

# Emergency Recovery Guide for Domino Server Startup Failures

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## Abstract

This article describes common scenarios for Domino server startup failure. It provides analysis and quick recovery steps for each scenario. Domino administrators can refer to this guide to try recover Domino server from the failure state.

## Table of Contents

Scenario 1: Domino server failed to start, error message “Server exiting: Partition <servername> is already in use.”, or “ Server is already running (in another process)” .....	2
Scenario 2: Domino server started, but soon crashed and generated nsd log.....	4
Scenario 3: Domino hang during startup.....	7
Scenario 4: Application Error occurred during startup.....	11

**Scenario 1: Domino server failed to start, error message “Server exiting: Partition <servername> is already in use.”, or “ Server is already running (in another process)”**

Such error messages mean Domino is already running, or not cleanly shutdown. If you confirm that the server is not running normally, please carry on below cleaning up actions.

Clean up steps for Linux/UNIX:

Note: In below steps, “notes user” means the UNIX user you designated during Domino installation (the user account you use to start Domino).

1. Login as notes user, go to Domino data directory.
2. Use command like “ps -ef|grep nsd” to verify if there is any nsd process running under current notes user’s name.
  - 2a. If no, run “<Domino program directory>/nsd -kill” command to end all Domino process and release all Domino shared resources.
  - 2b. If yes, kill all the nsd processes, start from the child process first. After all nsd processes terminated, run “<Domino program directory>/nsd -kill” command.
3. Use “ps -ef” command to verify if there are still Domino processes running under this notes user’s name.
4. If yes, terminate the processes by “kill -9 <pid>” command (this may require root access)
5. As root user, run “ipcs -a” command to verify if there are shared resources created by notes user. If yes, remove them one by one via “ipcrm” command.
6. As root user, run “ls -al /tmp” command. Check all temporary files created by notes user. Remove the file names started with “NOTESMEM”.

7. Start Domino as usual.

Clean up steps for Windows:

1. Open a command line window, go to Domino program directory (go to Domino data directory in case of Partition server).
2. Run "<Domino program directory>/nsd -kill" command to end all Domino process and release all Domino shared resources.
3. Use Windows Task Manager to verify if there are still Domino processes running. If yes, terminate the processes in Task Manager
4. Start Domino as usual.

## Scenario 2: Domino server started, but soon crashed and generated nsd log.

### Step 1: Find the crashing process

Open nsd log generated (in data\IBM\_TECHNICAL\_SUPPORT directory) in text editor, search for keyword “mm/os”. You will find a section similar to:

```
<@@ ----- Notes Data -> OS Data -> MM/OS Structure Information (Time 13:20:07) ----- @@>
Start Time = 12/28/2013 01:16:36 PM
Crash Time = 12/28/2013 01:19:09 PM
Domino Controller Enabled = 1
Domino Controller Current Log = dcntrlr201312281316.log
Console Position = 29183
SharedDFoolSize = 39554432
FaultRecovery = 0x00010012
Cleanup Script Timeout= 900
Crash Limits = 3 crashes in 5 minutes
StaticHang = Virtual Thread [ ndircat: 1688: 0002] (Native thread [ ndircat: 1688: 1a20] (0xD2D2D2D00001688/0x2001a20
```

The process listed in “StaticHang = “ line is the crashing process.

If the server crashed repeated on router (nrouter.exe on Windows) soon after startup:

- Stop Domino server
- Backup all mail\*.box, remove them from Domino data directory
- Restart Domino

If the server crashed repeatedly on server, pop3, imap, http, and/or other tasks:

- Find the database and document that the crash thread is accessing:
-

## Emergency Recovery Guide for Domino Server Startup Failures-201406

```
** VThread [ ndircat: 1688: 0002]
.Mapped To: PThread [ ndircat: 1688: 1a20]
..      SOBJ: addr=0x018a7968, h=0x8001ff81 t=0xc130 (BLK_ILA)
..      SOBJ: addr=0x018ace20, h=0x8001ff97 t=0xc275 (BLK_NSFT)
..      SOBJ: addr=0x018fae98, h=0x8001ff9a t=0xc176 (BLK_SDKT)
..      Database: f:\notes\data\mdc.nsf
....      DBH: 408, By: CN=ADBMAIL3/O=ADB, WasAccessed=Yes
.....      doc: HDB= 408, NoteID=2342, hNote=0x0004, flags=0900, class=0001
.....      doc: HDB= 408, NoteID=2550, hNote=0x0008, flags=0100, class=0001
....      DBH: 268, By: CN=ADBMAIL3/O=ADB, WasAccessed=Yes
.....      view: hCol=348, cg=N, noteID=614, Configuration|Configuration
....      DBH: 417, By: CN=ADBMAIL3/O=ADB, WasAccessed=Yes
.....      view: hCol=413, cg=N, noteID=534, ($Users)
....      DBH: 403, By: CN=ADBMAIL3/O=ADB, WasAccessed=Yes
.....      view: hCol=394, cg=N, noteID=514, ($Unid)
..      Database: f:\notes\data\names.nsf
....      DBH: 405, By: CN=ADBMAIL3/O=ADB, WasAccessed=Yes
.....      doc: HDB= 405, NoteID=55434, hNote=0x20000b40, flags=0300, class=0001
.....      doc: HDB= 405, NoteID=327578, hNote=0x0007, flags=0900, class=0001
....      DBH: 410, By: CN=ADBMAIL3/O=ADB, WasAccessed=Yes
```

- Backup and remove the document and/or database temporarily
- For http crash, search for the thread number in hex to find the last URL user was accessing. Backup and remove the related document and/or database temporarily

```
HTTP threadID = 0x2829
Start Time      End Time      Request
2782229105      0      POST /Sample.nsf/Samplecode?WSDL
2758820455 2758821100  POST /Sample.nsf/Samplecode?WSDL
2763902850 2763903519  POST /Sample.nsf/Samplecode?WSDL
2769334017 2769334870  POST /Sample.nsf/Samplecode?WSDL
2778355554 2778355770  POST /Sample.nsf/Samplecode?WSDL
```

- Restart Domino server

If no pattern can be found, the server keeps crashing on various tasks and/or on various databases:

- Backup and remove log.nsf, mail\*.box
- Backup and remove event4.nsf, admin4.nsf, names.nsf, copy the three databases from a normal server (it's recommended to copy from a server on same version and platform).
- Restart Domino server

Step 2: Perform clean up actions

Clean up steps for Linux/UNIX:

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  - 2b. If yes, kill all the nsd processes, start from the child process first. After all nsd processes terminated, run "<Domino program directory>/nsd -kill" command.
3. Use "ps -ef" command to verify if there are still Domino processes running under this notes user's name.
4. If yes, terminate the processes by "kill -9 <pid>" command (this may require root access)
5. As root user, run "ipcs -a" command to verify if there are shared resources created by notes user. If yes, remove them one by one via "ipcrm" command.
6. As root user, run "ls -al /tmp" command. Check all temporary files created by notes user. Remove the file names started with "NOTESMEM".
7. Start Domino as usual.

Clean up steps for Windows:

1. Open a command line window, go to Domino program directory (go to Domino data directory in case of Partition server).
2. Run "<Domino program directory>/nsd -kill" command to end all Domino process and release all Domino shared resources.

Emergency Recovery Guide for Domino Server Startup Failures-201406

3. Use Windows Task Manager to verify if there are still Domino processes running. If yes, terminate the processes in Task Manager
4. Start Domino as usual.

### Scenario 3: Domino hang during startup

Sometimes after Domino server start, the console only shows a few lines of information. And the server hang in this state.

Case 1: The console stopped at “refreshing view \$Users”. For example:

```
Lotus Domino (r) Server, Release 8.5.2, August 10, 2010  
Copyright (c) IBM Corporation 1987, 2010. All Rights Reserved.  
refreshing view $Users - 2011-06-15 02:27:28 PM
```

This symptom indicates that Domino is updating \$Users view in names.nsf. Wait till the update completes, the server should be able to start. If this process takes a long time, you may terminate the server with “nsd -kill” command. Then copy names.nsf from a normal server.

Case 2: No tasks started after “Event Monitor started”. For example:

```
Lotus Domino (r) Server, Release 8.5.2, August 10, 2010  
Copyright (c) IBM Corporation 1987, 2010. All Rights Reserved.  
refreshing view $Users - 2011-06-15 02:27:28 PM  
finished refresh - 2011-06-15 02:27:28 PM  
2011-06-15 02:28:01 PM Event Monitor started  
2011-06-15 02:28:01 PM Warning: All Domino Domain Monitoring probes are disabled  
resulting in the loss of valuable diagnostic information. Please configure DDM probes in  
events4.nsf. Assess DDM reports in ddm.nsf.
```

This usually indicates Domino is scanning all files in data directory. Please refer to below table to identify potential problem and solve it.

Identify Problem	Potential Reason	Solution
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<p>Count the number of files and sub-directories in Domino data directory and all its sub-directories</p>	<p>For example, one sub-directory contains over 1,000,000 small files. This can cause Domino server spend several hours to scan them and can't startup.</p>	<p>Move such files or sub-directories out of Domino data directory. Or delete them after backup.</p>
<p>Check all file names in Domino data directory and all its sub-directories</p>	<p>For example, file with long DBCS name (in one case, file name over 100 Chinese characters) may cause Domino failed to start.</p>	<p>Move such files or sub-directories out of Domino data directory. Or delete them after backup.</p>
<p>Search for all files with extension ".dir" in Domino data directory and all its sub-directories. Check the file content to avoid loop references.</p>	<p>For example, Domino data directory is /notesdata. If /notesdata contains a file named abc.dir, the file content only contains one line "/notesdata", this file will cause loop reference.</p>	<p>Move such files out of Domino data directory. Or delete them after backup.</p>
<p>(Linux and UNIX) Check for all soft links in Domino data directory and all its sub-directories. Avoid loop references.</p>	<p>For example, Domino data directory is /notesdata. If there is a soft link in any subdirectory of /notesdata., the link will cause loop reference.</p>	<p>Backup and delete such link.</p>

Correct above problems and perform clean up actions. Restart Domino server.

If none of above can be found, run nsd manually to collect data and contact IBM Technical Support team.

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Clean up steps for Windows:

1. Open a command line window, go to Domino program directory (go to Domino data

directory in case of Partition server.

2. Run “<Domino program directory>/nsd -kill” command to end all Domino process and release all Domino shared resources.
3. Use Windows Task Manager to verify if there are still Domino processes running. If yes, terminate the processes in Task Manager
4. Start Domino as usual.

#### **Scenario 4: Application Error occurred during startup**

For example, server failed to start with such error:

nServer.exe-Application error, The application was unable to start correctly(0xc000007b). Click  
Ok to close the application

This error usually indicates the Domino program is damaged. If you have applied fixpack or upgraded Domino before the failure, please verify if the installation image is correct. Especially, please note you cannot apply 64-bit fixpack/hotfix on 32-bit Domino. Uninstall the new version or fixpack just installed, re-install the correct version.

If no upgrade/change has been done, please try reinstall Domino to correct the application error.