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About SolarWinds MSP

SolarWinds MSP is the global leader in remote monitoring and management software for managed service providers and IT departments. SolarWinds MSP's award-winning MSP N-central platform and complementary toolsets, backed by best-in-class business and technical services, are proven to reduce IT support costs, improve network performance and increase productivity through the proactive monitoring, management and optimization of IP-enabled devices and IT infrastructure. SolarWinds MSP is 100% channel-friendly and maintains operations in North America, the U.K., the Netherlands and Australia.
## Contents

**Introduction** .................................................................................................................. 5

Architecture ......................................................................................................................... 5

**Requirements** ................................................................................................................. 6

Server requirements ............................................................................................................. 6

Hardware ............................................................................................................................... 6

Web server ........................................................................................................................... 6

Operating system ................................................................................................................. 6

Web browser ....................................................................................................................... 7

Server sizing requirements ................................................................................................. 7

Deployment with fewer than 20 techs ................................................................................... 7

Deployment with more than 20 techs .................................................................................... 8

Database requirements ........................................................................................................ 8

MySQL requirements ........................................................................................................... 9

SQL Server requirements .................................................................................................... 9

Software ............................................................................................................................... 9

Hardware ............................................................................................................................. 9

**Set up the database** ........................................................................................................ 11

Set up an embedded database ............................................................................................ 11

Set up an external database ............................................................................................... 11

Oracle Java Database Connectivity (JDBC) driver requirements ........................................ 11

Prepare the HDM database ................................................................................................ 11

Prepare the MySQL time zone tables ................................................................................ 12

Enable TCP/IP on SQL Server ........................................................................................... 12

Create and configure your SQL Server database .............................................................. 13

**Install the application** .................................................................................................... 14

Before you begin ................................................................................................................ 14
Install Help Desk Manager on a Windows system ................................................................. 14
Before you begin .................................................................................................................. 14
Installation .......................................................................................................................... 14
Uninstall Help Desk Manager ............................................................................................. 15
Upgrade from Windows 32-bit to Windows 64-bit ................................................................. 15
Install Help Desk Manager on a Linux system .................................................................. 16
Uninstall Help Desk Manager on a Linux system ............................................................... 17
Back up and restore the embedded PostgreSQL database .................................................. 17
Back Up the external Help Desk Manager database .......................................................... 18
Use pgAdmin3 to restore database files on a Windows system ........................................... 18

Upgrade the application ..................................................................................................... 20
Gotchas you should review ................................................................................................. 20
Prepare your environment to upgrade .................................................................................. 20
Upgrading Help Desk Manager version 12.4 and above to version 12.5.2 .............................. 21
Check your system after the upgrade .................................................................................. 24
Troubleshooting ................................................................................................................ 24

Customer Support ............................................................................................................ 25
Introduction

Help Desk Manager by SolarWinds® MSP is a web-based automated ticketing solution that helps you manage your IT support requests for both internal and external clients. Use Help Desk Manager to create and manage tickets through the web console. It also supports email ticket creation, automatic ticket assignment and escalation, asset management, and incident and problem management.

Architecture

The following illustration provides a high-level view of Help Desk Manager in a stand-alone installation. In this example, Help Desk Manager is installed on a dedicated server with your choice of an embedded PostgreSQL database or an external database such as MySQL or Microsoft SQL Server.
Requirements

SolarWinds MSP recommends reviewing the following requirements before you install, upgrade, or migrate your software:

- Server requirements
- Database requirements

Server requirements

The following sections list the minimum hardware and software requirements for installing Help Desk Manager.

Hardware

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU</td>
<td>64-bit Dual Core 2.0 GHz or faster</td>
</tr>
<tr>
<td>RAM</td>
<td>4 GB (up to 20 technicians)</td>
</tr>
<tr>
<td></td>
<td>3 GB (more than 20 technicians) plus 1 GB for every 10 additional technicians</td>
</tr>
<tr>
<td>Hard Drive Space</td>
<td>20 GB</td>
</tr>
<tr>
<td>Application Ports</td>
<td>8443 (default)</td>
</tr>
<tr>
<td></td>
<td>20293 (PostgreSQL)</td>
</tr>
</tbody>
</table>

Web server

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>VERSION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apache™ Tomcat™</td>
<td>9.0.31</td>
</tr>
</tbody>
</table>

Operating system

<table>
<thead>
<tr>
<th>PLATFORM</th>
<th>SUPPORTED VERSIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microsoft® Windows Server®</td>
<td>Windows Server 2008 R2 (64-bit)</td>
</tr>
<tr>
<td></td>
<td>Windows Server 2012 (64-bit)</td>
</tr>
<tr>
<td></td>
<td>Windows Server 2012 R2 (64-bit)</td>
</tr>
<tr>
<td></td>
<td>Windows Server 2016</td>
</tr>
<tr>
<td>Microsoft Windows</td>
<td>Windows 7 (64-bit)</td>
</tr>
<tr>
<td>(Trial evaluation only)</td>
<td>Windows 8.1 (64-bit)</td>
</tr>
<tr>
<td>PLATFORM</td>
<td>SUPPORTED VERSIONS</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>-----------------------------------</td>
</tr>
<tr>
<td>Windows</td>
<td>Windows 10 (64-bit)</td>
</tr>
<tr>
<td>Red Hat® Enterprise Linux (RHEL)</td>
<td>RHEL 6.5 (64-bit)</td>
</tr>
<tr>
<td></td>
<td>RHEL 7.0 (64-bit)</td>
</tr>
<tr>
<td>CentOS™</td>
<td>CentOS 6.5 (64-bit)</td>
</tr>
<tr>
<td></td>
<td>CentOS 7.0 (64-bit)</td>
</tr>
<tr>
<td>Fedora™</td>
<td>Fedora 24 (64-bit)</td>
</tr>
<tr>
<td></td>
<td>Fedora 25 (64-bit)</td>
</tr>
<tr>
<td>Java Platform</td>
<td>Open Java Development Kit 11 (OpenJDK 11)</td>
</tr>
</tbody>
</table>

### Web browser

<table>
<thead>
<tr>
<th>TYPE</th>
<th>SUPPORTED VERSIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Google Chrome</td>
<td>Latest version</td>
</tr>
<tr>
<td>Mozilla Firefox</td>
<td>Latest version</td>
</tr>
<tr>
<td>Microsoft Internet Explorer® (IE)</td>
<td>IE10</td>
</tr>
<tr>
<td></td>
<td>IE11</td>
</tr>
<tr>
<td>Apple® Safari®</td>
<td>Safari 10</td>
</tr>
<tr>
<td></td>
<td>Safari 11</td>
</tr>
<tr>
<td>Microsoft Edge</td>
<td>Version 38 and later</td>
</tr>
</tbody>
</table>

### Server sizing requirements

SolarWinds MSP recommends installing Help Desk Manager on a host server with a 64-bit Dual Core 2.0GHz or faster CPU. If you support a large number of techs, consider upgrading your existing hardware configuration.

**Deployment with fewer than 20 techs**

If your deployment will support 20 tech sessions or fewer, you can run Help Desk Manager on a system with:

- A supported operating system
- A 32-bit Java Virtual Machine (JVM)
- 4GB RAM (up to 3.7GB for the tech sessions, JVM support, operating system, and any additional services you need to run on the system)
This configuration supports 10 - 20 tech sessions with no onboard memory issues.

To adjust the maximum memory setting, edit the `MAXIMUM_MEMORY` option in the `helpdeskmanager/conf/whd.conf` file.

**Deployment with more than 20 techs**

If your deployment will support more than 20 tech sessions, SolarWinds MSP recommends installing Help Desk Manager on a system running:

- A supported operating system
- A 64-bit JVM
- 3GB RAM for 20 tech sessions plus 1GB RAM for each additional 10 tech sessions

**Configuring the JVM**

To enable the 64-bit JVM, add the following argument to the `JAVA_OPTS` option in the `/library/helpdeskmanager/conf/whd.conf` file:

```
JAVA_OPTS="-d64"
```

To increase the max heap memory on a 64-bit JVM, edit the `MAXIMUM_MEMORY` option in the `helpdeskmanager/conf/whd.conf` file.

For other operating systems, install your own 64-bit JVM and then update the `JAVA_HOME` option in the `helpdeskmanager/conf/whd.conf` file to point to your Java installation.

**Database requirements**

Help Desk Manager uses an embedded PostgreSQL database as its standard database.

The following table lists the supported databases.

<table>
<thead>
<tr>
<th>DATABASE</th>
<th>SUPPORTED VERSIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>PostgreSQL</td>
<td>PostgreSQL 9.2</td>
</tr>
<tr>
<td></td>
<td>PostgreSQL 9.3.2</td>
</tr>
<tr>
<td></td>
<td>PostgreSQL 9.4</td>
</tr>
<tr>
<td></td>
<td>PostgreSQL 9.6</td>
</tr>
<tr>
<td>MySQL</td>
<td>MySQL 5.7</td>
</tr>
<tr>
<td>Microsoft SQL Server®</td>
<td>SQL Server 2008 R2 SP3</td>
</tr>
<tr>
<td></td>
<td>SQL Server 2012 SP2</td>
</tr>
<tr>
<td></td>
<td>SQL Server 2014</td>
</tr>
<tr>
<td></td>
<td>SQL Server 2016</td>
</tr>
</tbody>
</table>
For optimal external database performance, run Help Desk Manager and a supported external database on separate servers.

MySQL requirements

The following table lists the minimum software and hardware requirements for a MySQL database server.

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>SUPPORTED VERSIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>MySQL database</td>
<td>MySQL 5.7</td>
</tr>
<tr>
<td>CPU speed</td>
<td>64-bit Dual Core 3.0 GHz or better</td>
</tr>
<tr>
<td>Hard drive space</td>
<td>20 GB</td>
</tr>
<tr>
<td>Memory</td>
<td>3 GB plus 1 GB for every additional 10 techs</td>
</tr>
</tbody>
</table>

SQL Server requirements

The following tables list the minimum software and hardware requirements for a database server running Microsoft SQL Server.

Software

The following table lists the minimum software requirements for a server running Microsoft SQL Server.

<table>
<thead>
<tr>
<th>SOFTWARE</th>
<th>REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microsoft SQL Server</td>
<td>SQL Server 2008 R2 SP3</td>
</tr>
<tr>
<td></td>
<td>SQL Server 2012 SP2</td>
</tr>
<tr>
<td></td>
<td>SQL Server 2014</td>
</tr>
<tr>
<td></td>
<td>SQL Server 2016</td>
</tr>
<tr>
<td></td>
<td>SQL Server 2017</td>
</tr>
</tbody>
</table>

Hardware

The following table lists the minimum hardware requirements for a server running Microsoft SQL Server.

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU</td>
<td>64-bit Dual Core 3.0GHz or higher</td>
</tr>
<tr>
<td>COMPONENT</td>
<td>REQUIREMENTS</td>
</tr>
<tr>
<td>--------------------</td>
<td>------------------------------------------------------</td>
</tr>
<tr>
<td>Hard drive space</td>
<td>20GB</td>
</tr>
<tr>
<td>RAM</td>
<td>3GB with 1GB additional RAM for every additional 10 techs</td>
</tr>
</tbody>
</table>

For optimal external database performance, run HDM and a supported external database on separate servers.
Set up the database

Before you install Help Desk Manager, decide whether to use an embedded or external database. Help Desk Manager comes standard with an embedded PostgreSQL database.

Set up an embedded database

The embedded PostgreSQL database is ideal for small to medium installations, and is configured as part of the Help Desk Manager setup in the Help Desk Manager Getting Started Wizard.

Set up an external database

If you use an external database, SolarWinds MSP recommends using Microsoft SQL Server. Be sure to install and configure SQL Server before you install Help Desk Manager. You can install SQL Server and Help Desk Manager on the same server or separate servers. Help Desk Manager can also use a new SQL database instance on an existing SQL Server.

Oracle Java Database Connectivity (JDBC) driver requirements

Help Desk Manager for macOS includes an embedded Java Virtual Machine (JVM). If you are running an external Oracle JVM, Help Desk Manager preserves your Java settings during the installation procedure and continues to use the external Oracle JVM.

If you are migrating from an external JVM to the embedded JVM included with Help Desk Manager and you are using a MySQL database, ensure that the new embedded Java directory on your Help Desk Manager server includes the Oracle Java Database Connectivity (JDBC) driver.

See the Oracle website to download the latest JDBC driver.

Prepare the HDM database

SolarWinds Help Desk Manager supports the following databases:

- Embedded PostgreSQL
- MySQL
- Microsoft SQL Server Standard or Enterprise Edition

⚠️ If your Help Desk Manager deployment requires database management features such as failover clusters, do not use the embedded PostgreSQL database included with Help Desk Manager. Failover clusters are not available with the embedded PostgreSQL database.

If you choose embedded PostgreSQL as your primary database, Help Desk Manager installs the database on the Help Desk Manager server during the installation. No additional configuration is required.
If you choose non-embedded, non-default Microsoft SQL Server or MySQL as your primary database, install the database engine and management tools on a separate server prior to installing Help Desk Manager. See the Microsoft TechNet or MySQL website for installation instructions.

Install SQL Server or MySQL on a dedicated drive with at least 20 GB of space to accommodate the database engine, management tools, help desk tickets, and ticket file attachments. You can also configure Help Desk Manager to use a new SQL Server database instance on an existing server running SQL Server.

After you install the MySQL software, prepare the MySQL time zone tables.

After you install the SQL Server software, enable TCP/IP on the SQL server and create and configure your SQL Server database.

**Prepare the MySQL time zone tables**

If you choose non-embedded, non-default MySQL as your primary database, install the database and manually populate your time zone system tables.

You can search for tickets using two new qualifiers: Due Date and First Call Resolution. These qualifiers rely on data located in four MySQL system tables:

- `time_zone`
- `time_zone_name`
- `time_zone_transition`
- `time_zone_transition_type`

These tables are created when you install MySQL in your deployment, but are not populated by default with data. Help Desk Manager requires this data because Due Date and First Call Resolution qualifier logic is implemented from within the database. If the database is missing time zone data, these qualifiers do not work properly.

When you install your MySQL database, be sure to manually populate these system tables with time zone data. See the MySQL website and follow the instructions for MySQL Server time zone support.

You can check the system tables by executing the following query:

```
SELECT * FROM mysql.time_zone
```

If the query does not create new table rows, the tables are not populated with data.

**Enable TCP/IP on SQL Server**

Configure the following settings in the SQL Server Configuration Manager.

<table>
<thead>
<tr>
<th><strong>SETTING</strong></th>
<th><strong>VALUE</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>TCP/IP Protocol</td>
<td>Enabled in SQL Server Network Configuration &gt; Protocols for SQL 20xx</td>
</tr>
<tr>
<td>IP Address</td>
<td>127.0.0.1 (if installed on the Help Desk Manager server)</td>
</tr>
</tbody>
</table>
Server IP address (if installed on a separate server)
TCP Port 1433
TCP Dynamic Ports Blank
TCP Port 1433

Create and configure your SQL Server database

Configure the following settings in the SQL Server Management Studio for SQL Server to create and configure SQL Server to the Help Desk Manager database instance.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>SQL Server and Windows Authentication Mode</td>
<td>Enabled</td>
</tr>
<tr>
<td>Login Name</td>
<td>whd</td>
</tr>
<tr>
<td>SQL Server Authentication: Password</td>
<td>Enabled and configured</td>
</tr>
<tr>
<td>SQL Server Authentication: Enforce password policy</td>
<td>Disabled</td>
</tr>
<tr>
<td>SQL Server Authentication: Enforce password expiration</td>
<td>Disabled</td>
</tr>
<tr>
<td>SQL Server Authentication: User must change password at next login</td>
<td>Disabled</td>
</tr>
<tr>
<td>Database name</td>
<td>whd</td>
</tr>
<tr>
<td>Database owner</td>
<td>whd</td>
</tr>
</tbody>
</table>
Install the application

This section describes how to install Help Desk Manager on systems running Windows Server and Linux operating systems.

Before you begin

- Ensure that the host system meets or exceeds the recommended server requirements.
- Decide whether to use an embedded or external database. Help Desk Manager comes standard with an embedded PostgreSQL database.
- Prepare your Microsoft SQL Server or MySQL database if you are using an external database.

Install Help Desk Manager on a Windows system

Before you begin

- Use an account with local administrative rights.
- Verify the account is not subject to any local or group policy restrictions.
- Use the Run as administrator option when launching the installer on a system running Windows Server 2008.
- Quit all other programs before running the installer.

If you do not use the default embedded database, ensure that you know the following:

- IP address or host name and port of the database server
- Database name
- Database user name and password

Installation

1. Obtain a copy of the software and your activation key from the SolarWinds Customer Portal. The activation key limits your use based on the number of seats you purchased.
2. Log in as an administrator to the server hosting Help Desk Manager.
3. Extract the contents of the downloaded installation ZIP file.
4. Run N-ableHelpDeskManager-12.7.2-x64.exe.
5. Complete the on-screen instructions.
6. When the installation is complete, click Done.
   The system opens your browser where you can select the Help Desk Manager database.
7. To use the database included with Help Desk Manager, select Use Embedded PostgreSQL database, and click Next.
8. To use an external database:
   a. Click Use Custom SQL database.
   b. In the Database Type field, select the database.
   c. Complete the remaining fields, and then click Test to test the database connection.
   d. To create an account on the database, click Create database and user account, enter the admin user name and password, and click Create.
   e. When you have established a connection with the database, click Next.

Uninstall Help Desk Manager

1. Quit all running programs.
2. Using an account with local administrative privileges, log in to the server that hosts the application.
3. Navigate to:
   C:\Program Files\Help Desk Manager
4. In the Help Desk Manager directory, double-click UNINSTALL.bat.
   A command prompt window displays with a message prompting you to verify the uninstall.
5. In the command prompt window, enter Y to continue.

   ![Command prompt window]

   Help Desk Manager and its associated data are uninstalled from the system.
6. Close the command prompt window.

Upgrade from Windows 32-bit to Windows 64-bit

If you upgrade your system from Windows 32-bit to 64-bit, uninstall Help Desk Manager 32-bit before you install Help Desk Manager 64-bit.

Uninstalling the Help Desk Manager 32-bit installation deletes everything in the Help Desk Manager folder. Before uninstalling the Help Desk Manager 32-bit installation, you must backup and then restore the following files from the <HelpDeskManager>/conf folder:
- .hdm.properties (contains database connection settings)
- hdm.conf (contains port and memory settings)
- keystore.jks (contains SSL certificates, if there are any)
- customlabel.properties (if available)

If the installation is using an embedded PostgreSQL database, you must also backup the database before uninstalling the 32-bit version of Help Desk Manager.

To upgrade Help Desk Manager from 32-bit to 64-bit:

1. Stop Help Desk Manager.
2. Copy the following files from the `<HelpDeskManager>/conf` directory to a backup location:
   - .hdm.properties (contains database connection settings)
   - hdm.conf (contains port and memory settings)
   - keystore.jks (contains SSL certificates, if there are any)
   - customlabel.properties (if available)
3. If you are using an embedded PostgreSQL database, backup the database file.
   See the PostgreSQL documentation located at postgresql.org for more information.
4. Uninstall the Help Desk Manager 32-bit installation, as described in Uninstalling on Windows.
5. Install Help Desk Manager 64-bit.
   See Installing on Windows for more information.
6. Stop the newly installed, 64-bit Help Desk Manager installation.
7. From your backup location, copy the following files to the `<HelpDeskManager>/conf` directory:
   - .hdm.properties (contains database connection settings)
   - hdm.conf (contains port and memory settings)
   - keystore.jks (contains SSL certificates, if there are any)
   - customlabel.properties (if available)
8. Restore the embedded PostgreSQL database.
   See the PostgreSQL documentation located at postgresql.org for more information.

Install Help Desk Manager on a Linux system

The following procedure describes how to install Help Desk Manager on a server running a supported Linux operating system.

1. Quit all running programs.
2. Using an account with local administrative privileges, log in to the Help Desk Manager server.
3. Navigate to your downloaded executable or the CD containing the executable.
4. Run the appropriate command based on your system configuration.
   For 64-bit systems, run:
   
gunzipN-ableHelpDeskManager-12.7.2.21-1.x86_64.rpm.gz
5. Run the appropriate installer command based on your system configuration.

   To upgrade an existing Linux system, replace the installation command (`rpm -ivh`) with the update command (`rpm -Uvh`). During the upgrade, several warning messages may open, stating that multiple files or directories failed to be removed. This is normal.

   For 64-bit systems, run:
   ```bash
   sudo rpm -ihv N-ableHelpDeskManager-12.7.2.21-1.x86_64.rpm
   ```

6. Run the following command to start the application:
   ```bash
   /usr/local/HelpDeskManager/WHD start
   ```
   To stop the application, run:
   ```bash
   /usr/local/HelpDeskManager/WHD stop
   ```

7. Launch your web browser and enter the following URL:
   ```url
   http://127.0.0.1:8443
   ```
   The Configuration Wizard displays, allowing you to select your Help Desk Manager database.

   Secure port 8443 is the default port. If you log in using unsecure port 8081, a warning displays, indicating that the connection is not private.

8. To use the database included with Help Desk Manager, select Use Embedded PostgreSQL database, and click Next.

9. To use an external database:
   a. Click Use Custom SQL database.
   b. In the Database Type field, select the database.
   c. Complete the remaining fields, and then click Test to test the database connection.
   d. To create an account on the database, click Create database and user account, enter the admin user name and password, and click Create.
   e. When you have established a connection with the database, click Next.

10. In the Web console, enter `admin` for the user email address and `admin` for the password, and then click Log In.

### Uninstall Help Desk Manager on a Linux system

1. Quit all running programs.

2. Using an account with local administrative privileges, log on to the server that is hosting Help Desk Manager.

3. Run the uninstaller using one of the following commands:
   ```bash
   yum remove helpdeskmanager.x86_64
   ```
   The uninstall is completed.

### Back up and restore the embedded PostgreSQL database

1. Navigate to Setup > General > Database.

2. Select PostgreSQL.
3. Click Backup Now to backup your database.
4. Click Save to save your settings.

If you defined a backup schedule, clicking Save saves and applies the schedule set up for automatic backups.

Back Up the external Help Desk Manager database

1. Stop Help Desk Manager.
2. Back up the database to another using the `downloadedpgAdmin3` tool or applying the appropriate PostgreSQL commands.

For more information, see Chapter 24: Backup and Restore in the PostgreSQL 9.3 Manual located on the PostgreSQL website at www.postgresql.org.

The `pg_dump` utility is located in the following directory:

HDM_Install_Dir/pgsql19/bin

Use pgAdmin3 to restore database files on a Windows system

1. Start pgAdmin3.
2. Click the connector icon.
3. In the pgAdmin3 New Server Registration window, enter the following parameters in Properties, leaving the other fields empty or with default data:
   - Name: HDM
   - Host: localhost
   - Port: 20293
   - Username: HDM
   - Password: HDM

   HDM is the default password. To prevent unauthorized access, update this password.
4. Stop Help Desk Manager.
5. Start the PostgreSQL service.
6. In the pgAdmin3 Object Browser, expand:
   - Servers/ HDM /Databases/ HDM
7. Right-click HDM and select Delete/Drop.
8. Right-click Databases and select New Database.
9. Rename the new database:
   - HDM
10. Click OK.
11. Right-click the new HDM database and click Restore.
12. Navigate to your database file or enter the filename.
13. Select the following Rolename:
   HDM
14. Click Restore.
15. Restart Help Desk Manager.
Upgrade the application

This section walks you through the procedures for upgrading only your SolarWinds MSP Help Desk Manager product. This section also includes checklists to help you prepare and complete your upgrades, gotchas, and troubleshooting steps.

Gotchas you should review

- Review the following gotchas before you upgrade Help Desk Manager.
- You must be running Help Desk Manager 12.4 or later to upgrade to the latest version.
- If you are upgrading from a version prior to Help Desk Manager 12.4, you may want to install a new product instead of performing an upgrade, saving or migrating your data. Support can provide the best advice for these upgrade scenarios.
- Always check that you have enough hard drive space for zipped and unzipped installers. One unzipped installer could consume several gigabytes of space.
- If you are migrating your database using a third-party tool, contact the tool vendor for assistance.
- If you are migrating your PostgreSQL database to a new server, restore the database after you upgrade Help Desk Manager to the latest version.
- If your deployment requires database management features such as failover clusters, use any supported database management system (DBMS) except the embedded PostgreSQL database included with Help Desk Manager. Failover clusters are not available with the embedded PostgreSQL database.
- If you added code, such as .jar files provided by Support, the code may be overwritten during the upgrade.

Prepare your environment to upgrade

When you are ready to upgrade, complete these steps. They include the common actions you need to complete before upgrading products.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Back up the database</td>
<td>Back up your Help Desk Manager SQL database. If you need help, check your vendor site for documentation and instructions.</td>
</tr>
<tr>
<td></td>
<td>You cannot roll back an upgrade. Always create a database backup.</td>
</tr>
<tr>
<td>2. Run the installation file</td>
<td>To ensure the best performance on your server host and provide full file access, exclude specific file paths and directories from anti-virus software scans.</td>
</tr>
<tr>
<td></td>
<td>You can also place your systems behind a firewall to completely disable your anti-virus software during an upgrade.</td>
</tr>
</tbody>
</table>
Upgrading Help Desk Manager version 12.4 and above to version 12.5.2

This checklist details the steps for upgrading only Help Desk Manager 12.4 and above in your environment.

Upgrading Help Desk Manager may add new database tables, but the procedure does not impact your database and database table data. See Database migration options in the Help Desk Manager Installation Guide for specific details.

If you have a test or staging environment, we highly recommend testing the upgrade first. You cannot roll back an installation once it's completed.

1. Back up your data
   1. Back up your Help Desk Manager server.
   2. Back up any database server associated with Help Desk Manager.
   3. Navigate to and back up your current `tomcat_web_template.xml` file to an external directory.

2. Select a database that supports failover clusters (Optional)
   If your deployment requires database management features such as failover clusters, select any supported DBMS except the embedded PostgreSQL database included with Help Desk Manager. Failover clusters are not available with the embedded PostgreSQL DBMS.

3. Install the database management tools (SQL Server and MySQL only)
   If you use the non-embedded, non-default Microsoft SQL Server or MySQL as your primary database, install the database engine and management tools according to the instructions included with your software. Install the database on a dedicated drive with at least 20 GB of space to accommodate the database engine, management tools, help desk tickets, and ticket file attachments.

4. Prepare the time zone tables (MySQL only)
   If you use the non-embedded, non-default MySQL as your primary database, install the database and manually populate your time zone system tables with data.

   Beginning in version 12.5, you can search for tickets using two new qualifiers:
   - Due Date
   - First Call Resolution

   These qualifiers rely on data located in four MySQL system tables:
   - `time_zone`
   - `time_zone_name`
   - `time_zone_transition`
These tables exist when you install MySQL in your deployment, but are not populated by default with data. Help Desk Manager requires this data because Due Date and First Call Resolution qualifier logic is implemented from within the database. If the database is missing time zone data, these qualifiers will not work properly.

Be sure to manually populate these system tables with time zone data. See the MySQL website and follow the instructions for MySQL Server time zone support.

You can check the system tables by executing the following query:

```sql
SELECT * FROM mysql.time_zone
```

If the query does not create new table rows, the tables are not populated with data.

### 5. Enable TCP/IP
(New SQL Server implementation only)

If you are migrating to Microsoft SQL Server for your primary database, configure the following settings in the SQL Server Configuration Manager.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>TCP/IP Protocol</td>
<td>Enabled in SQL Server Network Configuration &gt; Protocols for SQL 20xx</td>
</tr>
<tr>
<td>IP Address</td>
<td>127.0.0.1 (if installed on the HDM server) Server IP address (if installed on a separate server)</td>
</tr>
<tr>
<td>TCP Port</td>
<td>1433</td>
</tr>
<tr>
<td>TCP Dynamic Ports</td>
<td>Blank</td>
</tr>
</tbody>
</table>

### 6. Create and configure our database
(New SQL Server Implementation only)

If you are migrating to Microsoft SQL Server for your primary database, configure the following settings in the SQL Server Management Studio for SQL Server to create and configure SQL Server to the HDM database instance.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>SQL Server and Windows Authentication Mode</td>
<td>Enabled</td>
</tr>
<tr>
<td>Login Name</td>
<td>whd</td>
</tr>
<tr>
<td>SQL Server Authentication:</td>
<td>Enabled and configured</td>
</tr>
<tr>
<td>Setting</td>
<td>Value</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>Password</td>
<td></td>
</tr>
<tr>
<td>SQL Server Authentication: Enforce password policy</td>
<td>Disabled</td>
</tr>
<tr>
<td>SQL Server Authentication: Enforce password expiration</td>
<td>Disabled</td>
</tr>
<tr>
<td>SQL Server Authentication: User must change password at next login</td>
<td>Disabled</td>
</tr>
<tr>
<td>Database name</td>
<td>whd</td>
</tr>
<tr>
<td>Database owner</td>
<td>whd</td>
</tr>
</tbody>
</table>

7. Download the installer

Download the latest installer from the N-Able Resource Center.

8. Stop Help Desk Manager

Navigate to the directory, right-click `whd_stop.bat`, and select Run as Administrator.

9. Launch the installer

1. Double-click the new Help Desk Manager installer.
2. When prompted, accept the upgrade terms.
3. Follow the prompts on your screen to complete the upgrade.

10. Update the Apache Tomcat configuration file

1. Navigate to and open your new `tomcat_web_template.xml` file in a text editor.
2. Open your backup `tomcat_web_template.xml` file in a text editor.
3. Apply your personal settings from the backup file to the new file.
4. Save and close the new file.
5. Close the backup file.

11. Start Help Desk Manager

1. Navigate to the directory.
2. Right-click `whd_start.bat` and select Run as Administrator.

12. Increase the Java Virtual Machine (JVM) memory

Help Desk Manager requires additional max heap memory than the JVM default. After you complete the upgrade, increase the MAXIMUM_MEMORY value in the `whd.conf` file and restart Help Desk Manager.
Check your system after the upgrade

All product versions should be installed properly. Open the application and verify the versions displayed in the footer of the Web Console. Try current and new features with your system to check performance and expected functionality. If you run into issues, check the troubleshooting tips.

Troubleshooting

If an issue occurs you need additional help with, contact Support. SolarWinds MSP recommends creating a screenshot of the issue and collecting any error codes you receive. Attach and add this information to your ticket. You may also want to gather additional diagnostics on the system hosting Help Desk Manager.
# Customer Support

<table>
<thead>
<tr>
<th>Service</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SolarWinds MSP website</strong></td>
<td><a href="https://www.solarwindsmsp.com">https://www.solarwindsmsp.com</a></td>
</tr>
<tr>
<td><strong>Technical Support</strong></td>
<td><a href="https://success.solarwindsmsp.com">https://success.solarwindsmsp.com</a></td>
</tr>
<tr>
<td><strong>Self-service portal</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Phone support</strong></td>
<td>1-855-679-0817 (Toll Free/United States and Canada)</td>
</tr>
<tr>
<td></td>
<td>+800 6225 3000 (International)</td>
</tr>
<tr>
<td></td>
<td>(613) 592-6676, select option 2 for support</td>
</tr>
</tbody>
</table>