
<td>Expiration Date</td>
<td>The expiration date of the license file.</td>
</tr>
<tr>
<td>MAC Address</td>
<td>The MAC address associated with the license file.</td>
</tr>
<tr>
<td>Self Service</td>
<td>Self Service is the bundle name. The number of Self Service licenses contained in the license file. Broken into concurrent and named licenses.</td>
</tr>
<tr>
<td>Service Catalog</td>
<td>Service Catalog is the bundle name. The number of Service Catalog licenses contained in the license file. Broken into concurrent and named licenses.</td>
</tr>
<tr>
<td>Service Management</td>
<td>Service Management is the bundle name. The number of Service Management licenses contained in the license file. Broken into concurrent and named licenses.</td>
</tr>
</tbody>
</table>

5. Click the **delete** icon to remove the license file and its associated licenses from the License Manager.

6. Click the **show details** icon 🕵️ to display the details. The details contain the following information:
<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bundle</td>
<td>The name of the bundle.</td>
</tr>
<tr>
<td>Name</td>
<td>The name of the module.</td>
</tr>
<tr>
<td>Named Licenses</td>
<td>The number of named licenses contained in the license file.</td>
</tr>
<tr>
<td>Concurrent Licenses</td>
<td>The number of concurrent licenses contained in the license file.</td>
</tr>
<tr>
<td>Expiration Date</td>
<td>The date when the license expires.</td>
</tr>
</tbody>
</table>

If your deployment only has one tenant, the information displayed here is the same as in the List of imported license files section.

If your deployment has more than one tenant, this table displays the license distribution across the tenants.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tenant</td>
<td>The name of the tenant.</td>
</tr>
<tr>
<td>Self Service</td>
<td>The number of Self Service licenses allocated per tenant. Broken into concurrent and named licenses.</td>
</tr>
<tr>
<td>Service Catalog</td>
<td>The number of Service Catalog licenses allocated per tenant. Broken into concurrent and named licenses.</td>
</tr>
<tr>
<td>Service Management</td>
<td>The number of Service Management licenses allocated per tenant. Broken into concurrent and named licenses.</td>
</tr>
</tbody>
</table>

7. To distribute licenses among multiple tenants, click in a cell and change the number of licenses to allocate to a tenant. The total number of licenses across the tenants cannot exceed the total number of licenses. See Figure 84.

**Figure 84 -- Allocating Licenses Across Tenants**

---

Viewing the HEAT Discovery Node Count

This information tracks the trend associated with the HEAT Discovery licenses and is based on the HEAT Discovery Count scheduled job.

1. Log in to the License Manager.
2. Click **Licensing > HEAT Discovery**. The system displays the **Licensing - HEAT Discovery** page.

This page shows the following information:

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tenant Name</td>
<td>The name of the tenant.</td>
</tr>
<tr>
<td>Last Scan Date</td>
<td>The date and time when the job was run.</td>
</tr>
<tr>
<td>Nodes Count</td>
<td>The number of configuration items found during the job.</td>
</tr>
</tbody>
</table>

### Viewing the Active Licenses

This page displays the active sessions on Ivanti Service Manager. It does not show active sessions on the configuration database.

1. Log in to the License Manager.

2. Click **Licensing > Active Licenses**. The system displays the **Licensing - Active Licenses** page.

   **Figure 85 -- Active Licenses Page**

3. Select a tenant from the drop-down list. This page shows the following information:

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Session ID</td>
<td>The session ID associated with the logged-in user.</td>
</tr>
<tr>
<td>User</td>
<td>The user name of a logged-in user.</td>
</tr>
<tr>
<td>Role</td>
<td>The role with which the user is logged in.</td>
</tr>
<tr>
<td>Bundle Name</td>
<td>The bundle associated with the license associated with the user. See About License Bundles.</td>
</tr>
<tr>
<td>Add-On Modules</td>
<td>Any add-on modules associated with the bundle. See About License Bundles.</td>
</tr>
<tr>
<td>License Taken Time</td>
<td>The time when the system used the license.</td>
</tr>
<tr>
<td>License Type</td>
<td>The license type. Can be named or concurrent.</td>
</tr>
</tbody>
</table>
Configuring the Email Address for Notifications

1. Log in to the License Manager.

2. Click Configuration > Email Address. The system displays the Configuration - Email Address page.

   Figure 86 – Email Address Page

3. Enter the following information:

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Email address to use when sending emails from the License Server</td>
<td>The email address to use as the FROM email address for emails sent from the License Manager.</td>
</tr>
<tr>
<td>Email address to use when sending emails to Ivanti Software</td>
<td>The email address to use as the TO email address for emails sent from the License Manager to Ivanti Software. The system sends license usage information based on the License Violation Notification to Frs scheduled job.</td>
</tr>
<tr>
<td>Email address to use when sending emails to the system administrator</td>
<td>The email address to use as the TO email address for emails sent from the License Manager to the system administrator of your organization. The system sends license usage information based on the License Violation Notification to Admin scheduled job.</td>
</tr>
</tbody>
</table>

4. Click Save.
Configuring the SMTP Settings

Use this page to view and edit the SMTP settings used to send emails. The information on this page comes from the System Configuration Wizard.

1. Log into the License Manager.

2. Click **Configuration > SMTP Setting**. The system displays the **Configuration - SMTP Setting** page.

*Figure 87 -- SMTP Setting Page*

The system displays the following information:

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Host</td>
<td>The email server host.</td>
</tr>
<tr>
<td>Port</td>
<td>The port associated with the email server.</td>
</tr>
<tr>
<td>Account</td>
<td>The account associated with this tenant. This is the same as the value in the Username field on the Email Configuration workspace in the Service Desk Console.</td>
</tr>
<tr>
<td>Domain</td>
<td>The domain associated with the account.</td>
</tr>
<tr>
<td>Use SSL</td>
<td>Specifies if this account should use SSL.</td>
</tr>
</tbody>
</table>

3. Select a tenant from the **Tenant** drop-down list.

4. Check **Use this setting for Email Notifications** to use these SMTP settings for emails.

5. Click **Save**.
Working with Scheduled Jobs

The License Manager has several predefined scheduled jobs. These are used to send information to the administrator on a regular basis instead of sending an email every single time there is an event. All violations are listed on the System Audit Information page.

The following are the predefined scheduled jobs that cannot be changed:

- **License Capacity Allocation Notification Job**: Determines if your licenses are valid and that you actually have the licenses that you are allocating.
- **Named License Violation**: Determines if you have more users listed as named users than you have named user licenses.
- **Data Integrity Verification**: Determines if the licenses have been modified.
- **HEAT Discovery Count**: Determines if the licenses for your configuration items are valid.

The following are the predefined scheduled jobs that you can edit:

- **License Violation Notification to FRS**: Sends an email to Ivanti Software with information about license violations. By default, this job is disabled.
- **License Violation Notification to Admin**: Sends an email to your system administrator with information about license violations.

1. Log in to the License Manager.
2. Click **System Jobs**. The system displays the System Jobs - Scheduled Jobs page.

Figure 88 -- Scheduled Jobs Page
This page contains the following information:

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module</td>
<td>The name of the module. Can be either LicenseCore or HeatModule.</td>
</tr>
<tr>
<td>Job</td>
<td>The name of the job.</td>
</tr>
<tr>
<td>Enabled</td>
<td>Specifies if the scheduled job is enabled.</td>
</tr>
<tr>
<td>Start Date</td>
<td>The start date of this scheduled job.</td>
</tr>
<tr>
<td>Start Time</td>
<td>The start time of this scheduled job.</td>
</tr>
<tr>
<td>Next Run Date and Time</td>
<td>The next date and time when the scheduled job runs.</td>
</tr>
<tr>
<td>Recur Every</td>
<td>The time period for the recurrence. Can be day, hour, or minute.</td>
</tr>
<tr>
<td>Interval</td>
<td>The interval for the recurrence.</td>
</tr>
</tbody>
</table>

For each entry, the system displays additional information at the bottom of the page:

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module</td>
<td>The name of the module. Can be either LicenseCore or HeatModule.</td>
</tr>
<tr>
<td>Job</td>
<td>The name of the job.</td>
</tr>
<tr>
<td>Run Time</td>
<td>The date and time when the scheduled job was run.</td>
</tr>
<tr>
<td>Details</td>
<td>Details of the job. If the job is not successful, contains detailed information.</td>
</tr>
</tbody>
</table>

3. To see the job details in a larger format, click the show details icon at the end of the row.
4. You can edit the details associated with the License Violation Notification To Frs and the License Violation Notification to Admin scheduled jobs.

To edit a scheduled job, do the following:

a. Click the Edit icon at the end of the row. The system displays a dialog box.

b. Enter or change any of the following information:

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job</td>
<td>The name of the scheduled job. You cannot change this name.</td>
</tr>
<tr>
<td>Description</td>
<td>A description of the scheduled job.</td>
</tr>
<tr>
<td>Start Date</td>
<td>The start date and time.</td>
</tr>
<tr>
<td>Enabled</td>
<td>Specifies if the scheduled job is enabled.</td>
</tr>
<tr>
<td>Next Run Date Time</td>
<td>The next date and time when the scheduled job runs.</td>
</tr>
<tr>
<td>Recur Every</td>
<td>Specifies the recurrence for this job.</td>
</tr>
</tbody>
</table>
Viewing Reports

You can view two types of reports in the License Manager:

- System audit information
- Logs

Follow these steps to view the reports.

1. Log in to the License Manager.
2. Click Reports.
3. To view the system audit information, click System Audit Information. The system displays the Reports - System Audit Information page. See Figure 89. Examples of the information on this page include license upgrades and license violations.

We recommend that you review the information on this page if you have any problems and then review the information on the Log page. See Figure 90.

Figure 89 – System Audit Information Page

This page contains the following information:

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tenant Name</td>
<td>The name of the tenant.</td>
</tr>
<tr>
<td>Event Log Date and Time</td>
<td>The date and time of the log event.</td>
</tr>
<tr>
<td>Subsystem</td>
<td>The specific area. Can be license violation, license upgrade, or data integrity service.</td>
</tr>
<tr>
<td>Field</td>
<td>Description</td>
</tr>
<tr>
<td>-----------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Class</td>
<td>The type of information. Can be warning, info, debug, fatal, or error.</td>
</tr>
<tr>
<td>Title</td>
<td>A short description of the event.</td>
</tr>
<tr>
<td>Details</td>
<td>A longer description of the event.</td>
</tr>
<tr>
<td>Operation Result</td>
<td>The result of the operation. Can be success or failure.</td>
</tr>
</tbody>
</table>

If you cannot see all of the columns, resize the columns that you can see so that the remaining columns are displayed.

4. Click the show details icon at the end of the row to see the details. If you cannot see the Show Details icon, resize the columns until it is displayed.

5. To view log information, click Log. The system displays the Reports - Log page. Use this information for troubleshooting.

**Figure 90 -- Log Page**

<table>
<thead>
<tr>
<th>Subsystem</th>
<th>Event log Time</th>
<th>Details</th>
<th>Log type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Named License Violation</td>
<td>10/9/2015, 10:08:14 AM</td>
<td>System.InvalidOperationException: Collection was modified; enumeration operation is not supported.</td>
<td>Error</td>
</tr>
<tr>
<td>Import License</td>
<td>10/9/2015, 10:06:29 AM</td>
<td>Updating Named Bundles in the TenantsSERVER2012 database.</td>
<td>Info</td>
</tr>
<tr>
<td>Named License Violation</td>
<td>10/8/2015, 12:19:44 PM</td>
<td>System.InvalidOperationException: Collection was modified; enumeration operation is not supported.</td>
<td>Error</td>
</tr>
<tr>
<td>Email Notification</td>
<td>10/8/2015, 11:05:42 AM</td>
<td>Unable to send email with Subject: production - HEAT Service Management - ...</td>
<td>Info</td>
</tr>
<tr>
<td>Import License</td>
<td>8/26/2015, 7:51:54 AM</td>
<td>Updating Named Bundles in the TenantsSERVER2012 database.</td>
<td>Info</td>
</tr>
<tr>
<td>Named License Violation</td>
<td>8/26/2015, 7:41:29 AM</td>
<td>System.ArgumentNullException: Value cannot be null. Parameter name: url a...</td>
<td>Error</td>
</tr>
<tr>
<td>Import License</td>
<td>8/26/2015, 7:07:44 AM</td>
<td>Updating Named Bundles in the TenantsSERVER2012 database.</td>
<td>Info</td>
</tr>
<tr>
<td>Import License</td>
<td>8/26/2015, 7:07:09 AM</td>
<td>Updating total license counts in Config08 for the TenantsSERVER2012 with n...</td>
<td>Info</td>
</tr>
<tr>
<td>License Upgrade</td>
<td>8/26/2015, 7:08:55 AM</td>
<td>End Upgrade file:</td>
<td>Info</td>
</tr>
<tr>
<td>License Upgrade</td>
<td>8/26/2015, 7:06:55 AM</td>
<td>Start Upgrade file:</td>
<td>Info</td>
</tr>
<tr>
<td>Import License</td>
<td>8/26/2015, 7:06:54 AM</td>
<td>Importing License file: USA-ServiceManagement-TC54-42651-54-UNSPECIFIED...</td>
<td>Info</td>
</tr>
<tr>
<td>Configuration Service</td>
<td>8/26/2015, 6:22:00 AM</td>
<td>System.NullReferenceException: Object reference not set to an instance of a...</td>
<td>Error</td>
</tr>
</tbody>
</table>

This page contains the following information:

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subsystem</td>
<td>The name of the subsystem. Can be email notification, import license, license upgrade, named license violation, or configuration service.</td>
</tr>
<tr>
<td>Field</td>
<td>Description</td>
</tr>
<tr>
<td>-------------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>Event Log Time</td>
<td>The time and date of this log event.</td>
</tr>
<tr>
<td>Details</td>
<td>Information about this log event.</td>
</tr>
<tr>
<td>Log Type</td>
<td>The type of log. Can be info, error, or warning.</td>
</tr>
</tbody>
</table>

6. To see the log details in a larger format, click the show details icon at the end of the row.
Troubleshooting
If you have problems with your installation or deployment, check this section first.

- Error Messages
- Software Problems

Error Messages
- Login Errors
- Upgrade Errors
- Backup Error
- Database Migration Errors
- Microsoft SQL Execution Errors
- Update Key Not Found Warnings
- Workflow Warnings

Login Errors

<table>
<thead>
<tr>
<th>Error Message</th>
<th>Possible Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Error upon executing commands: The following error occurred when authenticating with the tenant &lt;tenantUrl&gt;. Status: TenantNotFound</td>
<td>The tenant that you specified is invalid.</td>
<td>Ensure that the tenant URL and tenant ID are valid.</td>
</tr>
<tr>
<td>Error upon executing commands: The following error occurred when authenticating with the tenant &lt;tenantUrl&gt;. Status: AccessDenied</td>
<td>You entered an invalid user name or password.</td>
<td>Ensure that the user name and password are valid.</td>
</tr>
</tbody>
</table>
**Error Message**

Error upon executing commands: The following error occurred when authenticating with the tenant APPSERVER.
Status: InvalidRole

**Possible Cause**

You do not have administrator rights.

**Solution**

Ensure that you have administrator rights. See About Roles.

---

**Error Message**

Error upon executing commands: Could not establish trust relationship for the SSL/TLS secure channel with authority '<IP_address>'

**Possible Cause**

You did not connect to the Ivanti Service Manager application server using HTTPS.

**Solution**

Configure the Ivanti Service Manager application server to use SSL. See Optional SSL Configuration. Enter the URL for the Ivanti Service Manager application server that is configured to use SSL.

---

**Error Message**

Failed to execute applyPatch: The remote server returned an unexpected response: (400) Bad Request.

**Possible Cause**

The database version is not up to date.

**Solution**

If the system table upgrade fails, review the log files and fix any metadata issues. Then upgrade the system table.

---

**Problem**

Cannot view the login dialog box. A message says:
Please use your subdomain when accessing the application, for example https://yourname.saas.heatsoftware.com

Possible Cause

The web.config file parameter "RequireTenantIdInURL" value is set to true.

Solution

1. Go to C:\Program Files\HEAT Software\HEAT\AppServer\ and open the web.config file.
2. Search for the parameter "RequireTenantIdInURL" and change its value to false.
3. Save and close the web.config file.

Upgrade Errors

Problem

After upgrading to Ivanti Service Manager Release 2017.1.1, the list of tenants in the Operations Console is empty.

Possible Cause

During the upgrade, the system updated the connection strings for the landscape with the incorrect name for the data source.

Solution

In the Operations Console, edit each landscape to update the data source to the correct database server name. See Upgrading Ivanti Service Manager from an Earlier Release for more information on how to do this.

Error Message

Failed to execute applyPatch: The request channel timed out while waiting for a reply after 00:59:59.7741622. Increase the timeout value passed to the call to request or increase the SendTimeout value on the binding. The time allotted to this operation may have been a portion of a longer timeout.
Possible Cause

By default, the upgrade tool is set to wait for one hour for a response from the Ivanti Service Manager application server. This message indicates that the Ivanti Service Manager application server is still applying the patch or package. The patch can be completed at any time.

Solution

Check the status of the upgrade tool later by looking at the patch log in the Configuration Database.

Backup Error

Error Message

No database backup location specified in configuration database. Please contact support. Backup failed for Server 'db_server'.

Possible Cause

- The backup location is not set in the configuration database.
- The backup failed to execute because of permissions issues.

Solution

Ensure that you have set the backup location and ensure that you have the correct permissions.

Database Migration Errors

Error Message

Error during metadata commit operation: System.Exception: The following errors were encountered when synchronizing the schema...

Possible Cause

This indicates a serious problem in business object metadata and is a synchronization schema error. The system cannot synchronize the database schema change with the business object definition. If you get this error, the system usually stops upgrading the metadata.
Solution

If this happens in your production environment, restore the database from a backup that was made before the upgrade. Then contact Ivanti support so that they can look into the error. See How to Contact Us.

Error Message

Error during metadata commit operation: DataLayer.SaaSDBException: Invalid object name 'Frs_ITFM_Account_Status'. ---> System.Data.SqlClient.SqlException: Invalid object name 'Frs_ITFM_Account_Status'.

Possible Cause

Part of the database is corrupt.

Solution

Contact Ivanti Software support. See How to Contact Us. They may suggest that you restore the database from a backup that was made before the upgrade.

Error Message

Error during metadata commit operation:
System.Reflection.TargetInvocationException: Exception has been thrown by the target of an invocation. ---> System.NullReferenceException: Object reference not set to an instance of an object.

Possible Cause

Part of the database is corrupt.

Solution

Contact Ivanti Software support. See How to Contact Us. They may suggest that you restore the database from a backup that was made before the upgrade.
Microsoft SQL Execution Errors

Error Message

An error occurred when applying patch named <some_filename>.sql in package <some_package>.MetadataPackage to tenant <tenantUrl>.
Unable to execute SQL due to Invalid column name 'IPCMUrlPort':
update FRS_IPCM_Integration set IPCMUrlPort = 2323 where IPCMUrlPort is null
Unable to execute SQL due to Invalid column name 'IPCMUrl':
update FRS_IPCM_Integration set IPCMUrl = 'http://' + IPCMServerHost + ':' + convert(varchar(6), IPCMUrlPort) where IPCMUrl is null and IPCMServerHost is not null

Possible Cause

An embedded Microsoft SQL statement is corrupt.

Solution

Review the Microsoft SQL statements.

Update Key Not Found Warnings

Error Message – Business Object

Error during metadata update operation. MetadataType: BusinessObject, ID: Frs_AuthenticationProvider#
SaaS.StandardizedMetadata.UpdateKeyNotFoundException: Update key not found: key = Rel2s
at SaaS.StandardizedMetadata.MetadataExtensions.Patch(XElement element, XElement differences)
at DataLayer.MetadataPatch.ApplyGroupedActions(IMetadataProvider provider, ISessionContext sessionContext, IEnumerable`1 definitionGroup) in c:\depot\Eng\SaaS\main\Platform\AppServer\MetadataServices\MetadataPatch.cs: line 1034

Possible Cause

There is a problem updating the metadata and the system did not update the business object.

Solution

Review the business object to make sure it was updated.
**Error Message – Form**

Error during metadata update operation. MetadataType: Form, ID: Task.WorkOrder System.Exception: Update key not found: key = Details
at SaaS.StandardizedMetadata.MetadataExtensions.Patch(XElement element, XElement differences) in
c:\depot\Eng\SaaS\main\Platform\StandardizedMetadata\MetadataExtensions.cs:line 1377
at SaaS.StandardizedMetadata.MetadataExtensions.Patch(XElement element, XElement differences) in
c:\depot\Eng\SaaS\main\Platform\StandardizedMetadata\MetadataExtensions.cs:line 1359
at DataLayer.MetadataPatch.ApplyGroupedActions(IMetadataProvider provider, ISessionContext sessionContext, IEnumerable`1 definitionGroup) in
c:\depot\Eng\SaaS\main\Platform\AppServer\MetadataServices\MetadataPatch.cs:line 1016

**Error Message – Dashboard**

Error during metadata update operation. MetadataType: Dashboard, ID: 8e2cce05-c593-4545-bf4d-5f719a9bd5a5 System.Exception: Update key not found: key = OLA Target Compliance ( e94a602f-959e-4cf1-9c07-be4d5eb0da68 )
at SaaS.StandardizedMetadata.MetadataExtensions.Patch(XElement element, XElement differences) in
c:\depot\Eng\SaaS\main\Platform\StandardizedMetadata\MetadataExtensions.cs:line 1377
at SaaS.StandardizedMetadata.MetadataExtensions.Patch(XElement element, XElement differences) in
c:\depot\Eng\SaaS\main\Platform\StandardizedMetadata\MetadataExtensions.cs:line 1359
at DataLayer.MetadataPatch.ApplyGroupedActions(IMetadataProvider provider, ISessionContext sessionContext, IEnumerable`1 definitionGroup) in
c:\depot\Eng\SaaS\main\Platform\AppServer\MetadataServices\MetadataPatch.cs:line 1016
Error Message – Validation Data

Error during metadata update operation. MetadataType: ValidationData, ID: Justification# System.Exception: Update key not found: key = Justification#_culture#pt-BR
at SaaS.StandardizedMetadata.MetadataExtensions.Patch(XElement element, XElement differences) in
c:\depot\Eng\SaaS\main\Platform\StandardizedMetadata\MetadataExtensions.cs:line 1377
at SaaS.StandardizedMetadata.MetadataExtensions.Patch(XElement element, XElement differences) in
c:\depot\Eng\SaaS\main\Platform\StandardizedMetadata\MetadataExtensions.cs:line 1359
at SaaS.StandardizedMetadata.MetadataExtensions.Patch(XElement element, XElement differences) in
c:\depot\Eng\SaaS\main\Platform\StandardizedMetadata\MetadataExtensions.cs:line 1359
at DataLayer.MetadataPatch.ApplyGroupedActions(IMetadataProvider provider, ISessionContext sessionContext, IEnumerable\'1 definitionGroup) in
c:\depot\Eng\SaaS\main\Platform\AppServer\MetadataServices\MetadataPatch.cs:line 1016

Error Message – Rule

Error during metadata update operation. MetadataType: Rule, ID: Incident# System.Collections.Generic.KeyNotFoundException: The given key was not present in the dictionary.
at System.Collections.Generic.Dictionary\'2.get_Item(TKey key)
at SaaS.StandardizedMetadata.MetadataExtensions.Patch(XElement element, XElement differences) in
c:\depot\Eng\SaaS\main\Platform\StandardizedMetadata\MetadataExtensions.cs:line 1386
at SaaS.StandardizedMetadata.MetadataExtensions.Patch(XElement element, XElement differences) in
c:\depot\Eng\SaaS\main\Platform\StandardizedMetadata\MetadataExtensions.cs:line 1359
at DataLayer.MetadataPatch.ApplyGroupedActions(IMetadataProvider provider, ISessionContext sessionContext, IEnumerable\'1 definitionGroup) in
c:\depot\Eng\SaaS\main\Platform\AppServer\MetadataServices\MetadataPatch.cs:line 1016
**Possible Cause**

There is a problem updating the metadata.

**Solution**

You do not need to do anything.

---

**Workflow Warnings**

**Error Messages**

```
Error during metadata delete operation. MetadataType: Workflow, ID: 69d31c7248b54f92bc1bfff415cd29e0f System.Exception: Could not deactivate workflow definition RecId: 69d31c7248b54f92bc1bfff415cd29e0f ---> System.Exception: Error updating existing active workflow definition to inactive, RecId 69d31c7248b54f92bc1bfff415cd29e0f
at SaaS.WebUI.WorkflowMetadataServices.WorkflowMetadataUpdate.Delete (MetadataType metadataType, String id) in c:\depot\Eng\SaaS\main\Platform\AppServer\BPE\src\WorkflowMetadataServices.cs:line 409
Error during metadata insert operation. MetadataType: Workflow, ID: 871d9466c4754fa19ffbo3de179cd057 System.Exception: Inactive definition exists with the same RecId: Name:LDAP Sync_LC_133k134k135k14k15k16k17k18k19k, ObjectType:ScheduleEntry, Definition RecId 871d9466c4754fa19ffbo3de179cd057 at SaaS.WebUI.WorkflowMetadataServices.WorkflowMetadataUpdate.CreateWorkflowDefinition(String name, String objectType, String defRecId, String typeRecId, XElement workflow) at SaaS.WebUI.WorkflowMetadataServices.WorkflowMetadataUpdate.Insert (MetadataType metadataType, XElement workflow) at SaaS.StandardizedMetadata.MetadataProvidersContainer.Insert(MetadataType metadataType, XElement definition) at DataLayer.MetadataPatch.ApplyGroupedActions(IMetadataProvider provider, ISessionContext sessionContext, IEnumerable`1 definitionGroup)
```

**Possible Cause**

There is a problem updating the workflows.

**Solution**

You do not need to do anything.
Software Problems

- HEAT Discovery cannot detect assets on the network.
- System cannot search.
- The Ivanti Service Manager demo database does not load properly.
- Web servers do not work correctly.
- Provision report now returns an exception: Cannot Decrypt the Symmetric Key.
- Dashboard and report controls (such as charting, pivoting, and copy/paste) and the Service Catalog attachment control do not work.
- Cannot download or edit reports in Chrome.
- Cannot download or edit reports in Firefox.
- Cannot download files or run controls in Internet Explorer.
- Cannot open websites in Internet Explorer.
- Logging into a tenant using Internet Explorer fails.
- Unable to use integrated components, such as Voice.

**Problem**

HEAT Discovery cannot detect assets on the network.

**Possible Causes**

- Service Center Configuration Manager (SCCM) service is stuck in starting mode.
- You are using a domain account for running all Ivanti Service Manager services but the domain account has insufficient rights.

**Solution**

Use your local system account and restart Ivanti Service Manager.

**Problem**

System cannot search.

**Possible Cause**

Full-text search is disabled.
**Solution**

Enable full-text search. See [Enabling Full-Text Search](#).

**Problem**

The Ivanti Service Manager demo database does not load properly.

**Possible Cause**

Full-text search is disabled.

**Solution**

Enable full-text search. See [Enabling Full-Text Search](#).

**Problem**

Web servers do not work correctly.

**Possible Cause**

In multi-server environments, each Ivanti Service Manager web server must meet the system requirements.

**Solution**

Refer to the [System Requirements and Compatibility Matrix for Ivanti Service Manager Release 2017.1.1](#) for more information. See Related Documentation.

**Problem**

Provision report now returns an exception: "Cannot Decrypt the Symmetric Key."

**Possible Cause**

The Ivanti Service Manager reporting server cannot use the symmetric key to access the data from the report server database.

**Solution**

1. Click OK, but do not close the System Configuration Wizard.

2. Start the Reporting Services Configuration Manager and connect to your Microsoft SRSS instance.
3. Select **Encryption Keys** from the list in the left panel.

4. Click **Delete** and then click **Yes** at the confirmation message.

5. Return to the wizard and click **Provision Report Now**.

---

**Problem**

Dashboard and report controls (such as charting, pivoting, and copy/paste) and the Service Catalog attachment control do not work.

**Possible Cause**

Browser does not have, or does not support, Adobe Flash.

**Solution**

- If your current browser does not support Adobe Flash, upgrade the browser.

---

**Problem**

Cannot download or edit reports in Chrome.

**Possible Cause**

The Chrome ClickOnce extension is not installed.

**Solution**

Install the ClickOnce extension for Chrome. Navigate to [https://chrome.google.com/webstore/detail/eeifaoomkminpbeebjdmdojbhmagnncf/](https://chrome.google.com/webstore/detail/eeifaoomkminpbeebjdmdojbhmagnncf/) and download the extension.

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**Problem**

Cannot download or edit reports in Firefox.

**Possible Cause**

The Firefox Microsoft .NET framework assistant extension is not installed.
Solution


Problem

Cannot download files or run controls in Internet Explorer.

Possible Cause

Scripting is disabled.

Solution

Set properties in Internet Explorer as follows:

1. Go to the Tools > Internet Options > Security > Custom level page.
2. Set the following options to enable:
   - Run ActiveX controls and plug-ins
   - File download
   - Scripting > Active scripting

Problem

Cannot open websites in Internet Explorer.

Possible Cause

You have not set Ivanti Service Manager to be a trusted site.

Solution

Set properties in Internet Explorer as follows:

1. Go to the Tools > Internet Options > Security page.
2. Highlight Trusted sites and click Sites.
3. Click Add.
Problem

Logging into a tenant using Internet Explorer fails.

Internet Explorer displays this message: You cannot login to the system now. Please contact your administrator. Additional information is available in the logs.

Possible Cause

Internet Explorer does not accept cookies if the host name of the DNS server or the server NetBIOS names contain an underscore '_'

Solution

- Change the host name of your DNS server or its NetBIOS names so they no longer contain an underscore '_'.
- Use a Chrome or Firefox browser.

Problem

Unable to use integrated components, such as Voice.

Possible Cause

You must use the Microsoft Windows operating system when you use integrated components.

Solution

Change to the Microsoft Windows operating system. Refer to the System Requirements and Compatibility Matrix for Ivanti Service Manager Release 2017.1.1 for more information. See Related Documentation.