



Step By Step SQL Server Log Shipping

By: [Jugal Shah](#) | Last Updated: 2017-03-01 | [Comments \(65\)](#) | Related Tips: [1](#) | [2](#) | [3](#) | [4](#) | [5](#) | [More](#) > [Log Shipping](#)

Problem

Setting up Log Shipping for SQL Server is not that difficult, but having a step by step process is helpful if this is the first time you have setup Log Shipping. In this tip we walk through the steps to setup SQL Server Log Shipping.

Solution

Log Shipping is a basic level SQL Server high-availability technology that is part of SQL Server. It is an automated backup and restore process that allows you to create another copy of your database for failover.

Log shipping involves copying a database backup and subsequent transaction log backups from the primary (source) server and restoring the database and transaction log backups on one or more secondary (Stand By / Destination) servers. The Target Database is in a standby or no-recovery mode on the secondary server(s) which allows subsequent transaction logs to be backed up on the primary and shipped (or copied) to the secondary servers and then applied (restored) there.

Log Shipping Permissions

To setup a log-shipping you must have sysadmin rights on the server.

Log Shipping Minimum Requirements

1. SQL Server 2005 or later
2. Standard, Workgroup or Enterprise editions must be installed on all server instances involved in log shipping.
3. The servers involved in log shipping should have the same case sensitivity settings.
4. The database must use the full recovery or bulk-logged recovery model
5. A shared folder for copying T-Log backup files
6. SQL Server Agent Service must be configured properly

In addition, you should use the same version of SQL Server on both ends. It is possible to Log Ship from SQL 2005 to SQL 2008, but you can not do it the opposite way. Also, since Log Shipping will be primarily used for failover if you have the same versions on each end and there is a need to failover you at least know you are running the same version of SQL Server.

Steps to Configure SQL Server Log Shipping

Step 1

Make sure your database is in full or bulk-logged recovery model. You can change the database recovery model using the below query. You can check the database recovery model by querying sys.databases

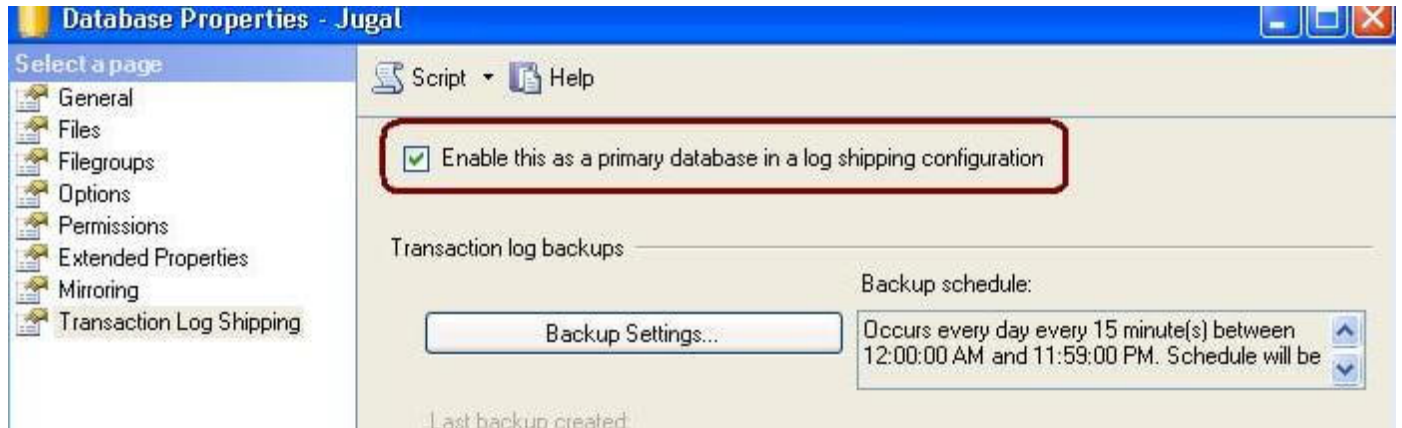
```
SELECT name, recovery_model_desc FROM sys.databases WHERE name = 'jugal'

USE [master]
```

```
GO
ALTER DATABASE [jugal] SET RECOVERY FULL WITH NO_WAIT
GO
```

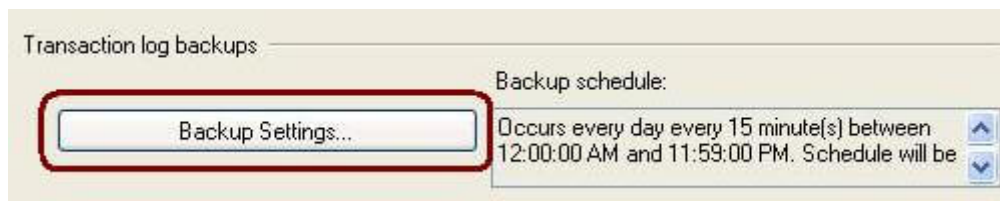
Step 2

On the primary server, right click on the database in SSMS and select Properties. Then select the **Transaction Log Shipping** Page. Check the **"Enable this as primary database in a log shipping configuration"** check box.



Step 3

The next step is to configure and schedule a transaction log backup. Click on **Backup Settings...** to do this.



If you are creating backups on a network share enter the network path or for the local machine you can specify the local folder path. The backup compression feature was introduced in SQL Server 2008 edition. While configuring log shipping, we can control the backup compression behavior of log backups by specifying the compression option. When this step is completed it will create the backup job on the Primary Server.

Transaction Log Backup Settings

Transaction log backups are performed by a SQL Server Agent job running on the primary server instance.

Network path to backup folder (example: \\fileserver\backup):

If the backup folder is located on the primary server, type a local path to the folder (example: c:\backup):

Note: you must grant read and write permission on this folder to the SQL Server service account of this primary server instance. You must also grant read permission to the proxy account for the copy job (usually the SQL Server Agent service account for the secondary server instance).

Delete files older than: 72 Hour(s)

Alert if no backup occurs within: 1 Hour(s)

Backup job

Job name:

Schedule: ☐ Disable this job

Compression

Set backup compression:

- Use the default server setting
- Use the default server setting
- Compress backup
- Do not compress backup

Note: If you backup the transaction logs of this database with any compression, you will not be able to restore the backups on the secondary server instances.

Step 4

In this step we will configure the secondary instance and database. Click on the **Add...** button to configure the Secondary Server instance and database. You can add multiple servers if you want to setup one to many server log-shipping.

Secondary databases

Secondary server instances and databases:

Server Instances	Database
Secondary	Jugal

When you click the **Add...** button it will take you to the below screen where you have to configure the Secondary Server and database. Click on the **Connect...** button to connect to the secondary server. Once you connect to the secondary

server you can access the three tabs as shown below.

Initialize Secondary Database for Log Shipping on SQL Server

In this step you can specify how to create the data on the secondary server. You have three options: create a backup and restore it, use an existing backup and restore or do nothing because you have manually restored the database and have put it into the correct state to receive additional backups.

Secondary Database Settings

Secondary server instance:

Secondary database:
Select an existing database or enter the name to create a new database.

Initialize Secondary Database | Copy Files | Restore Transaction Log

You must restore a full backup of the primary database into secondary database before it can be a log shipping destination.

Do you want the Management Studio to restore a backup into the secondary database?

☒ Yes, generate a full backup of the primary database and restore it into the secondary database (and create the secondary database if it doesn't exist)

Will take the fresh backup of primary database and restore it on secondary server

☐ Yes, restore an existing backup of the primary database into the secondary database (and create the secondary database if it doesn't exist)

Will use the existing backup of the primary database restore it on secondary server

Specify a network path to the backup file that is accessible by the secondary server instance.

Backup file:

☐ No, the secondary database is initialized.

Copy Files for Log Shipping for SQL Server

In this tab you have to specify the path of the Destination Shared Folder where the Log Shipping Copy job will copy the T-Log backup files. This step will create the Copy job on the secondary server.

Secondary Database Settings

Secondary server instance: secondary Connect...

Secondary database: Jugal ▼
Select an existing database or enter the name to create a new database.

Initialize Secondary Database **Copy Files** Restore Transaction Log

Files are copied from the backup folder to a destination folder by a SQL Server Agent job running on the secondary server instance.

Destination folder for copied files: (This folder is usually located on the secondary server.)
\\secondary\SQLDBPool_Logshipping_Secondary

Note: you must grant read and write permission on this folder to the proxy account for the copy job (usually the SQL Server Agent service account on the secondary server instance).

Delete copied files after: 72 ▼ Hour(s) ▼

Copy job

Job name: LSCopy_Secondary_Jugal Schedule...

Schedule: Occurs every day every 15 minute(s) between 12:00:00 AM and 11:59:00 PM.
Schedule will be used starting on 12/29/2010. ☐ Disable this job

Help OK Cancel

Restore Transaction Log for SQL Server Log Shipping

Here you have to specify the database restoring state information and restore schedule. This will create the restore job on the secondary server.

Secondary Database Settings

Secondary server instance: Secondary Connect...

Secondary database: Jugal
Select an existing database or enter the name to create a new database.

Initialize Secondary Database | Copy Files | **Restore Transaction Log**

Files are restored from the destination folder by a SQL Server Agent job running on the secondary server instance.

Database state when restoring backups:

☐ No recovery mode Secondary DB will be in restoring state, no-one can read it until its online.

☒ Standby mode Secondary DB will be in read only mode, user can read the data.

☒ Disconnect users in the database when restoring backups

Delay restoring backups at least: 0 Minute(s)

Alert if no restore occurs within: 45 Minute(s)

Restore job

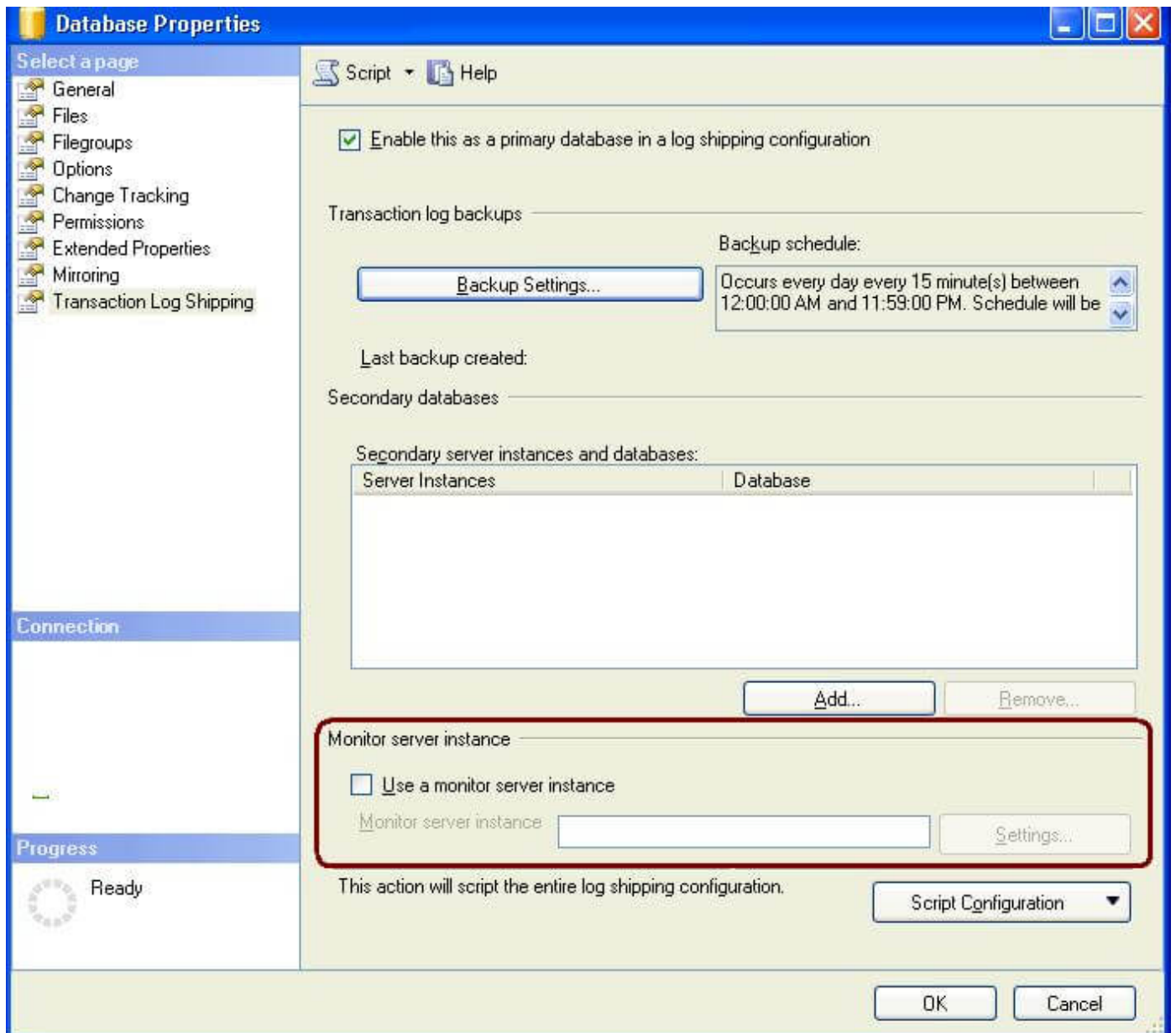
Job name: LSRestore_primary_Jugal Schedule...

Schedule: Occurs every day every 15 minute(s) between 12:00:00 AM and 11:59:00 PM. Schedule will be used starting on 12/29/2010. ☐ Disable this job

Help OK Cancel

Step 5

In this step we will configure Log Shipping Monitoring which will notify us in case of any failure. Please note Log Shipping monitoring configuration is optional.



Click on **Settings...** button which will take you to the "**Log Shipping Monitor Settings**" screen. Click on **Connect ...** button to setup a monitor server. Monitoring can be done from the source server, target server or a separate SQL Server instance. We can configure alerts on source / destination server if respective jobs fail. Lastly we can also configure how long job history records are retained in the MSDB database. Please note that you cannot add a monitor instance once log shipping is configured.

Log Shipping Monitor Settings

The monitor server instance is where status and history of log shipping activity for this primary database are recorded. It is also where the log shipping alert job runs.

Monitor server instance:

Secondary Connect...

Monitor connections

Backup, copy, and restore jobs connect to this server instance:

☒ By impersonating the proxy account of the job (usually the SQL Server Agent service account of the server instance where the job runs)

☐ Using the following SQL Server login:

Login:

Password:

Confirm Password:

History retention

Delete history after: 96 Hour(s)

Alert job

Job name: LSAAlert_secondary

Schedule: Start automatically when SQL Server Agent starts ☐ Disable this job


Help OK Cancel

Step 6






Click on the **OK** button to finish the Log Shipping configuration and it will show you the below screen.

Save Log Shipping Configuration

Restoring backup to secondary database

 **Success** 5 Total 0 Error
5 Success 0 Warning

Details:

Action	Status	Message
 Backing up primary database [Jugal]	Success	
 Restoring backup to secondary databa...	Success	
 Saving secondary destination configura...	Success	
 Saving primary backup setup	Success	
 Saving Monitor configuration	Success	

Filter Close Report

Next Steps

- As Log Shipping does not support automatic failover, plan for some down time and a manual failover
- Once you failover, check for [Orphan Users](#) and fix as needed
- For VLDBs it is recommended that you manually restore the database instead of using the wizard to create the full backup.

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About the author



Jugal Shah has 8+ years of extensive SQL Server experience and has worked on SQL Server 2000, 2005, 2008 and 2008 R2.

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- [SQL Server Log Shipping...](#)
- [Step By Step SQL Server Log Shipping...](#)
- [SQL Server Log Shipping to a Different Domain or W...](#)
- [Automate Restoration of Log Shipping Databases for...](#)
- [Different ways to monitor Log Shipping for SQL Ser...](#)
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