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Introduction

SolarWinds® MSP Help Desk Manager 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
- Server sizing
- 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</td>
</tr>
<tr>
<td></td>
<td>additional technicians</td>
</tr>
<tr>
<td>Hard Drive Space</td>
<td>20 GB</td>
</tr>
</tbody>
</table>

**Web server**

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>VERSION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apache™ Tomcat™</td>
<td>7.0.70</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>Microsoft Windows (Trial evaluation only)</td>
<td>Windows 7 (64-bit, trial only)</td>
</tr>
<tr>
<td></td>
<td>Windows 8.1 (64-bit, trial only)</td>
</tr>
<tr>
<td></td>
<td>Windows 10 (64-bit, trial only)</td>
</tr>
<tr>
<td>Red Hat® Enterprise Linux (RHEL)</td>
<td>RHEL 6.5 (64-bit)</td>
</tr>
<tr>
<td>PLATFORM</td>
<td>SUPPORTED VERSIONS</td>
</tr>
<tr>
<td>---------------</td>
<td>----------------------------</td>
</tr>
<tr>
<td>RHEL 7.0</td>
<td>(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 22 (64-bit)</td>
</tr>
<tr>
<td></td>
<td>Fedora 23 (64-bit)</td>
</tr>
<tr>
<td>Oracle® Java™</td>
<td>Version 8.0</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>Microsoft Edge</td>
<td>Latest version</td>
</tr>
</tbody>
</table>

**Screen resolution**

The minimum required screen resolution is 1024 x 768.

**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 64-bit 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 64-bit 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. See the embedded
database migration requirements for specific requirements.

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>MySQL</td>
<td>MySQL 5.6</td>
</tr>
<tr>
<td></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>
</tbody>
</table>

For optimal external database performance, run Help Desk Manager and a supported external
database on separate servers.

See MySQL requirements and SQL Server requirements for specific software and hardware requirements.
Embedded database migration requirements

Help Desk Manager does not support a FrontBase database. To automatically upgrade an embedded FrontBase database to an embedded PostgreSQL database, upgrade your software to Help Desk Manager 12.0.0 and then upgrade to the latest version.

External FrontBase databases must be manually migrated to the embedded PostgreSQL database.

To ensure that the Help Desk Manager database upgrade starts automatically after the Help Desk Manager 12.0.0 upgrade, ensure that:

- Both FrontBase and PostgreSQL are running.
- The embedded FrontBase uses the whd and user whd schemas.
- The new server includes enough free space to support the database migration. Help Desk Manager notifies you about the space required before migration begins.

The migration process creates a $WEB_HELPDESK_HOME/temp folder with the associated files. The system administrator performing the installation must have write privileges on both the FrontBase and PostgreSQL databases.

After you upgrade to Help Desk Manager 12.0.0, you can upgrade to the latest version. The upgrade converts your embedded FrontBase database to an embedded PostgreSQL database. No additional database conversions are required.

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 5.6</td>
</tr>
<tr>
<td></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.
### SOFTWARE REQUIREMENTS

<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 SP1</td>
</tr>
<tr>
<td></td>
<td>SQL Server 2014</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>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>

### 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.

### Prepare the Help Desk Manager 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>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</td>
</tr>
</tbody>
</table>
**SETTING** | **VALUE**
---|---
20xx |  
**IP Address** | 127.0.0.1 (if installed on the Help Desk Manager server)  
Server IP address (if installed on a separate server)
**TCP Port** | 1433  
**TCP Dynamic Ports** | Blank

**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><strong>SETTING</strong></th>
<th><strong>VALUE</strong></th>
</tr>
</thead>
</table>
| SQL Server and Windows Authentication Mode | Enabled  
| Login Name | HDM  
| SQL Server Authentication: Password | Enabled and configured  
| SQL Server Authentication: Enforce password policy | Disabled  
| SQL Server Authentication: Enforce password expiration | Disabled  
| SQL Server Authentication: User must change password at next login | Disabled  
| Database name | HDM  
| Database owner | HDM |
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 Microsoft Windows

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 IP address or host name and port of the database server
- The name of the database
- The 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 on which you are installing Help Desk Manager.
3. Extract the contents of the downloaded installation ZIP file.
4. Run HelpDeskManager-12.5.x-x64_eval.exe or HelpDeskManager-12.5.x-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.

   ![](C:\Windows\system32\cmd.exe)

   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 Linux

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 32-bit systems, run:
   `gunzip HelpDeskManager-12.5.X.XXX-1.i386.rpm`
   For 64-bit systems, run:
   `gunzip HelpDeskManager-12.5.X.XXX-1.x86_64.rpm`

5. Run the appropriate installer command based on your system configuration.
   To upgrade an existing 32-bit 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 32-bit systems, run:
   `rpm -ivh HelpDeskManager-12.5.X.XXX-1.i386.rpm`
   For 64-bit systems, run:
   `sudo rpm -ihv HelpDeskManager-12.5.X.XXX-1.x86_64.rpm`

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

7. Launch your web browser and enter the following URL:
   `http://127.0.0.1:8081`
   A dialog box displays to select your Help Desk Manager database.

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:

   # rpm -e HelpDeskManager-12.5.X.XXX-1.i386.rpm
   yum remove HelpDeskManager-12.5.X.XXX-1.x86_64.rpm

   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/pgsql9/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 HDM product. This section also includes checklists to help you prepare and complete your upgrades, gotchas, and troubleshooting steps.

How long does an upgrade take?

The time it takes to complete an upgrade depends on:

- Hardware
- Database server performance and database size
- Environment performance

Since every configuration is different, SolarWinds MSP cannot predict exactly how long your upgrade will take.

Gotchas you should review

- Review the following gotchas before you upgrade HDM.
- You must be running HDM 12.3 or later to upgrade to the latest version.
- If you are upgrading from a version prior to HDM 12.3, 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 HDM 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 HDM. 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.

1. Back up the database
   Back up your HDM SQL database. If you need help, check your vendor site for documentation and instructions.
You cannot roll back an upgrade. Always create a database backup.

<table>
<thead>
<tr>
<th>2. Run the installation file</th>
<th>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.</th>
</tr>
</thead>
<tbody>
<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 12.3 and above to version 12.5

This checklist details the steps for upgrading only HDM 12.3 and above in your environment.

Upgrading HDM may add new database tables, but the procedure does not impact your database and database table data. See Database migration options in the HDM 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.

|                                    | 2. Back up any database server associated with HDM.  
|                                    | 3. Navigate to <WebHelpDesk>/conf/ 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 HDM. 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
- time_zone_transition_type

These tables exist when you install MySQL in your deployment, but are not populated by default with data. HDM 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:

```
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 WHD 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

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.
### INSTALLATION GUIDE: HELP DESK MANAGER

<table>
<thead>
<tr>
<th>(New SQL Server Implementation only)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SETTING</strong></td>
<td><strong>VALUE</strong></td>
<td></td>
</tr>
<tr>
<td>SQL Server and Windows Authentication Mode</td>
<td>Enabled</td>
<td></td>
</tr>
<tr>
<td>Login Name</td>
<td>whd</td>
<td></td>
</tr>
<tr>
<td>SQL Server Authentication:</td>
<td>Enabled and configured</td>
<td></td>
</tr>
<tr>
<td>Password</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SQL Server Authentication: Enforce password policy</td>
<td>Disabled</td>
<td></td>
</tr>
<tr>
<td>SQL Server Authentication: Enforce password expiration</td>
<td>Disabled</td>
<td></td>
</tr>
<tr>
<td>SQL Server Authentication: User must change password at next login</td>
<td>Disabled</td>
<td></td>
</tr>
<tr>
<td>Database name</td>
<td>whd</td>
<td></td>
</tr>
<tr>
<td>Database owner</td>
<td>whd</td>
<td></td>
</tr>
</tbody>
</table>

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

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

3. Double-click the new HDM installer.
4. When prompted, accept the upgrade terms.
5. Follow the prompts on your screen to complete the upgrade.

6. Navigate to `<WebHelpDesk>`\`conf\` and open your new `tomcat_web_template.xml` file in a text editor.
7. Open your backup `tomcat_web_template.xml` file in a text editor.
8. Apply your personal settings from the backup file to the new file.
9. Save and close the new file.

11. Navigate to the `<WebHelpDesk>` directory.
12. Right-click `whd_start.bat` and select Run as Administrator.

13. Navigate to `<WebHelpDesk>`\`conf\` and increase the `MAXIMUM_MEMORY` value in the `whd.conf` file and restart HDM.

---

1. Download the latest installer from the N-Able Resource Center.
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12. Right-click `whd_start.bat` and select Run as Administrator.

13. Navigate to `<WebHelpDesk>`\`conf\` and increase the `MAXIMUM_MEMORY` value in the `whd.conf` file and restart HDM.
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

Error messages

- If HDM displays Error 404 after the upgrade, the installer was not unlocked properly or HDM cannot load a specific .jar file. See this article for details.
- If HDM displays Error 404 after you change the default port to port 80, see this article for troubleshooting.
- If HDM fails to start and displays a DB_Invalid error after the upgrade, see this article for troubleshooting.
- If HDM displays 403 Forbidden Error when you access the HDM console, see this article for troubleshooting.
- If HDM displays An update to the help desk is in progress, verify that your database update is completed. See this article for details.

Other Issues

- If your FAQs fail to load after the upgrade, you may be running outdated Apache Tomcat libraries. See this article for details.
- If you cannot access HDM using your current Web browser, see this article for troubleshooting.
- If LDAP fails to connect when initiating a connection from the HDM server to the LDAP server, see this article for 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 HDM.
# Customer Support

<table>
<thead>
<tr>
<th><strong>SolarWinds MSP website</strong></th>
<th><a href="http://www.solarwindsmsp.com">http://www.solarwindsmsp.com</a></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Technical Support Self-service portal</strong></td>
<td><a href="https://support.solarwindsmsp.com">https://support.solarwindsmsp.com</a></td>
</tr>
<tr>
<td><strong>Phone support</strong></td>
<td>1-866-302-4689 (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>
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Feedback

SolarWinds MSP is a market driven organization that places importance on customer, partner and alliance feedback. All feedback is welcome at the following email address: n-able-feedback@solarwinds.com.

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.