

Patching SQL Server

Log Shipping Environment:

Apply a SQL Service Pack or hot-fix for Primary, Secondary and Monitor servers in a Log-Shipping environment.

Primary SQL Server: DBALABS

Secondary SQL Server: DBALABS-DR

Monitor SQL Server: DC2008\SQLMonitor

a) **On Monitor SQL Server:** Apply the required SQL Service Pack or Hot-fix on the LS Monitor SQL Server.

- 1) Post SP/hot-fix installation completion, restart the Monitor windows server if prompted.

b) **On Secondary SQL Server:**

- 1) Run all LS Copy & Restore Jobs of all databases involved in Log-Shipping and ensure no log backups are pending to restore.
- 2) Disable LS Copy & Restore jobs of all databases involved in Log-Shipping.
- 3) Apply the SQL Service pack or hot-fix on LS Secondary SQL Server.
- 4) Post SP/hot-fix installation completion, restart the Secondary windows server if prompted.

c) **On Primary SQL Server:**

- 1) Disable LS Backup jobs of all databases involved in Log-Shipping.
- 2) Apply the SQL Service pack or hot-fix on LS Primary SQL Server.
- 3) Post SP/hot-fix installation completion, restart the Primary windows server if prompted.

Finally, Enable LS jobs on both Primary & Secondary as follows:

Primary Server -- All LS Backup Jobs of log shipped databases.

Secondary Server -- All LS Copy & Restore Jobs of log shipped databases.

Verify Log-Shipping Reports on both Primary & Secondary Server.

Thanks & Regards

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DB Mirroring Environment:

Steps to Apply a SQL Service Pack or hot-fix for Principal, Mirror and Witness SQL Servers in Database Mirroring environment.

Principal SQL Server: DBALABS

Mirror SQL Server: DBALABS-DR

Witness SQL Server: DC2008\SQLMonitor

1. Remove the Witness SQL Server from mirroring configuration.
2. Apply the SQL Service Pack to the Mirror Server. (**Mirror SQL Server:** DBALABS-DR)
3. Post SP/hot-fix installation completion, restart the Mirror Server if prompted.
4. Failover the mirrored databases from Principal to Mirror server.

Post Failover:

New Principal SQL Server: DBALABS-DR

New Mirror SQL Server: DBALABS

5. Now apply the SQL Service pack to the new Mirror Server. (New Mirror SQL Server: DBALABS)
6. Post SP/hot-fix installation completion, restart the New Mirror Server if prompted.
7. Failback the Mirrored databases from Mirror to Principle server.

Post Failback:

Principal SQL Server: DBALABS

Mirror SQL Server: DBALABS-DR

8. Apply the SQL Service Pack to the Witness SQL Server. (DC2008\SQLMonitor)
9. Post SP/hot-fix installation completion, restart the Witness Server if prompted.
10. Finally add the Witness SQL Server back to the DB Mirroring Configuration.

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Replication Environment:

Apply a SQL Service Pack or hot-fix for Publisher, Subscriber and Distributor servers in DB Replication environment.

Publisher SQL Server: DBALABS

Subscriber SQL Server: DBALABS-DR

Distributor SQL Server: DC2008\SQLMonitor

a) **On Distributor SQL Server:** Apply the required SQL Service Pack or Hot-fix on Distributor SQL Server.

b) **On Publisher SQL Server:**

- 1) Apply the SQL Service pack or hot-fix on Publisher SQL Server.
- 2) Post SP/hot-fix installation completion, restart the Publisher windows server if prompted.

c) **On Subscriber SQL Server:**

- 1) Apply the SQL Service pack or hot-fix on Subscriber SQL Server.
- 2) Post SP/hot-fix installation completion, restart the Subscriber windows server if prompted.

Finally verify Replication Status/health check using Replication Monitoring.

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SQL Cluster Environment:

Apply a SQL Service Pack or hot-fix in a 2 node Active/Passive SQL Cluster environment.

Active SQL Server: DBALABS

Passive SQL Server: DBALABS-DR

1. First apply the SQL Service Pack on Passive Server. (DBALABS-DR)
2. Post SP/hot-fix installation completion, restart the Passive Server if prompted.
3. Failover the SQL Cluster Service/Instance from Active to Passive Server.

Post Failover:

New Active Server: DBALABS-DR

New Passive Server: DBALABS

4. Now apply the SQL Service pack on New Passive Server. (DBALABS)
5. Post SP/hot-fix installation completion, restart the New Passive Server if prompted.
6. Failback the SQL Cluster Service/Instance from Active to Passive Server.

Post Failback:

Active Server: DBALABS

Passive Server: DBALABS-DR

7. Finally verify the SQL Cluster Services and Cluster Disk Health Check in Failover Cluster Manager.

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SQL Always On Environment:

Apply a SQL Service Pack or hot-fix in SQL Server Always-On environment.

Primary SQL Replica: DBALABS

Secondary SQL Replica : DBALABS-DR

Apply SP/Hot-fix on all Secondary AG Replica's

Finally Apply SP/Hot-fix on Primary AG Replica.

1. On Secondary AG Replica: (DBALABS-DR)

Ensure AG Databases are in Synchronized Status.

Apply the SQL Service Pack on Secondary Replica Server. (DBALABS-DR)

Post SP/hot-fix installation completion, restart the Secondary Replica Server if prompted.

2. On Primary AG Replica: (DBALABS)

Failover the SQL AG Group from Primary Replica to Secondary Replica.

3. Post AG Group Failover:

New Primary Replica : DBALABS-DR

New Secondary Replica: DBALABS

4. On New Secondary AG Replica: (DBALABS)

Apply the SQL Service pack on New Secondary Replica Server. (DBALABS)

Post SP/hot-fix installation completion, restart the New Secondary Replica Server if prompted.

5. On New Primary AG Replica: (DBALABS-DR)

Failback the SQL AG Group from Primary to Secondary Replica.

6. Post AG Group Failback:

Primary Replica : DBALABS

Secondary Replica: DBALABS-DR

7. Finally verify the SQL AG Group Health Check in AG DashBoard Reports.

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