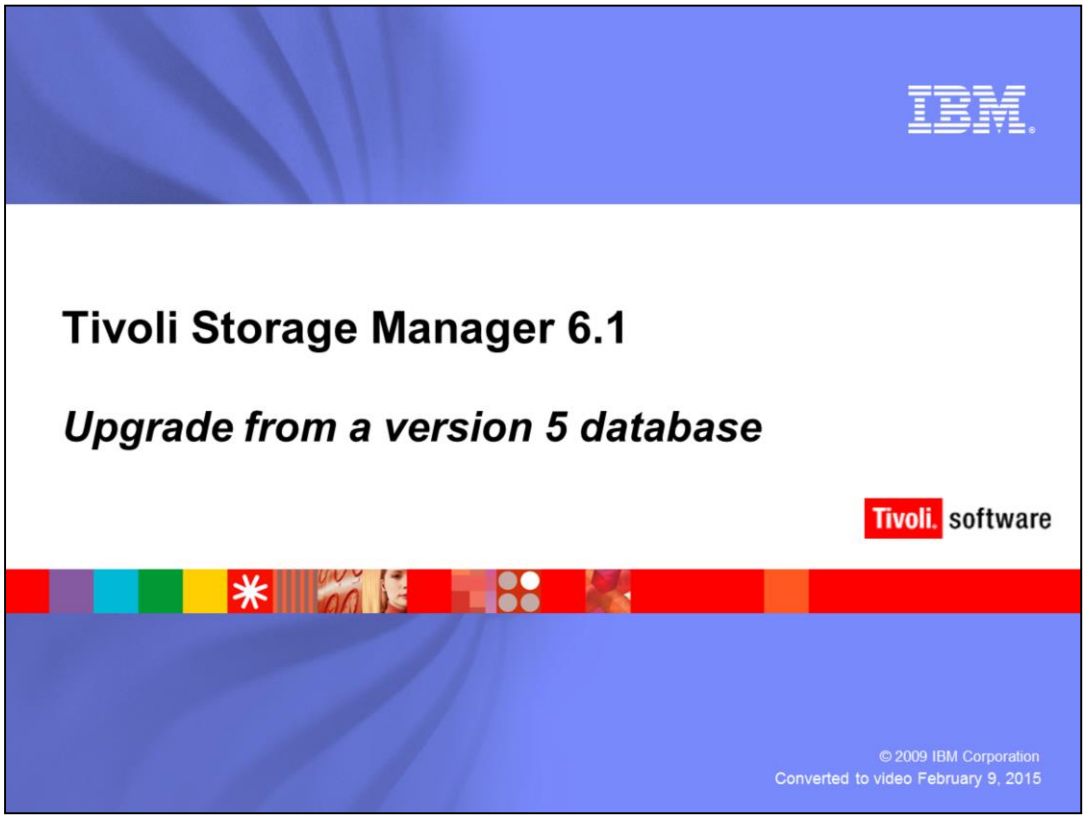
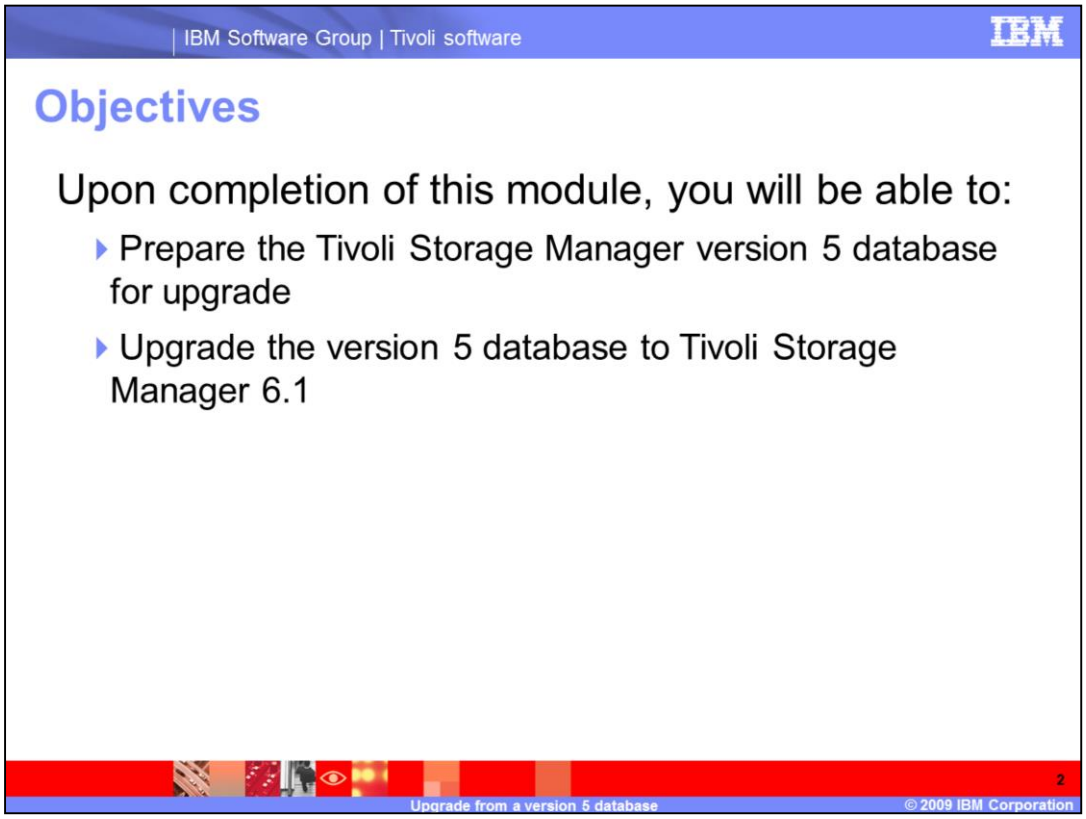
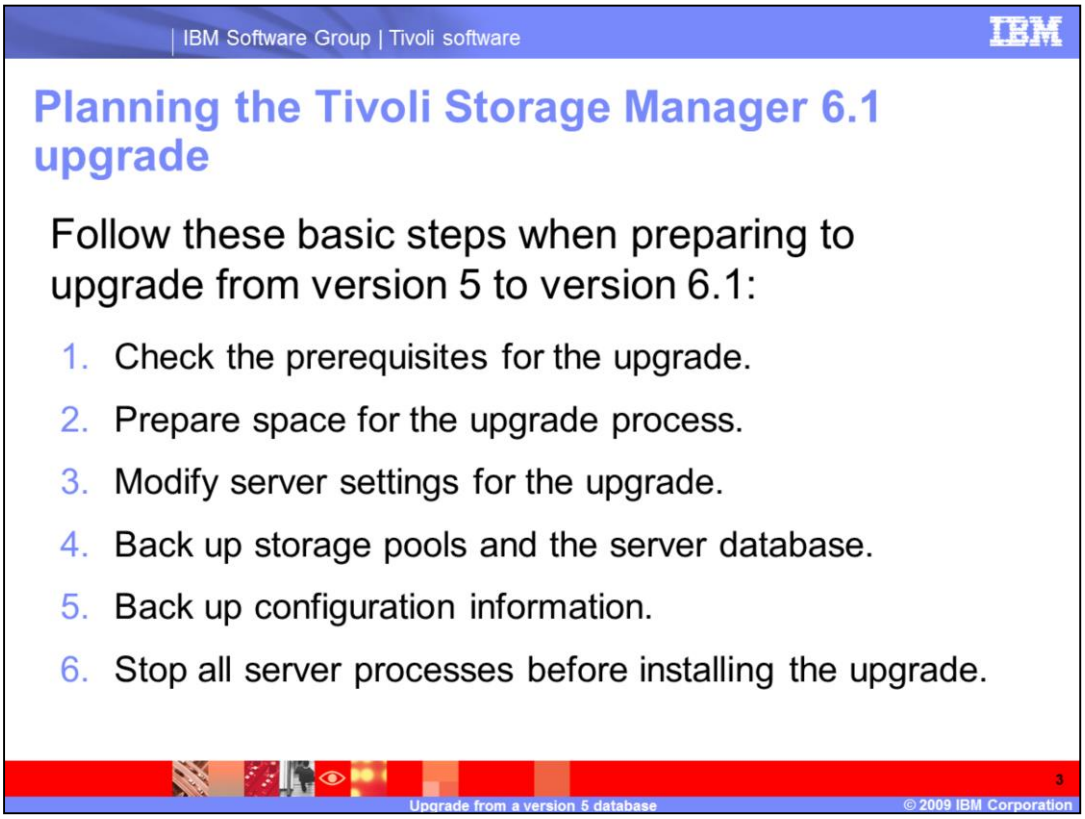


This module provides an overview of preparing and upgrading the IBM Tivoli Storage Manager database from version 5 to version 6.1.

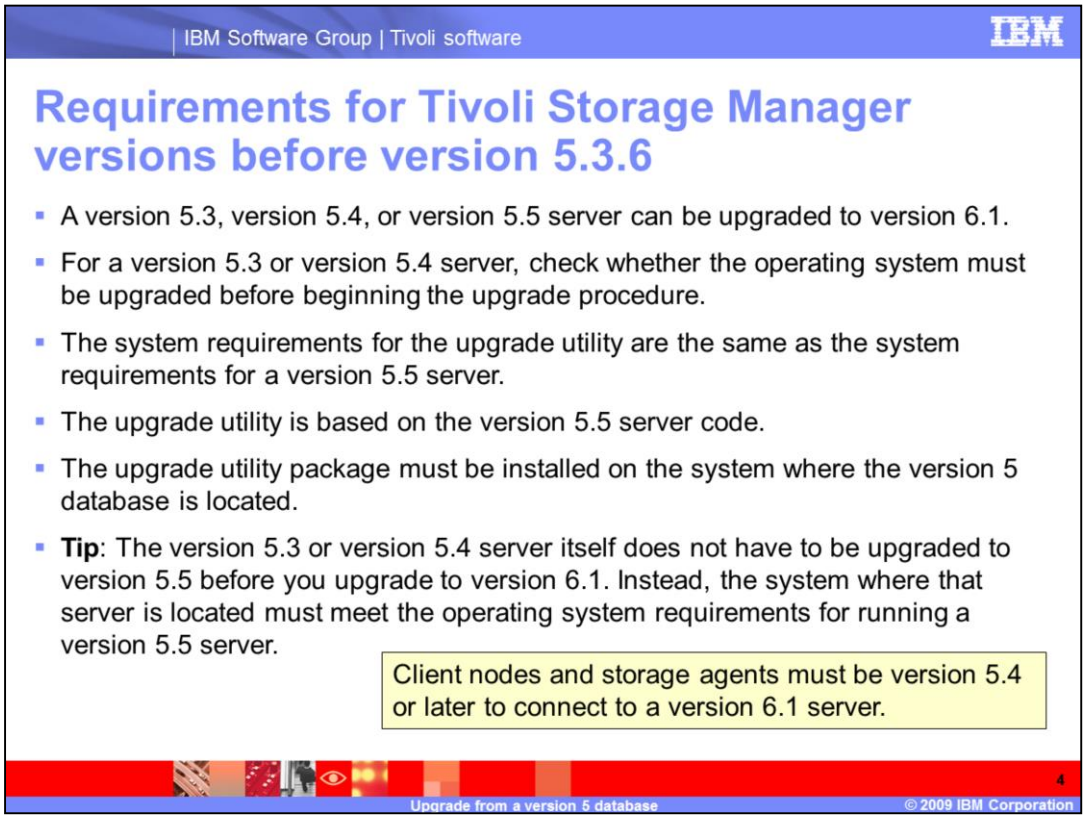


Upon completion of this module, you will be able to prepare the Tivoli Storage Manager version 5 database for upgrade. You will also be able to upgrade the version 5 database to Tivoli Storage Manager 6.1.



Follow these basic steps when preparing to upgrade from version 5 to version 6.1:

1. Check the prerequisites for the upgrade.
2. Prepare space for the upgrade process.
3. Modify server settings for the upgrade.
4. Back up storage pools and the server database.
5. Back up configuration information.
6. Stop all server processes before installing the upgrade.



A version 5.3, version 5.4, or version 5.5 server can be upgraded to version 6.1.

For a version 5.3 or version 5.4 server, check whether the operating system must be upgraded before beginning the upgrade procedure.

The system requirements for the upgrade utility are the same as the system requirements for a version 5.5 server.

The upgrade utility is based on the version 5.5 server code.

The upgrade utility package must be installed on the system where the version 5 database is located.

Tip: The version 5.3 or version 5.4 server itself does not have to be upgraded to version 5.5 before you upgrade to version 6.1. Instead, the system where that server is located must meet the operating system requirements for running a version 5.5 server.

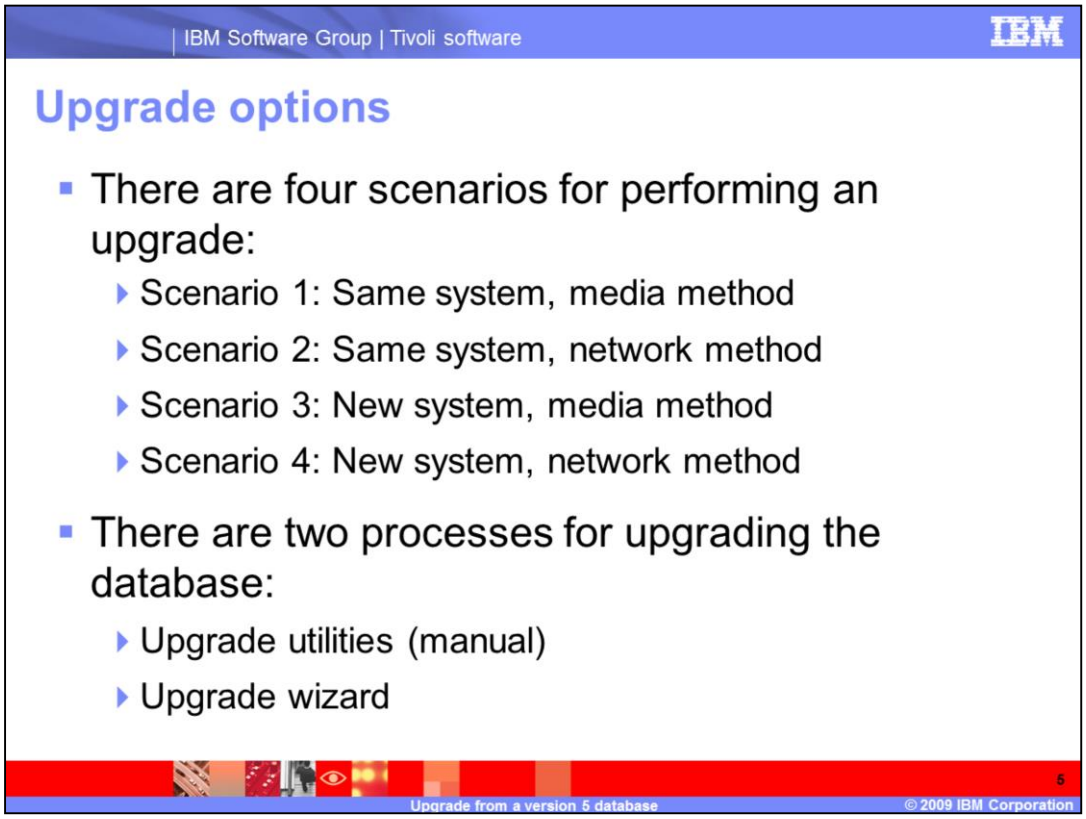
Client nodes and storage agents must be version 5.4 or later to connect to a version 6.1 server.

You cannot upgrade your server to run on an operating system that is different from the operating system it currently runs on.

Some platforms that were supported for earlier versions of the server are *not* supported for version 6.1. These include the following platforms:

- HP-UX running on a PA-RISC system
- Linux® running on an Intel® Itanium® system (IA64)
- Linux running on a 32-bit x86 system
- Microsoft® Windows® running on an Intel Itanium system (IA64)
- Solaris SPARC 9

Refer to the *Server Upgrade Guide* for more details.



There are four scenarios for performing an upgrade:

- Scenario 1: Same system, media method
- Scenario 2: Same system, network method
- Scenario 3: New system, media method
- Scenario 4: New system, network method

There are two processes for upgrading the database:

- Upgrade utilities (manual)
- Upgrade wizard

The time required to complete the upgrade depends on the following factors:

- The size of the database being upgraded
- The number and speed of system processors
- The storage device configuration
- The method chosen for moving the data from the version 5 database to the version 6 database

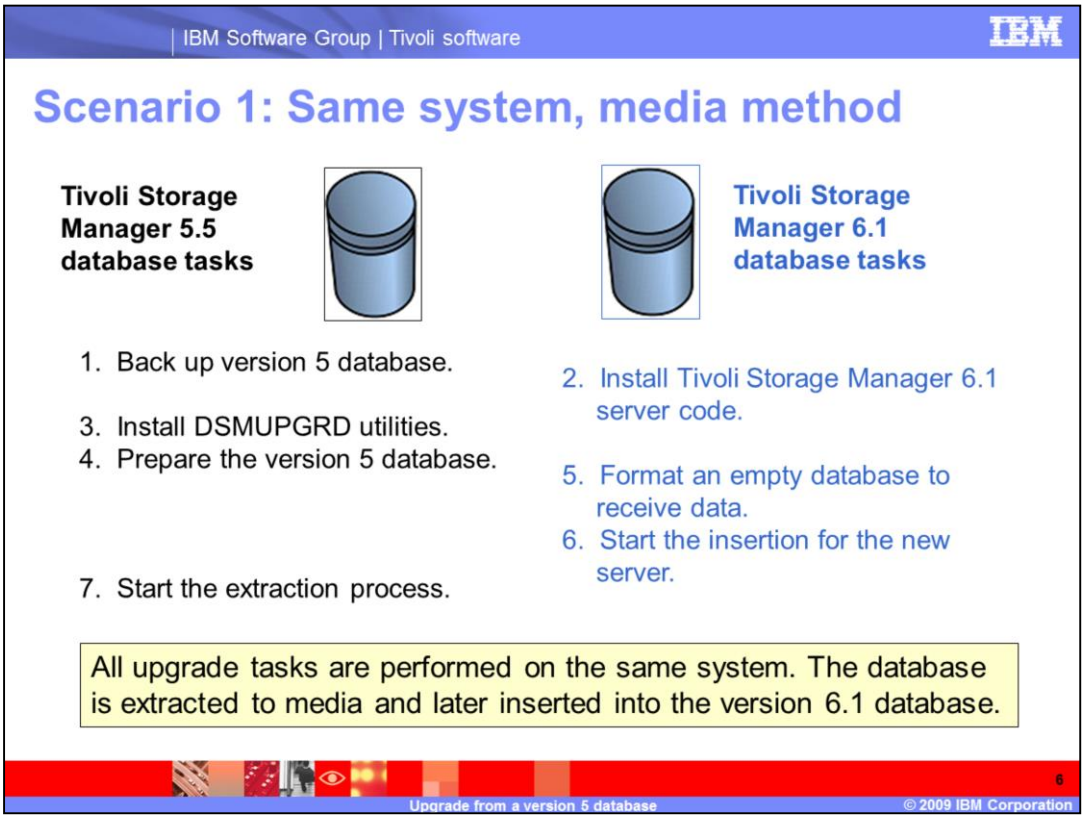
If your environment includes multiple servers and storage agents, evaluate the compatibility of the versions being run with an upgraded version 6.1 server. Plan to upgrade one server first in a test environment. Then stage the upgrade of additional servers and storage agents.

After you install the version 6.1 server program, upgrade the database for each server instance separately.

If you use the upgrade wizard, run the wizard once for each server instance. You can upgrade multiple servers at the same time.

If you use the upgrade utilities from a command-line interface, repeat the procedure for upgrading each server instance.

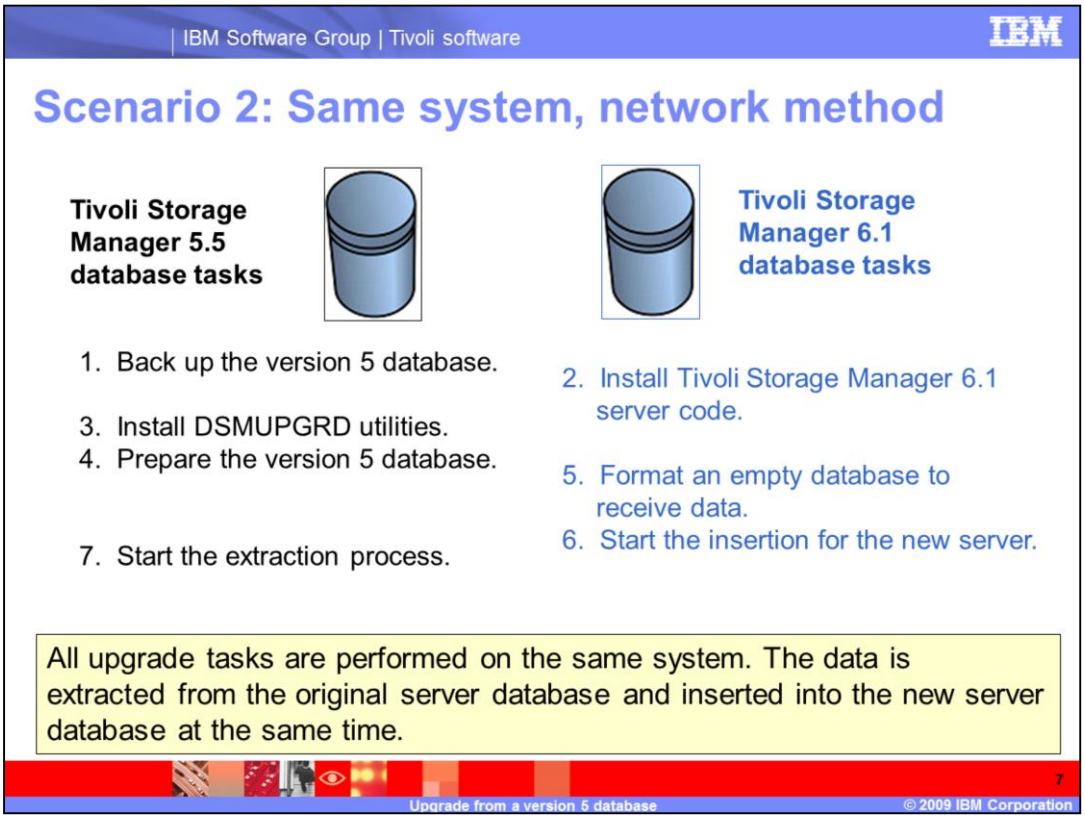
You can begin production-level operations with one upgraded server instance while other server instances are still being upgraded.



With scenario 1, all upgrade tasks are performed on the same system. The database is extracted to media and later inserted into the version 6.1 database.

Follow these steps to perform the upgrade:

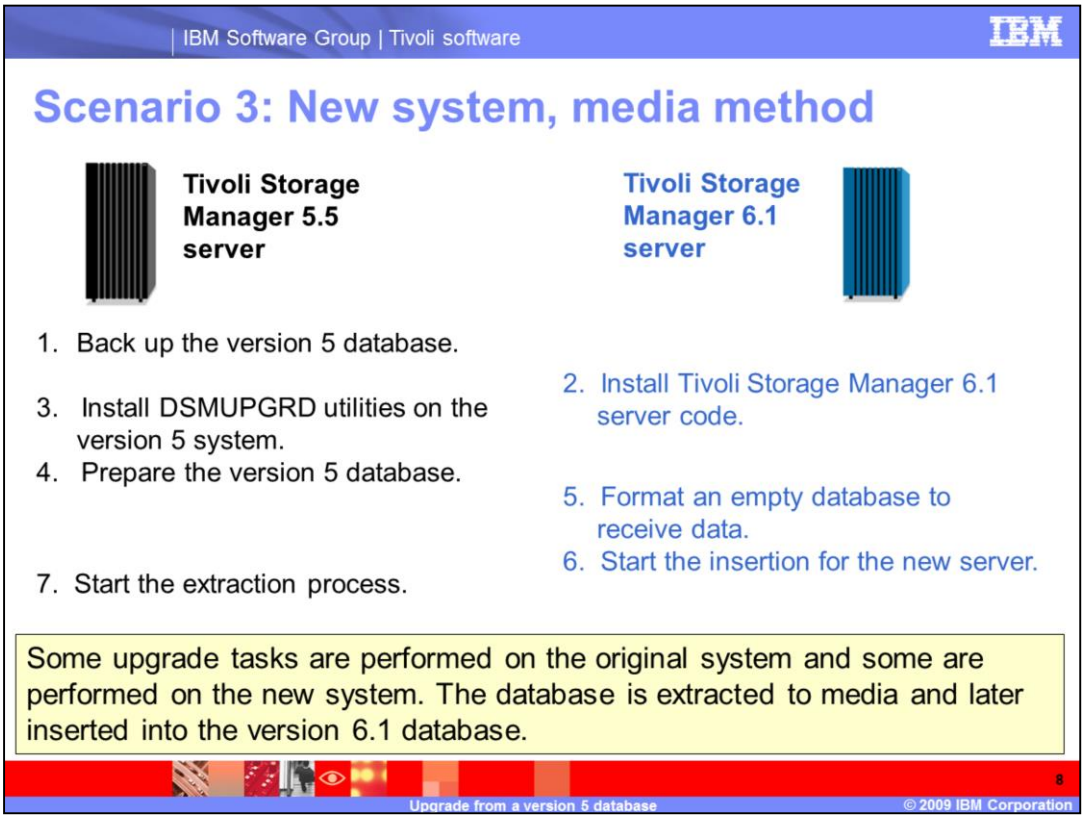
1. Back up the version 5 database to media.
2. Install Tivoli Storage Manager 6.1 server code.
3. Install DSMUPGRD utilities for the version 5 database.
4. Prepare the version 5 database.
5. Format an empty database for version 6.1 to receive the data.
6. Start the database insertion from media for the new server.
7. Start the database extraction from media for the version 5 database.



The process for upgrading with scenario 2 is similar to scenario 1. The data is extracted from the original server database and inserted into the new server database at the same time over the network..

Follow these steps to perform the upgrade:

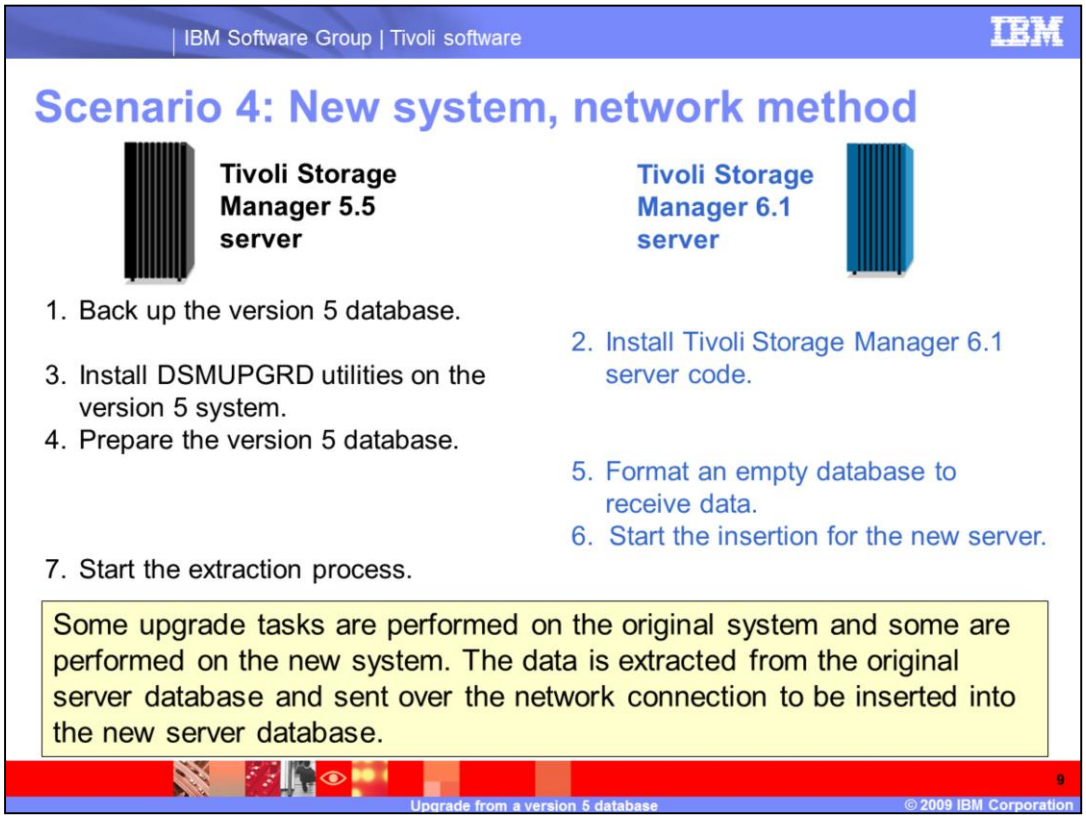
1. Back up the version 5 database.
2. Install Tivoli Storage Manager 6.1 server code.
3. Install DSMUPGRD utilities for the version 5 database.
4. Prepare the version 5 database.
5. Format an empty database for version 6.1 to receive the data.
6. Start the database insertion process for the new server.
7. Start the database extraction process of the version 5 database.



With scenario 3, some upgrade tasks are performed on the original system and some are performed on the new system. The database is extracted to media and later inserted into the version 6.1 database.

Follow these steps to perform the upgrade:

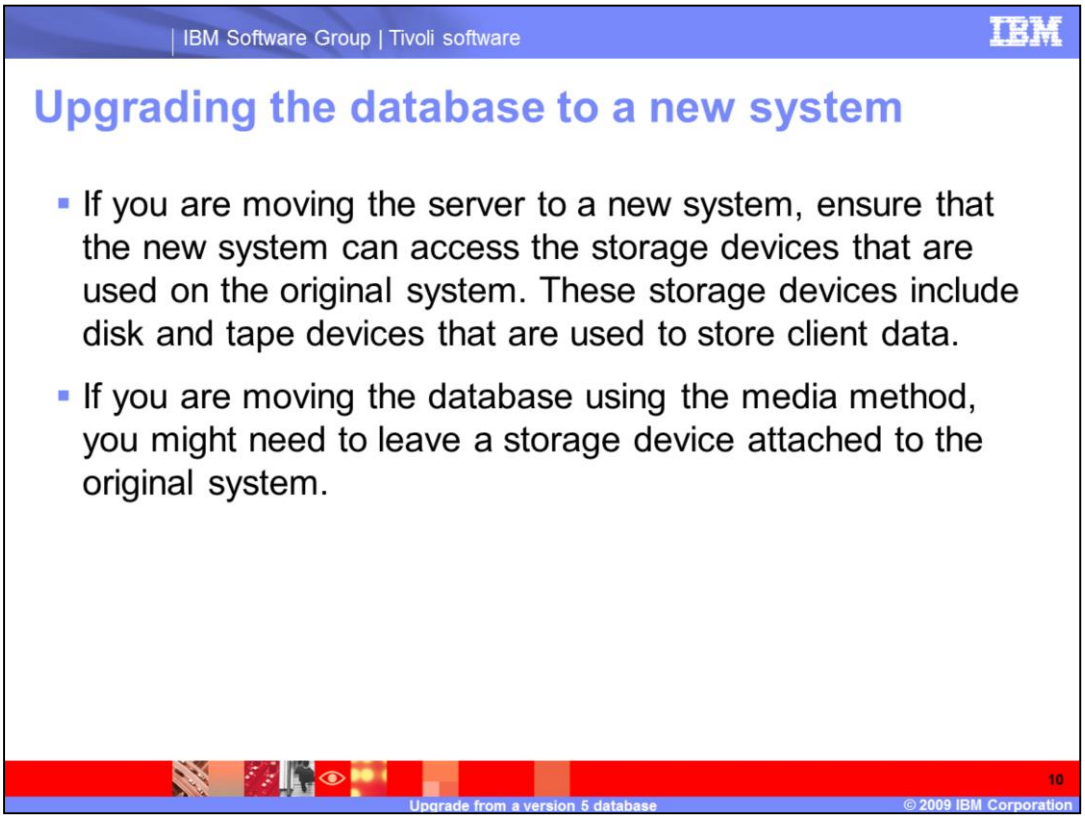
1. Back up the version 5 database to media.
2. Install Tivoli Storage Manager 6.1 server code on the new system.
3. Install DSMUPGRD utilities for the database on the version 5 system.
4. Prepare the database on the version 5 system.
5. Format an empty database on the new system for version 6.1 to receive the data.
6. Start the database insertion from media on the new server.
7. Start the database extraction from media on the version 5 system.



The process for upgrading with scenario 4 is similar to scenario 3. The data is extracted from the original server database and sent over the network connection to be inserted into the new server database.

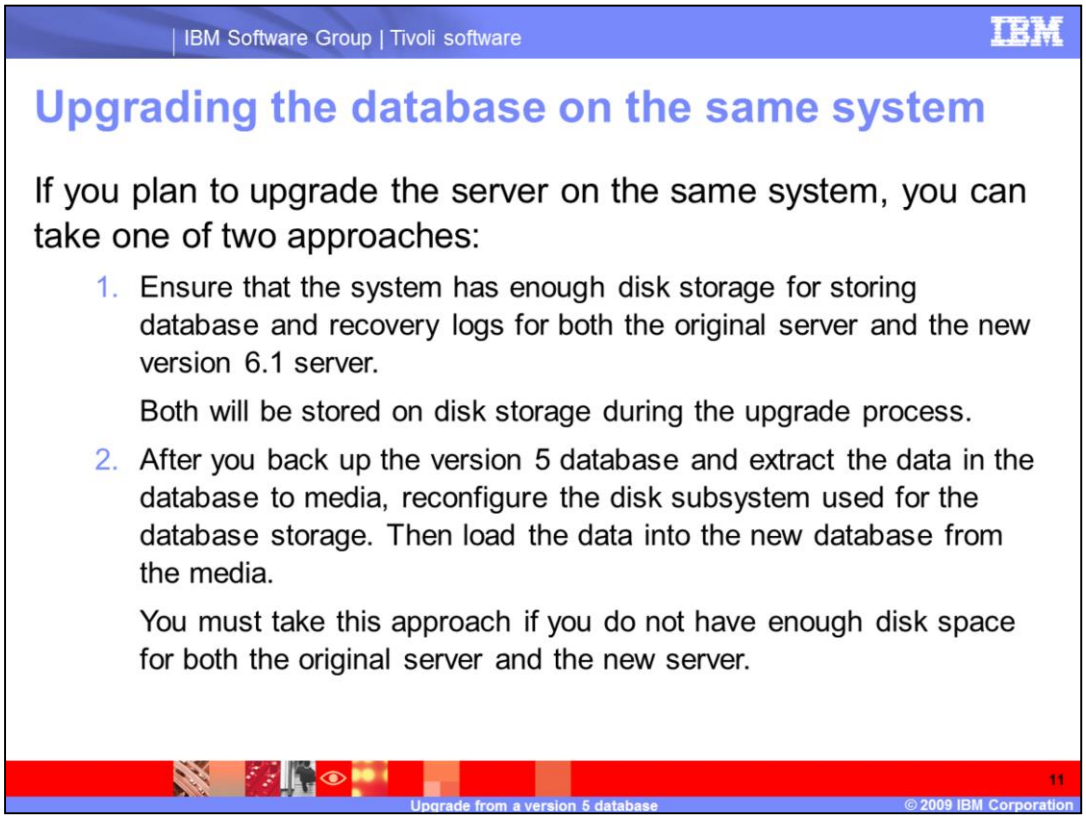
Follow these steps to perform the upgrade:

1. Back up the version 5 database.
2. Install Tivoli Storage Manager 6.1 server code.
3. Install DSMUPGRD utilities for the version 5 database.
4. Prepare the version 5 database.
5. Format an empty database for version 6.1 to receive the data.
6. Start the database insertion process for the new server.
7. Start the database extraction process of the version 5 database.



If you are moving the server to a new system, ensure that the new system can access the storage devices that are used on the original system. These storage devices include disk and tape devices that are used to store client data.

If you are moving the database using the media method, you might need to leave a storage device attached to the original system.



If you plan to upgrade the server on the same system, you can take one of two approaches:

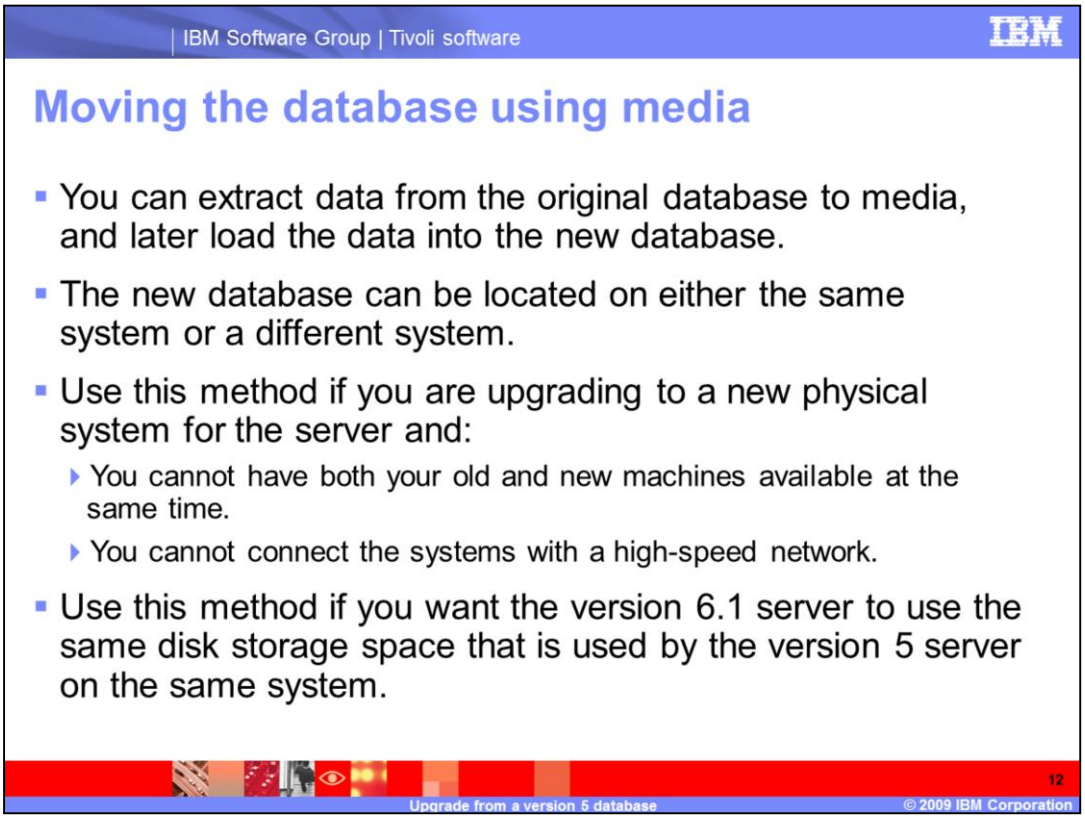
1.Ensure that the system has enough disk storage for storing database and recovery logs for both the original server and the new version 6.1 server. Both will be stored on disk storage during the upgrade process.

2.After you back up the version 5 database and extract the data in the database to media, reconfigure the disk subsystem used for the database storage. Then insert the data to the new database from the media.

You must take this approach if you do not have enough disk space for both the original server and the new server.

If you plan to upgrade the server on the same system and use the network method for moving the database, ensure that the system memory is sufficient to run two servers simultaneously.

When you run the process that extracts the database from the existing server and inserts the database for the new server, the net effect is that two servers are running at the same time on the system. System memory must be large enough to handle these processes.



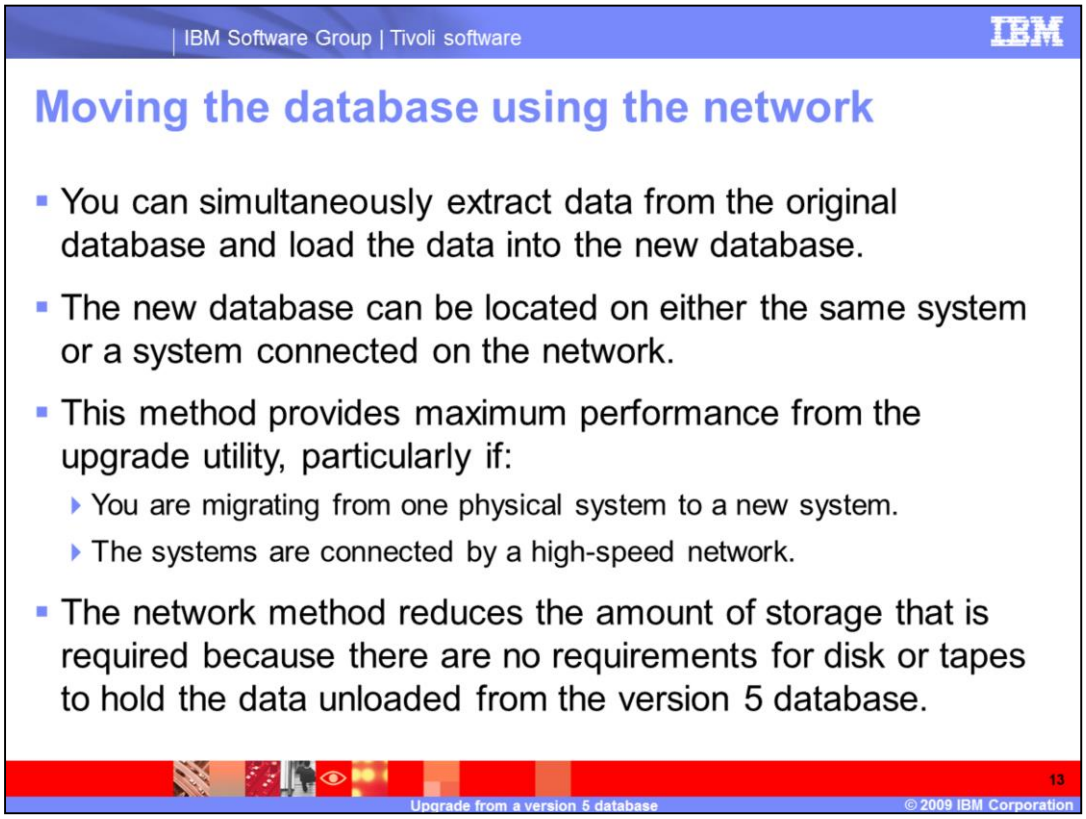
You can extract data from the original database to media, and later load the data into the new database.

The new database can be located on either the same system or a different system.

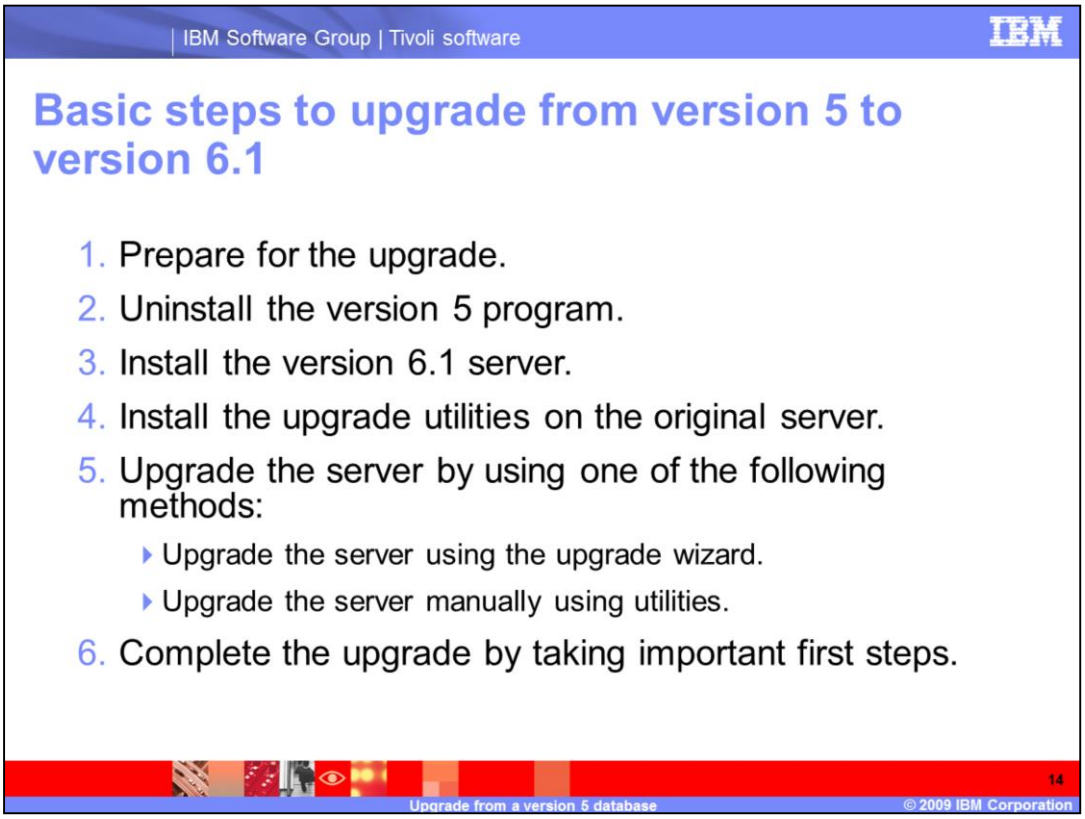
Use this method if you are upgrading to a new physical system and you cannot have both your old and new machines available at the same time or you cannot connect the systems with a high-speed network.

Use this method if you want the version 6.1 server to use the same disk storage space that is used by the version 5 server on the same system.

If you plan to extract the original server's database to media to load into the new database later, ensure that you have space available for storing the database and the manifest file that the extraction process creates.



The network method for the data movement overlaps the extraction time with the insertion time. Using the network method for the database extraction and insertion and database directories that are spread across different physical devices, you can attain a rate of 5 – 10 GB per hour.



Follow these basic steps to perform the upgrade:

1.Prepare for the upgrade.

2.Uninstall the version 5 program.

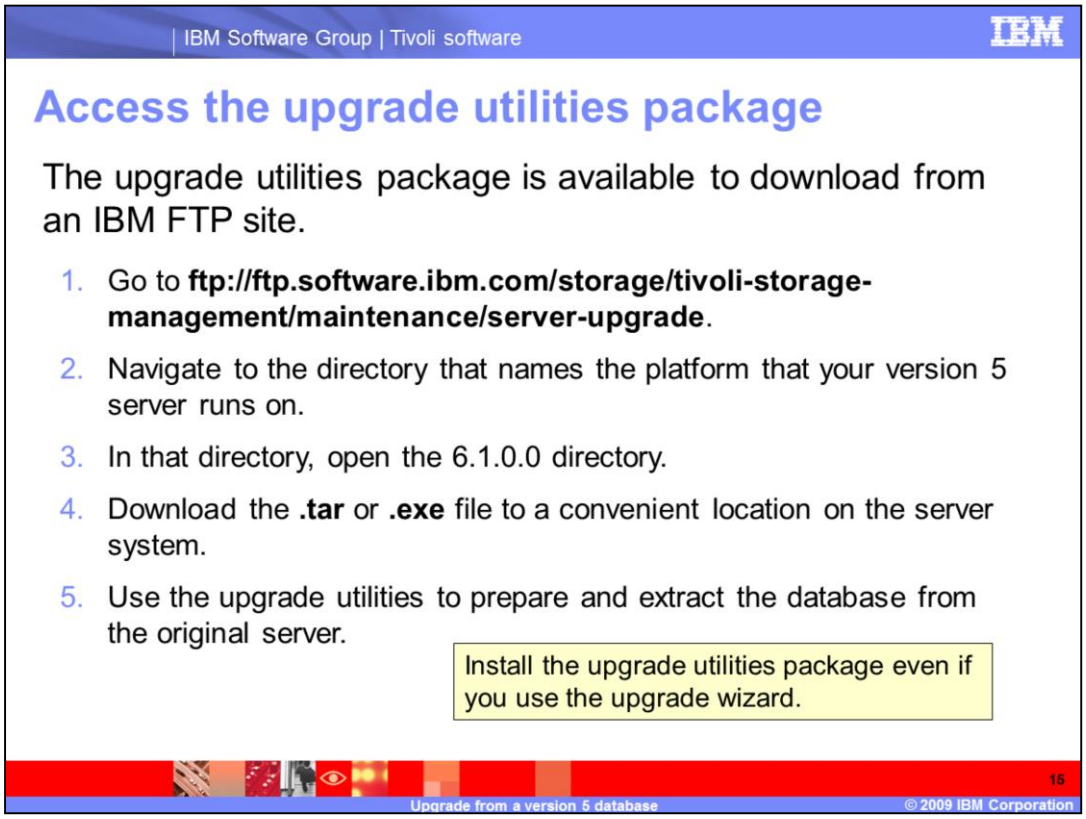
3.Install the version 6.1 server.

4.Install the upgrade utilities on the original server.

5.Upgrade the server by using one of the following methods:

- Upgrade the server using the upgrade wizard.
- Upgrade the server manually using utilities.

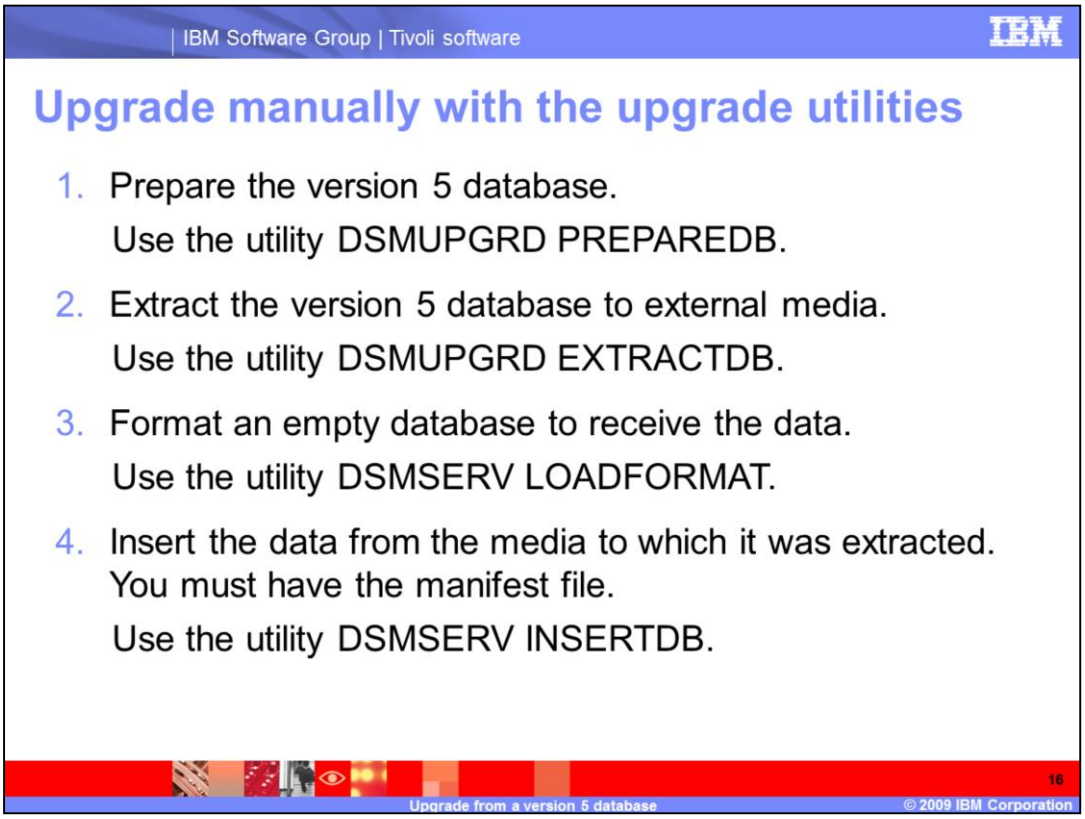
6.Complete the upgrade by taking important first steps.



The upgrade utilities package is available to download from an IBM FTP site.

1. Go to the IBM FTP site listed on the slide.
2. Navigate to the directory that names the platform that your version 5 server runs on.
3. In that directory, open the 6.1.0.0 directory.
4. Download the **.tar** or **.exe** file to a convenient location on the server system.

Use the upgrade utilities to prepare and extract the database from the original server. The upgrade utilities package is required even if you use the upgrade wizard.



If you are going to upgrade the database manually, follow these steps:

1.Prepare the version 5 database.

Use the utility DSMUPGRD PREPAREDB.

2.Extract the version 5 database to external media.

Use the utility DSMUPGRD EXTRACTDB.

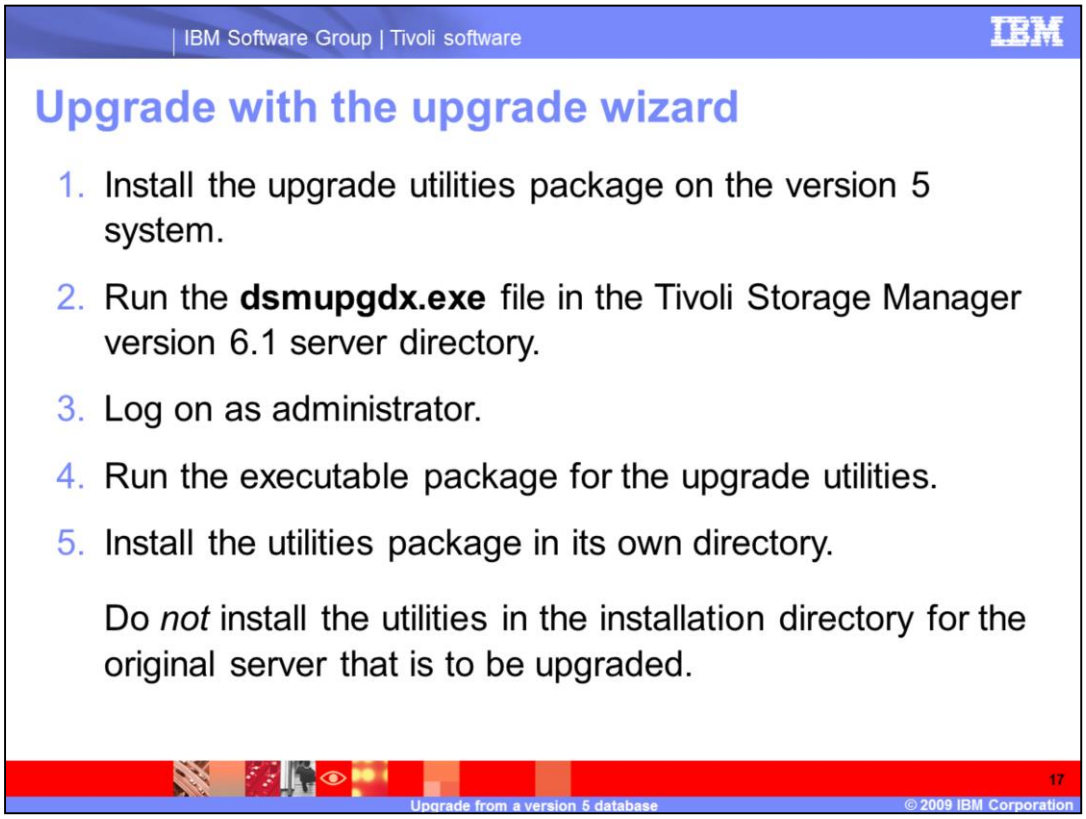
3.Format an empty database to receive the data.

Use the utility DSMSERV LOADFORMAT.

4.Insert the data from the media to which it was extracted. You must have the manifest file.

Use the utility DSMSERV INSERTDB.

Detailed instructions for the supported platforms are in the *IBM Tivoli Storage Manager Version 6.1 Server Upgrade Guide.*



If you are going to upgrade the database with the wizard, follow these steps:

1.Install the upgrade utilities package on the version 5 system.

2.Run the **dsmupgdx.exe** file in the Tivoli Storage Manager version 6.1 server directory.

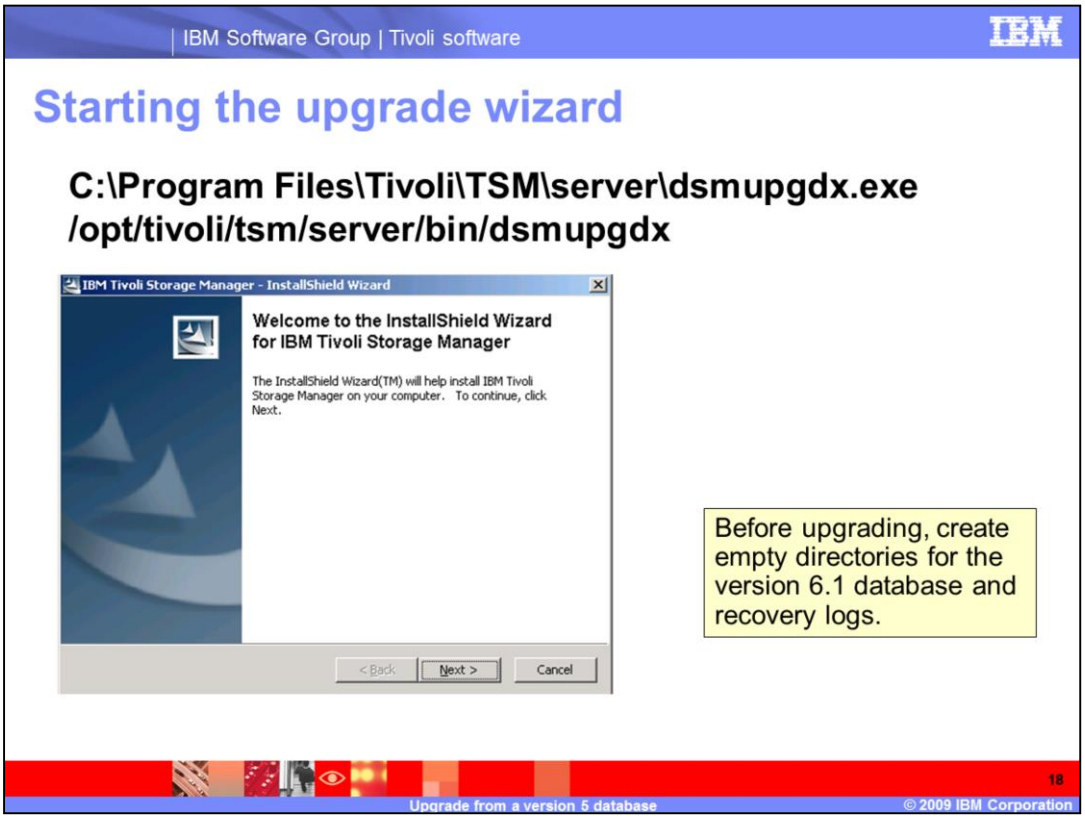
3.Log on as administrator.

4.Run the executable package for the upgrade utilities.

5.Install the utilities package in its own directory.

Do *not* install the utilities in the installation directory for the original server that is to be upgraded.

Detailed instructions for the supported platforms are in the *IBM Tivoli Storage Manager Version 6.1 Server Upgrade Guide.*



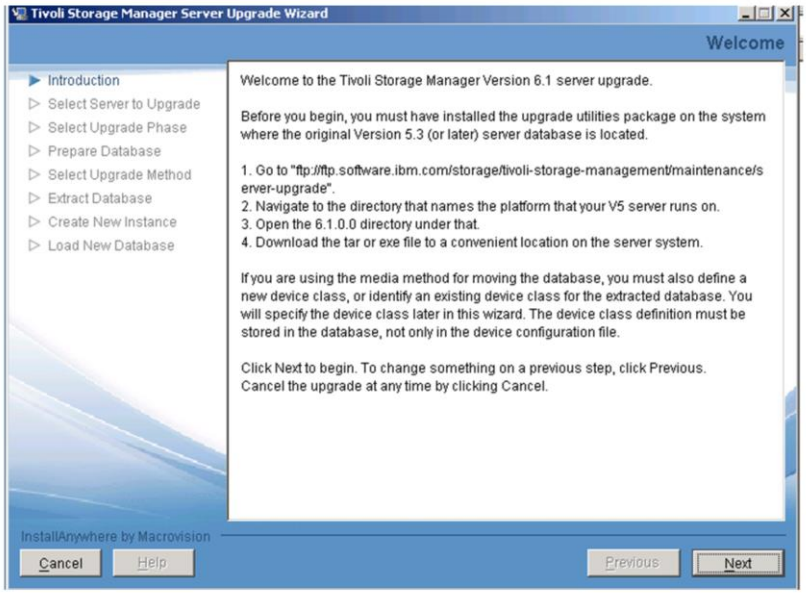
This is an example of using the upgrade wizard on a Microsoft Windows system.

Before upgrading, create empty directories for the version 6.1 database and recovery logs.

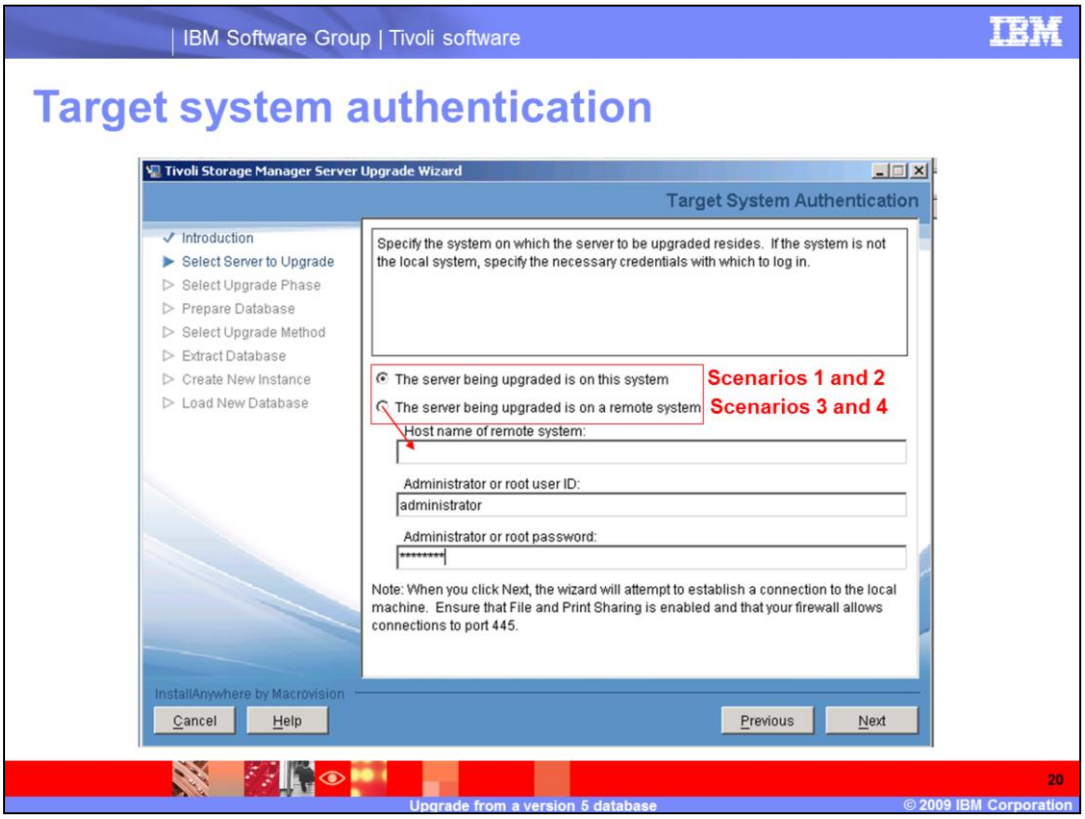
Start the wizard by clicking the **dsmupgdx.exe** file in the directory for your version 6.1 server.

Click **Next** to continue.

Welcome screen



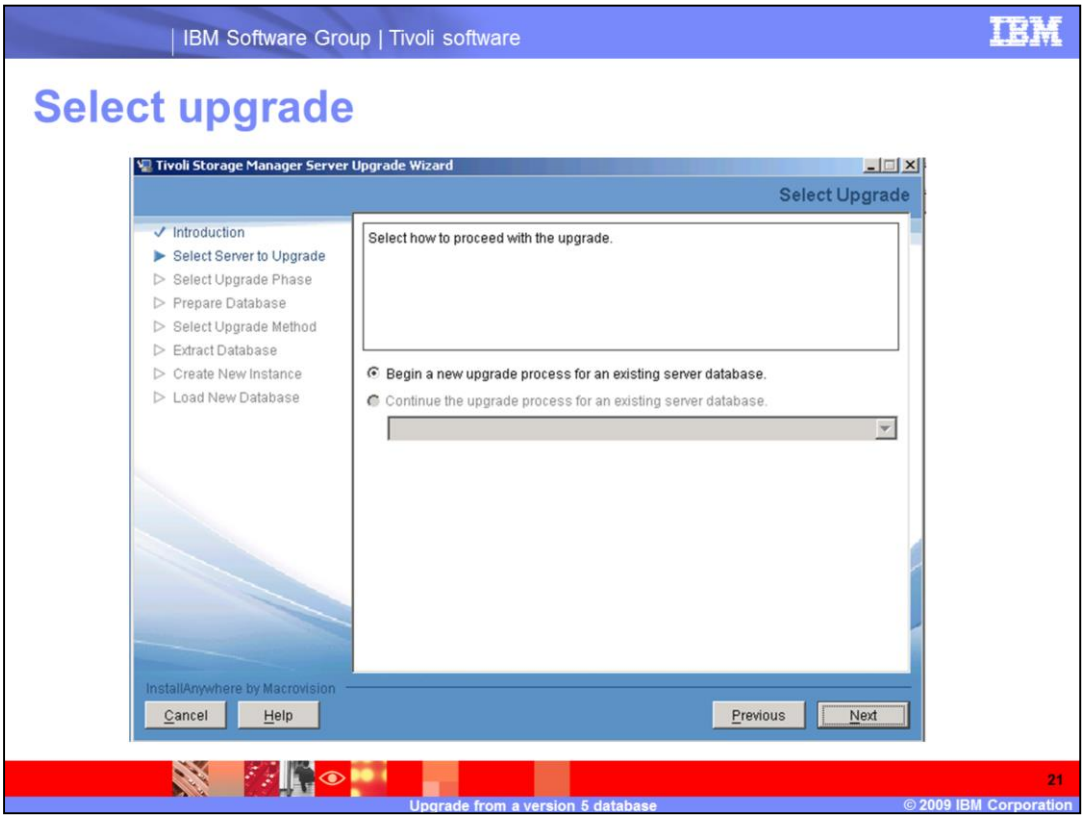
Review the Welcome screen and click **Next**.



Select the type of upgrade, either on this system or on a remote system.

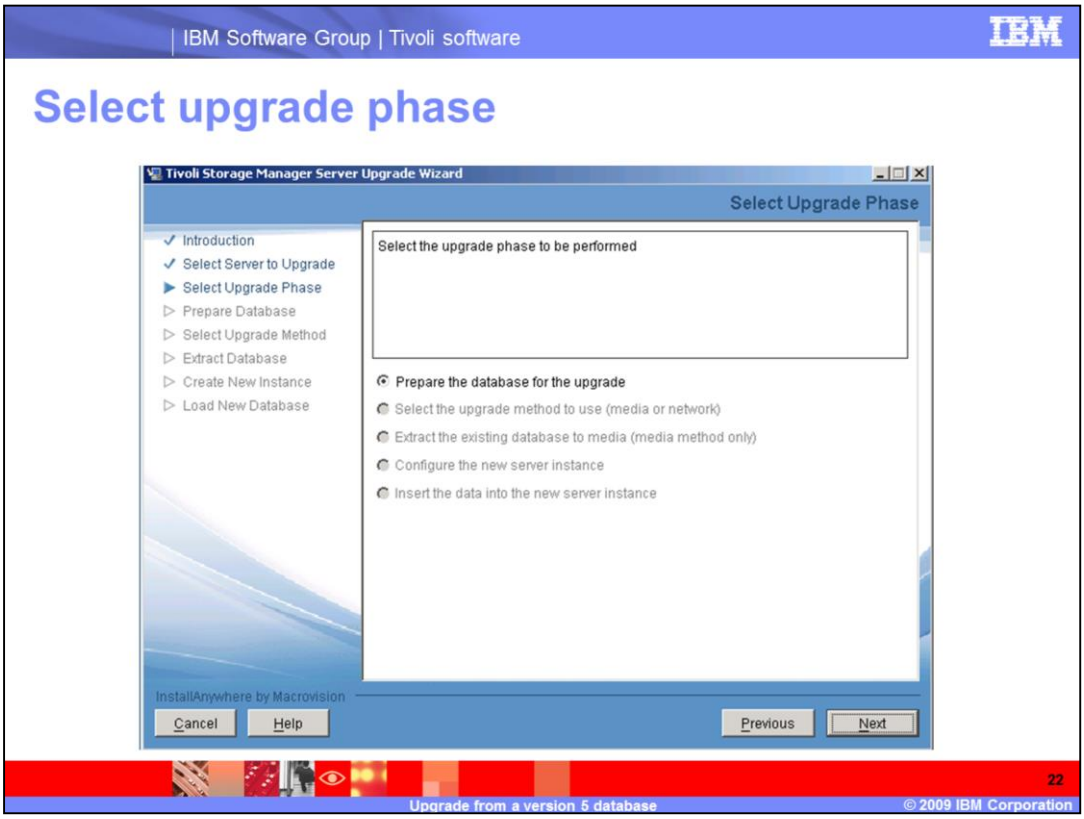
If you select an upgrade on a remote system, enter the host name of the version 5 system.

Enter the system root or administrator user ID and password.

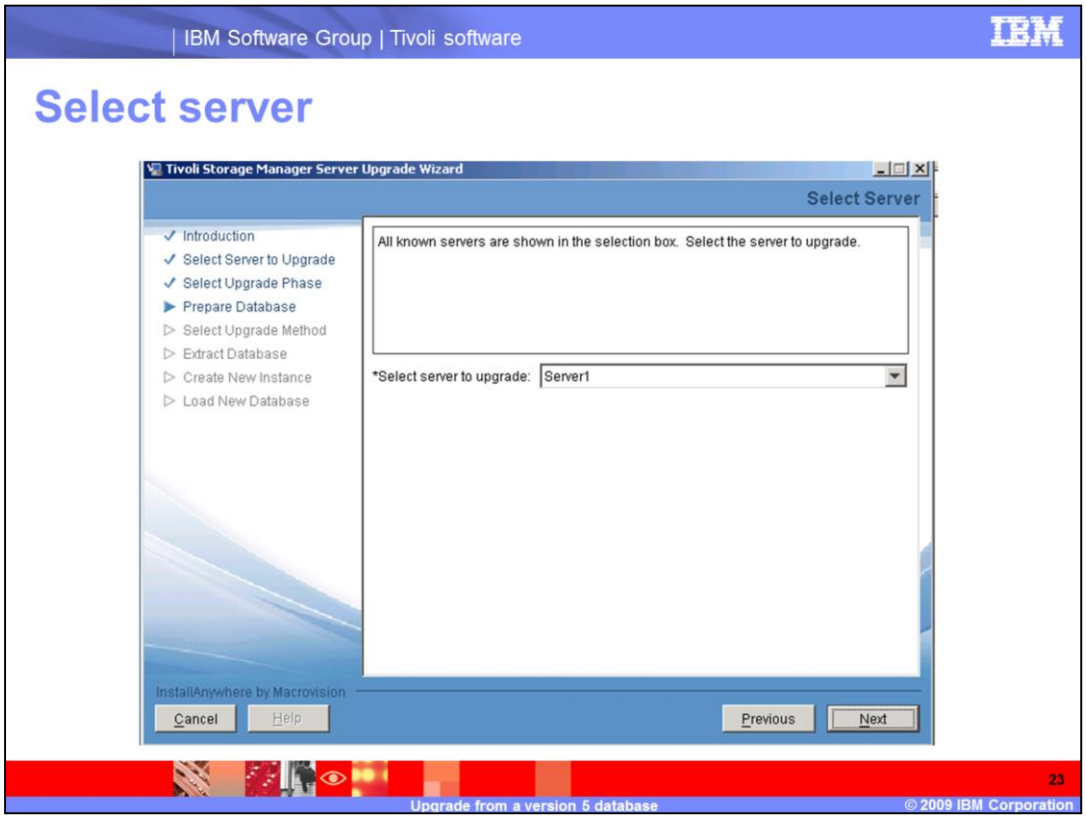


Select **Begin a new upgrade process for an existing server database** and click **Next**.

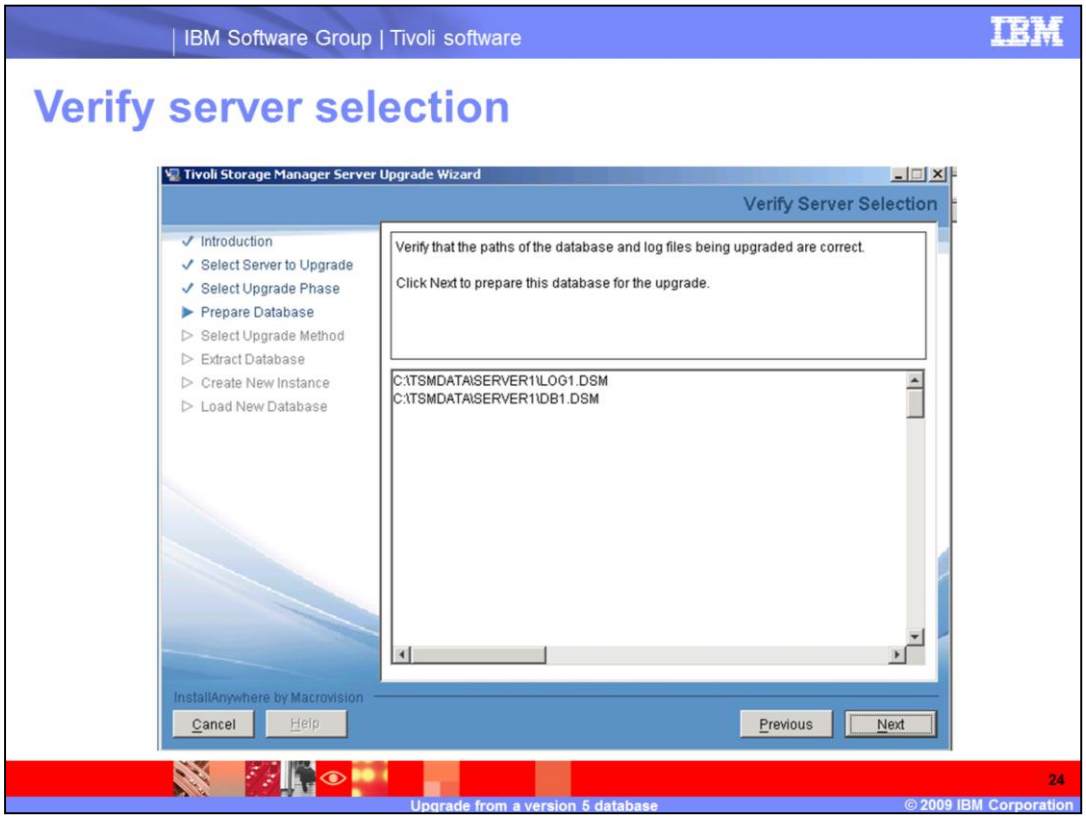
If you are restarting the upgrade after correcting an error, select **Continue the upgrade process for an existing server database** and click **Next**.



The five steps are shown in this screen. The steps are selected by the wizard. Click **Next** to continue.

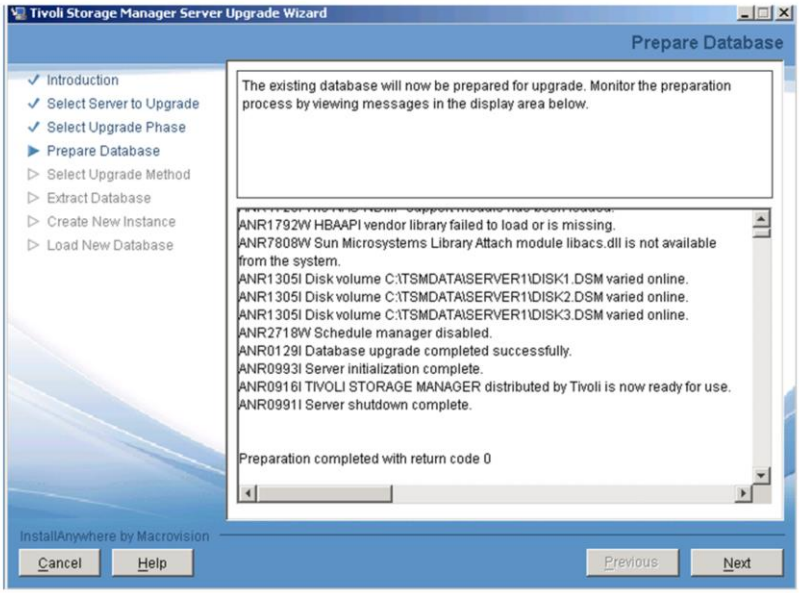


Ensure that the version 5 server to be upgraded is correct and click **Next**.



Verify that the version 5 database and log files are listed. Click **Next** to continue.

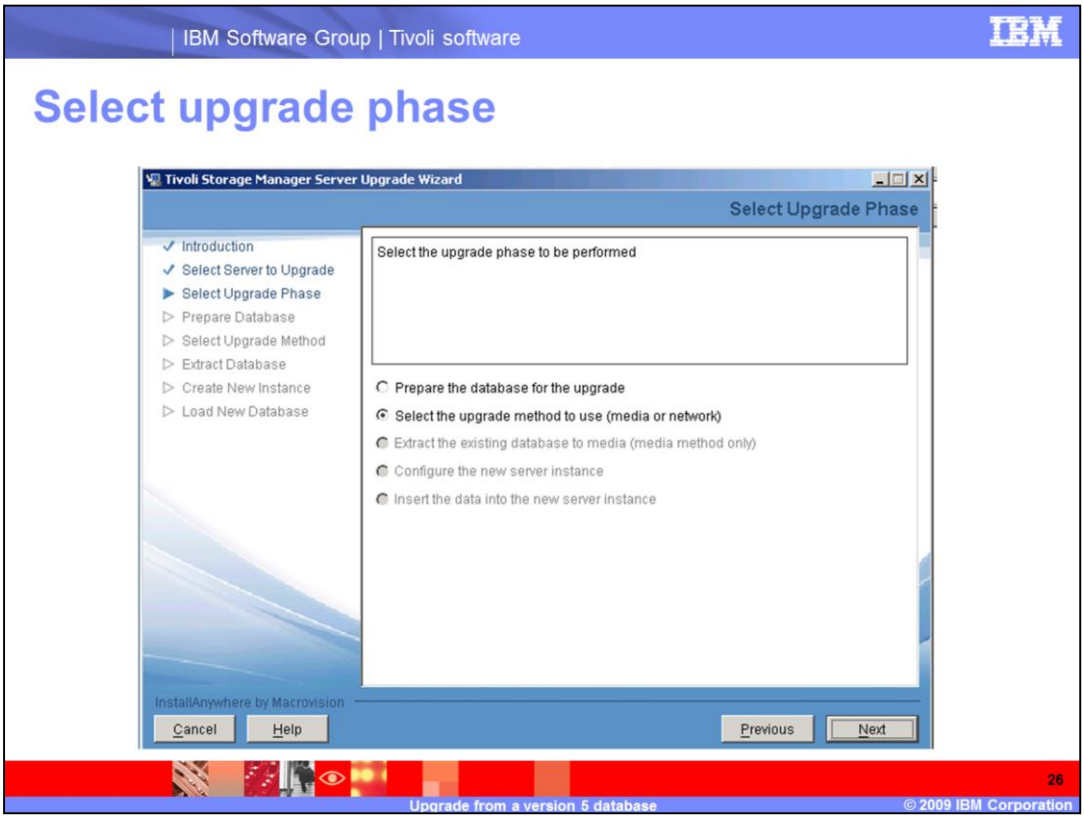
Prepare database



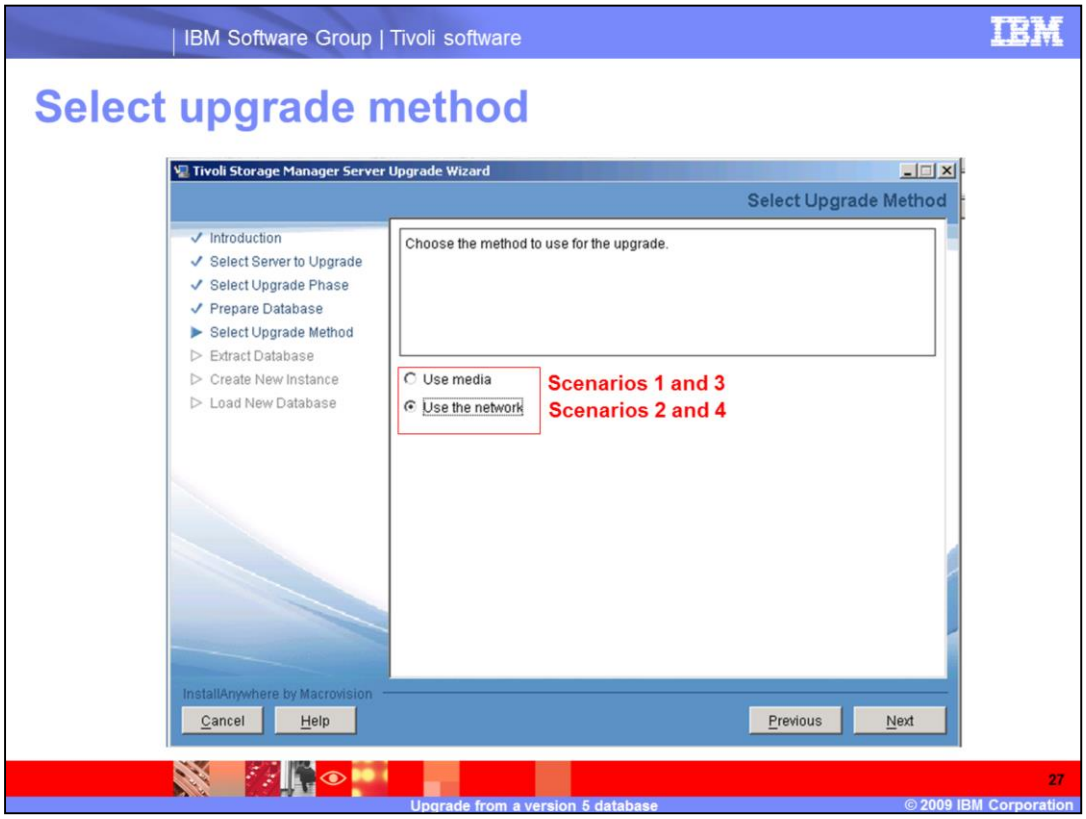
The status of PREPAREDB is displayed.

Return code 0 indicates success.

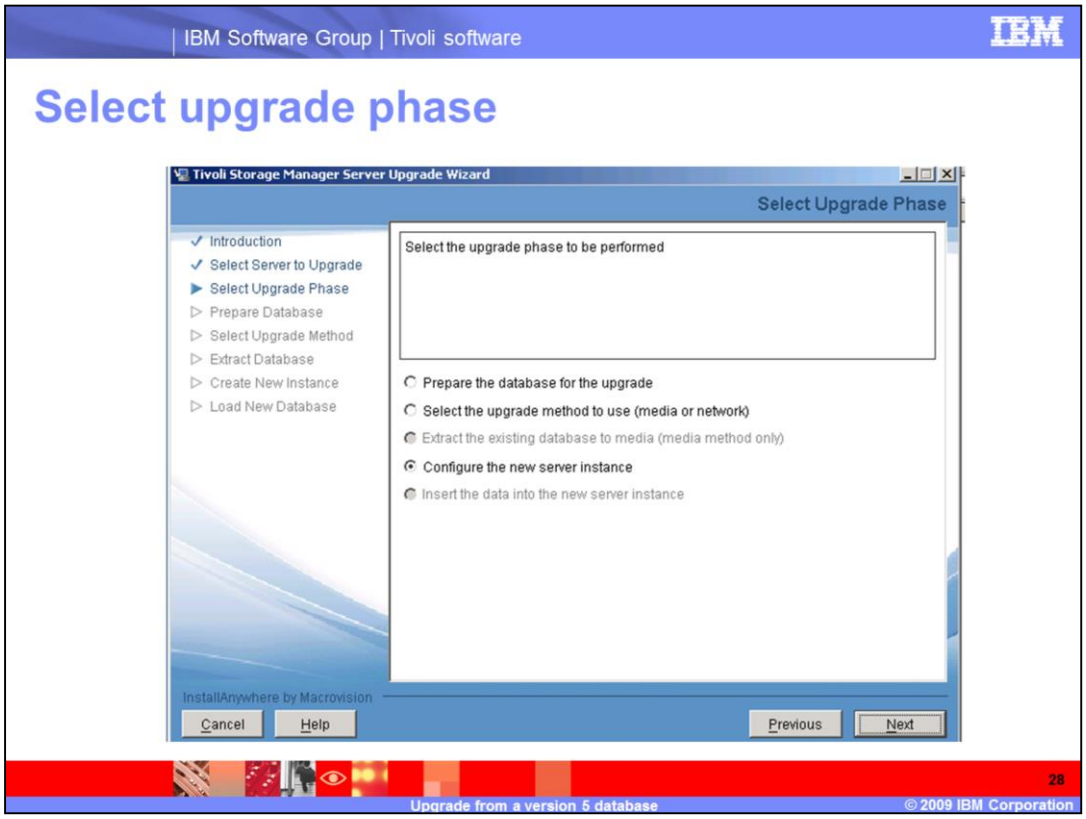
Click **Next** to continue.



Select the upgrade method to use (media or network) is selected. Click **Next** to continue.

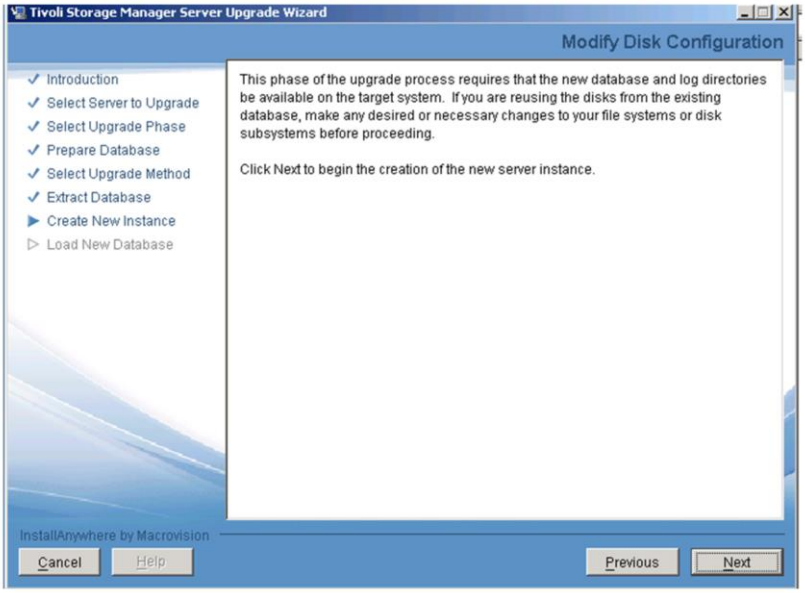


Select **Use media** if you are using scenario 1 or 3. Select **Use the network** if you are using scenario 2 or 4. Scenario 2 is used in this example. Click **Next** to continue.



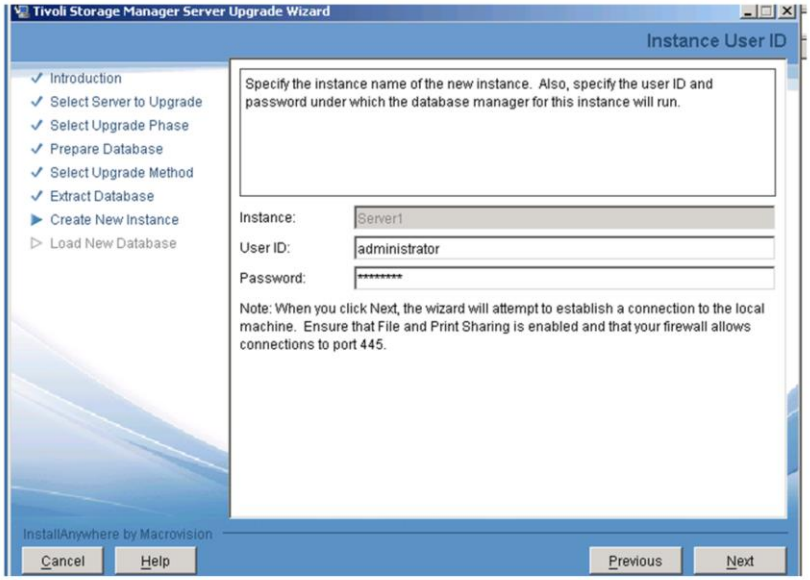
Because this example is for scenario 2, the **Extract the existing database to media** step is skipped. The **Configure the new server instance** step is selected. Click **Next** to continue.

Modify disk configuration



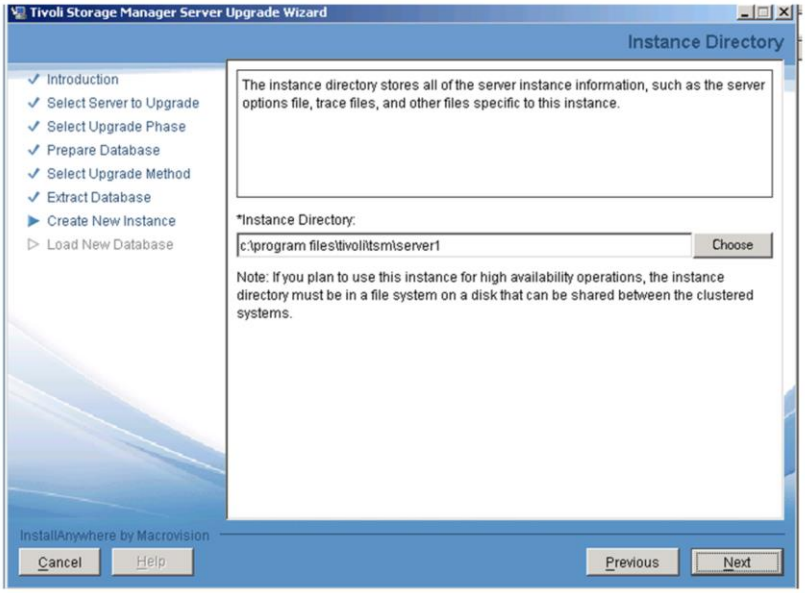
The extraction is complete. Click **Next** to begin the creation of the new server instance.

Instance user ID

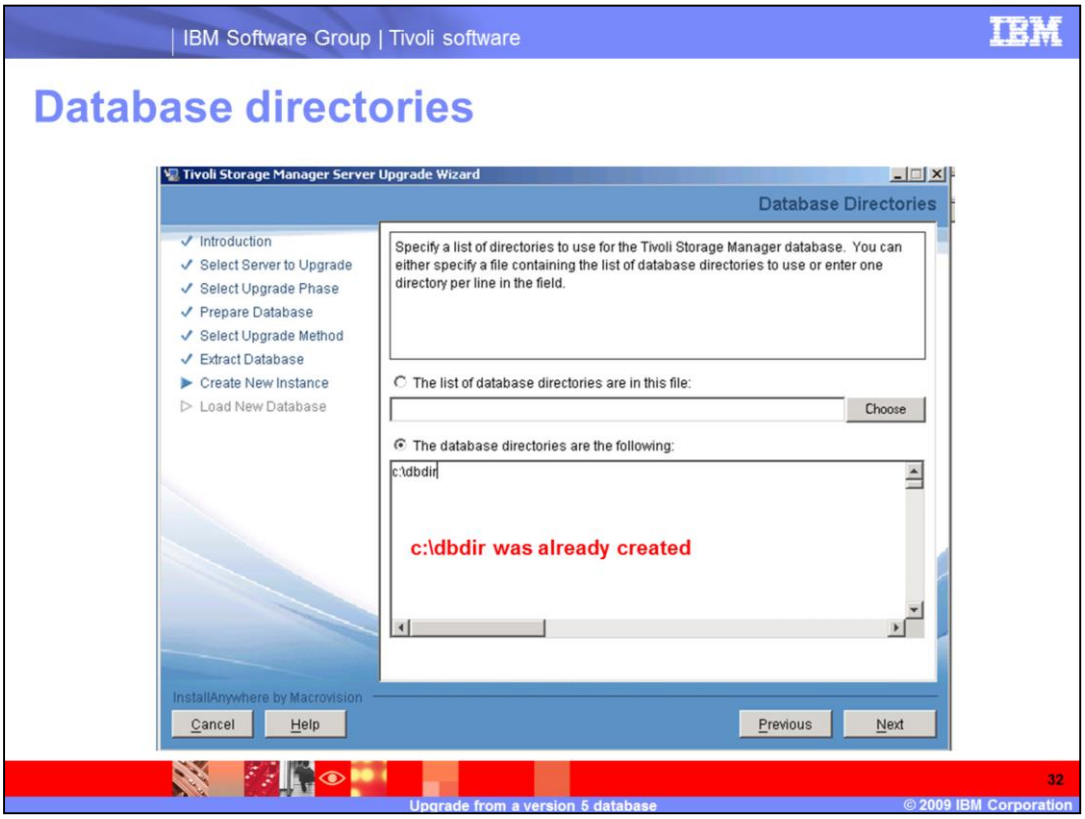


Enter the system root or administrator user ID and password. Click **Next** to continue.

Instance directory



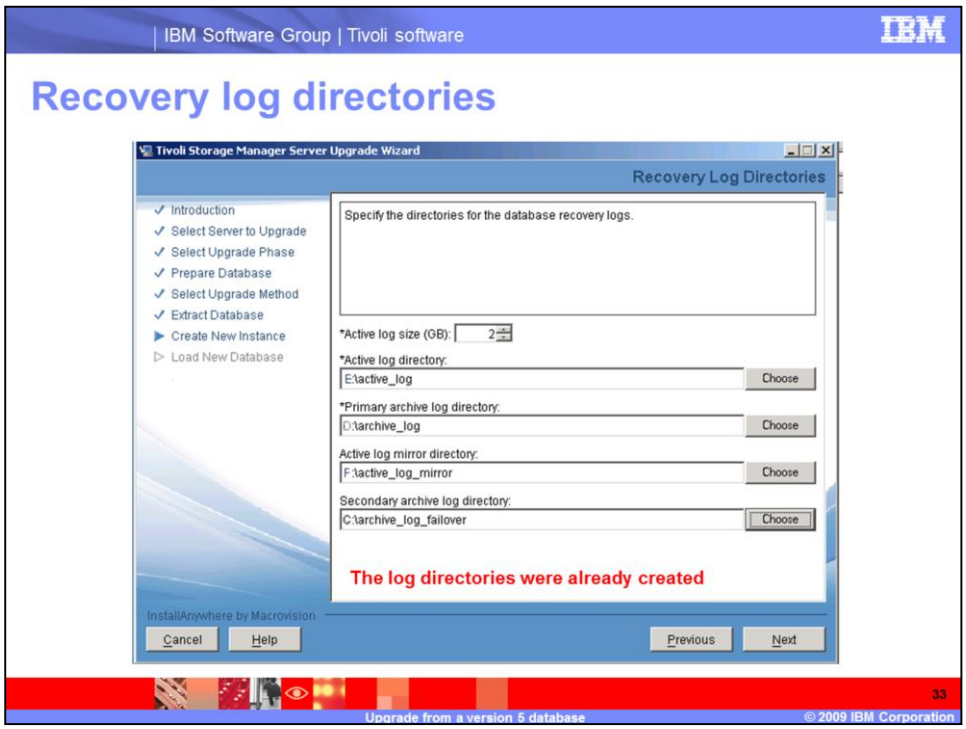
Verify the instance directory. Click **Next** to continue.



Specify the database directory for version 6.1.

Each instance requires its own directory. Consider using separate disks.

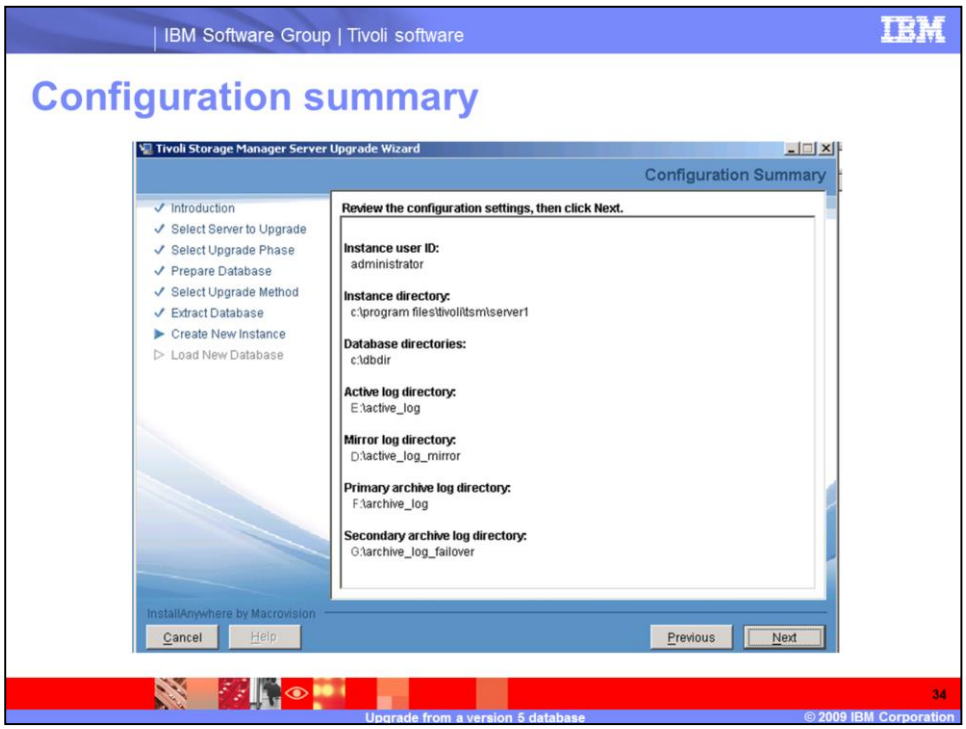
Click **Next** to continue.



Specify the names of the new log files you previously created:

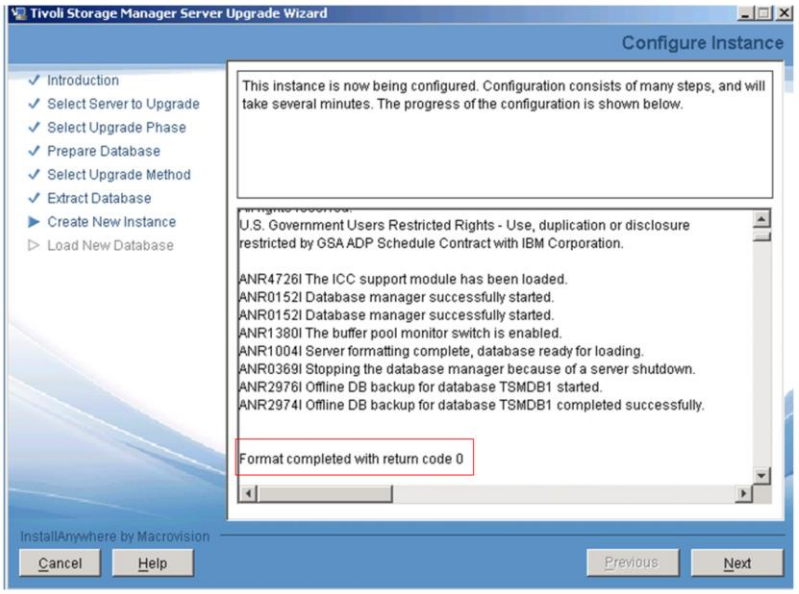
- Active log
- Primary archive log
- Active log mirror
- Secondary archive log

Click **Next** to continue.



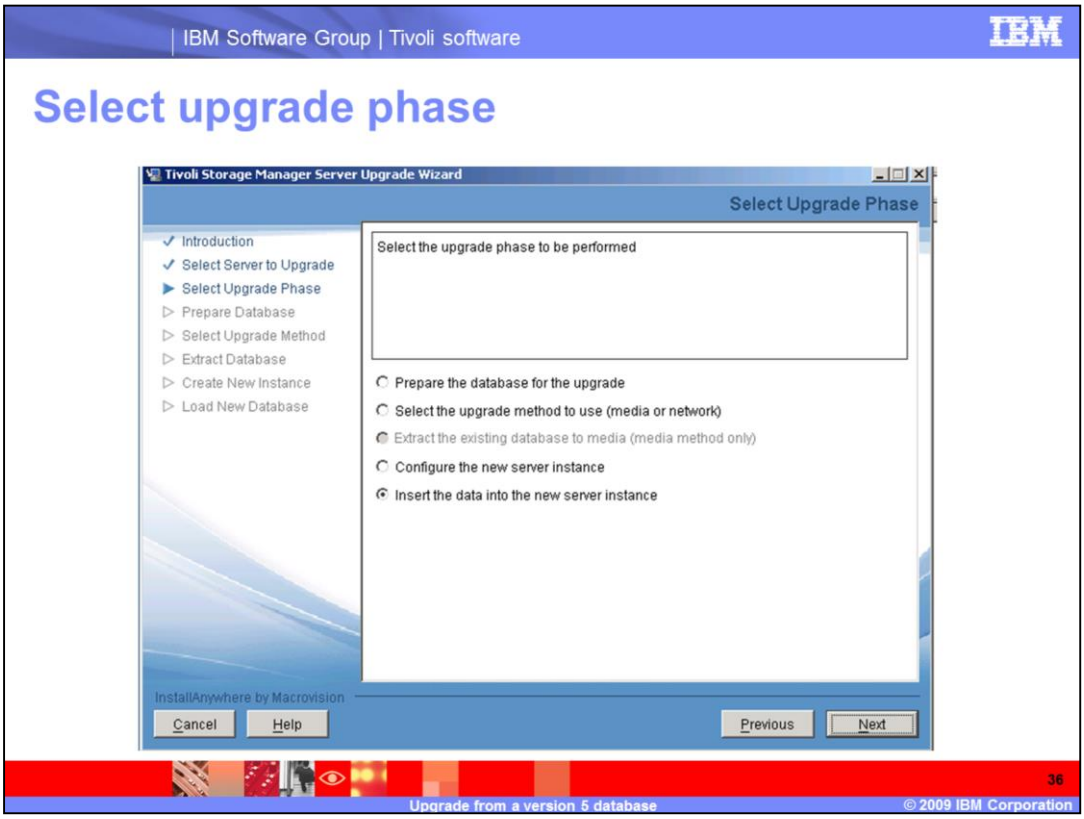
Review the summary and click **Next** to continue.

Configure instance

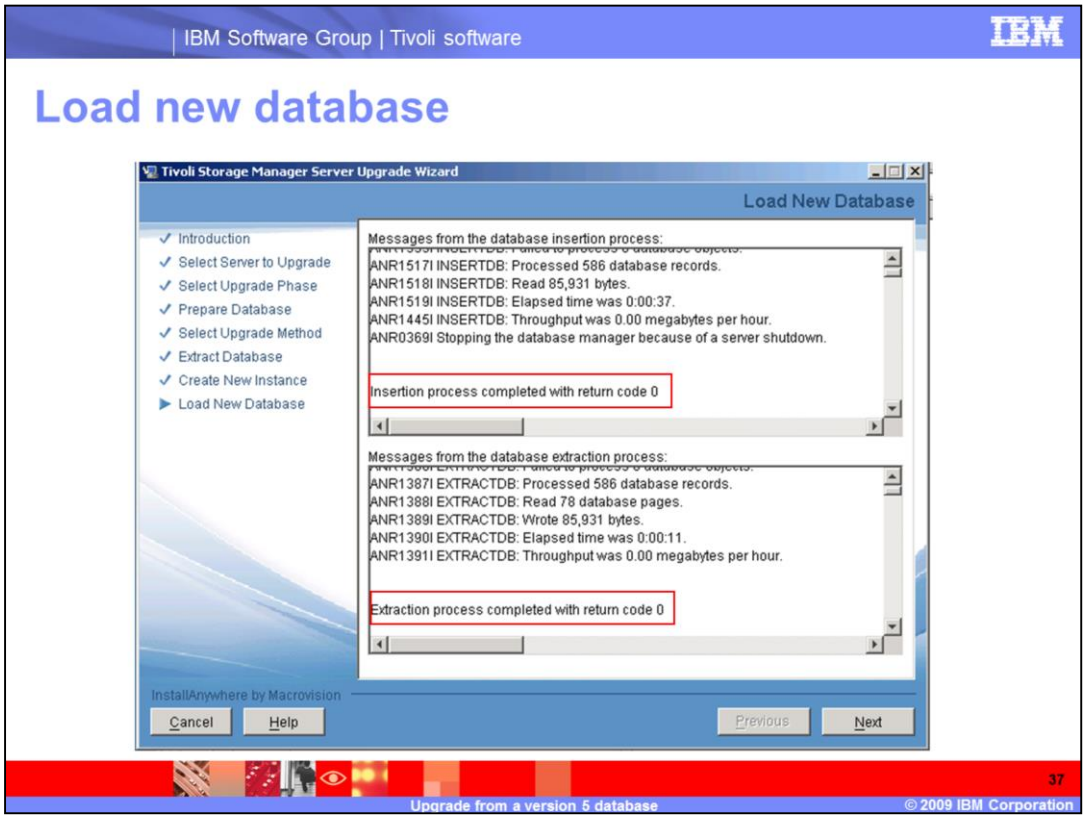


Configuring the instance will take a few minutes.

When it is completed with return code 0, click **Next** to continue.



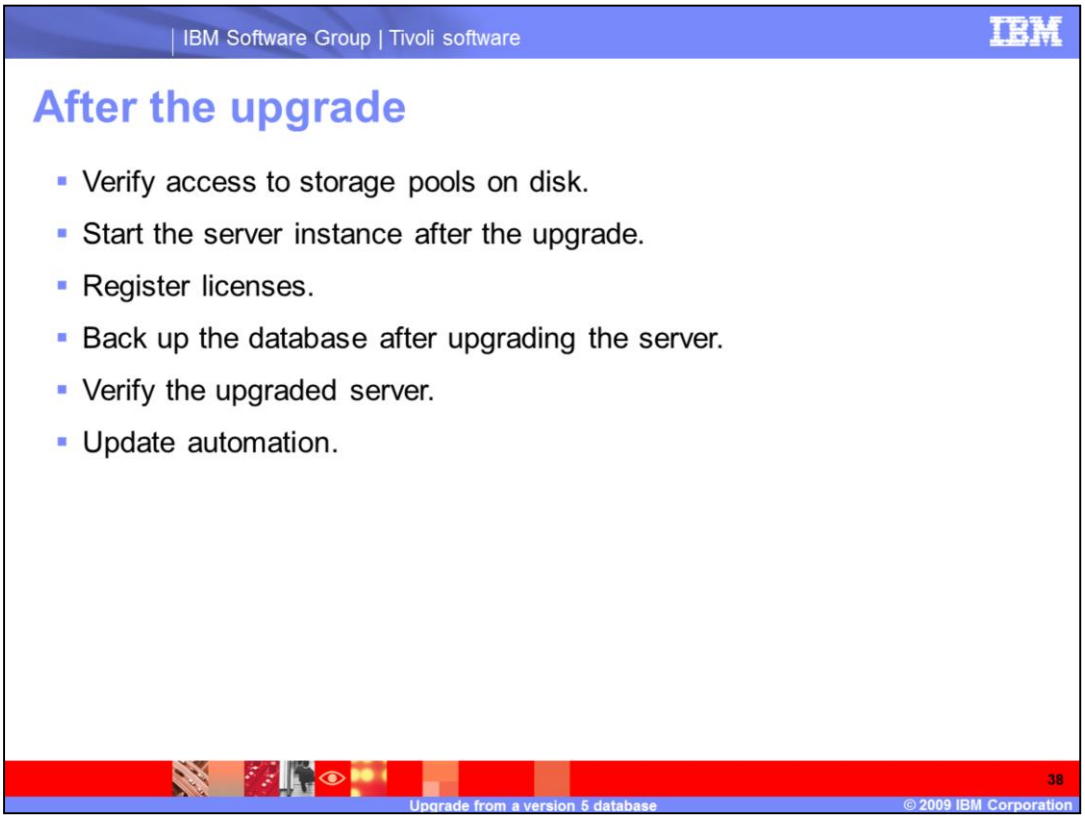
Click **Next** to insert the data into the new server instance.



The size of the database determines the amount of time it takes to load the new database.

Click **Next** to finish.

If the insertion process return code is 0, the upgrade was successful and you are done. If the load failed, you can restart the wizard.



Verify access to storage pools on disk

For all disk space that was used for storage pools (device types of FILE or DISK) by the version 5 server, verify that the user ID that owns the upgraded Tivoli Storage Manager server instance has ownership or read/write permission.

Start the server instance after the upgrade

Verify that the server instance is correctly set up by starting the server instance.

Register licenses

Immediately register any Tivoli Storage Manager licensed functions that you have purchased so that you do not lose any data after you begin using the server. Use the REGISTER LICENSE command for this task.

Back up the database after upgrading the server

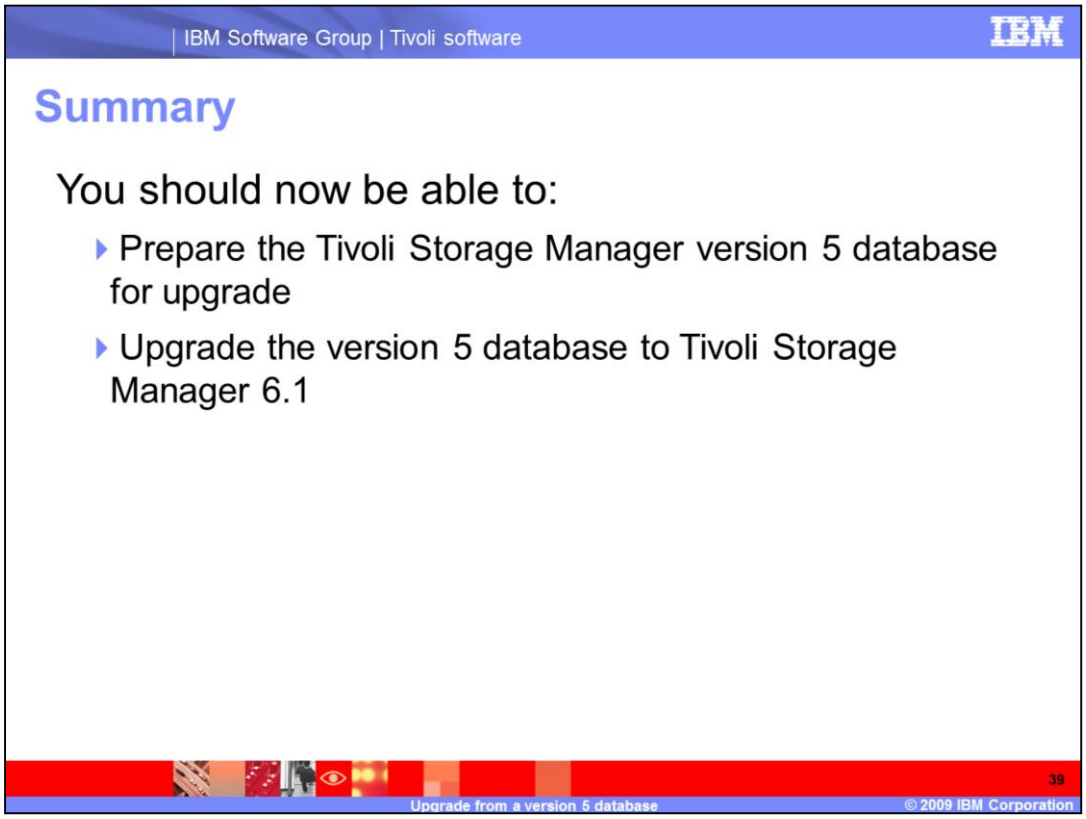
After successfully upgrading the server, perform a full backup of its database as soon as possible. Before performing the backup, you must first select the device class that the database manager will use for automatic backups of the database.

Verify the upgraded server

Verify the operation of the server. If the server was installed on a new system as part of the upgrade, check and update connections to storage devices and other components.

Update automation

Implement and verify changes to any automation or scripts that were identified in the planning process.



This concludes the IBM Education Assistant training module for Tivoli Storage Manager 6.1 upgrade from a version 5 database.

You should now be able to prepare the Tivoli Storage Manager version 5 database for upgrade and upgrade the version 5 database to Tivoli Storage Manager 6.1.

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