IBM Spectrum LSF 10.1

Upgrading on UNIX or Linux

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Upgrading your LSF cluster to the latest version on UNIX or Linux

Run the **lsfinstall** script to upgrade your LSF cluster.

Complete the following steps to upgrade to LSF Version 10.1.0 on UNIX and Linux.

- Download LSF distribution files.
- Prepare the cluster for upgrading.
- Use the **lsfinstall** script to upgrade LSF.
- Use the **hostsetup** script to set up LSF hosts.
- Restart your cluster.

Downloading LSF distribution files

Before you upgrade LSF, download the LSF appropriate installer script package, LSF distribution packages for all host types you need, and the LSF entitlement file for the LSF edition you are upgrading.

Procedure

1. Log on to the LSF file server host as root.
2. Select the appropriate LSF installer script package:
   - lsf10.1.0.12_lsfinstall_linux_x86_64.tar.Z for Linux x86_64 operating systems that require the Linux JRE. Requires approximately 120 MB.
   - lsf10.1.0.12_lsfinstall.tar.Z for all other operating systems that require the JRE. Requires approximately 1300 MB.
   - lsf10.1.0.12_no_jre_lsfinstall.tar.Z for all operating systems that do not require the JRE. JRE version 1.4 or higher must already be installed on the system. Requires approximately 1 MB.
3. Download and read Release Notes for IBM® Spectrum LSF (Version 10.1.0) for detailed information about what's new in LSF 10.1.0, 10.1.0 product packages, product compatibility, and known issues and limitations in LSF 10.1.0.
4. Get the LSF installation script package that you selected and extract it.
   For example,

   - Linux x86_64 platforms

     ```
     # zcat lsf10.1.0.12_lsfinstall_linux_x86_64.tar.Z | tar xvf -
     ```

   - Other platforms

     ```
     # zcat lsf10.1.0.12_lsfinstall.tar.Z | tar xvf -
     ```

   - No JRE required

     ```
     # zcat lsf10.1.0.12_no_jre_lsfinstall.tar.Z | tar xvf -
     ```

5. Get the LSF distribution packages for all host types you need and put them in the same directory as the extracted LSF installation script.
   For example, for Linux 2.6 kernel glibc version 2.3, the distribution package is lsf10.1.0.12_linux2.6-glibc2.3-x86_64.tar.Z.

Important: DO NOT extract the distribution files.

6. Get the LSF entitlement file for the LSF edition you are upgrading:
   - lsf_std_entitlement.dat file for LSF Standard Edition
   - lsf_exp_entitlement.dat file for LSF Express Edition
   - lsf_adv_entitlement.dat file for LSF Advanced Edition

Preparing the cluster for upgrade

Before you upgrade LSF, deactivate all queues, shut down IBM Spectrum LSF Application Center if necessary, and back up important configuration files.

Procedure

1. Deactivate all queues to make sure that no new jobs can be dispatched during the upgrade. After you complete the upgrade, remember to activate the queues again so pending jobs can be dispatched.
   - Deactivate all LSF queues by running the following command:

     ```
     badmin qinact all
     ```

   - Reactivate all LSF queues after you complete the upgrade by running the following command:

     ```
     badmin qact all
     ```

2. If you installed IBM Spectrum LSF Application Center, shut it down.
   - If IBM Spectrum LSF Application Center is controlled by the enterprise grid orchestrator (EGO), run the following commands:

     ```
     egosh service stop plc
     egosh service stop purger
     egosh service stop jobdt
     egosh service stop derbydb
     egosh service stop WEBGUI
     ```

   - If IBM Spectrum LSF Application Center is not controlled by EGO, run the following commands:

     ```
     perfadmin stop all
     pmcadmin stop
     ```

3. Back up your existing LSF_CONFDIR, LSB_CONFDIR, and LSB_SHAREDIR parameters according to the procedures at your site.

Upgrading LSF with the lsfinstall script

Use the **lsfinstall** script to upgrade LSF.

Procedure

1. Download the LSF 10.1.0 installation package.
2. Go to the downloaded installation package and extract it.
3. Change to directory lsf10.1.0_lsfinstall/.
4. Open the lsf10.1.0_lsfinstall/install.config file to set the installation variables you need.
5. Follow the instructions in the lsf_unix_install.pdf file to use the installation command:

```
./lsfinstall -f install.config
```

Important: You must run the **lsfinstall** command as root.

Results

The **lsfinstall** command backs up the following configuration files for your current installation in the LSF_CONFDIR directory:

- cshrc.lsf
- lsf.cluster.*cluster_name*
- lsf.conf
- lsf.shared
- profile.lsf

What to do next

Important: If the LSF_STARTUP_PATH parameter in the /etc/lsf.sudoers file is set to an earlier LSF version, you must update the LSF_STARTUP_PATH parameter to the LSF_SERVERDIR directory for LSF 10.1.0 on all the hosts where it is configured.

Setting up LSF hosts with the hostsetup script

Use the **hostsetup** script to set up LSF hosts after upgrade.

Procedure

1. Follow the steps in the $LSF_TOP/10.1.0/install/lsf_getting_started.html file to set up your LSF hosts by running the **hostsetup** script.
   a. Log on to each LSF server host as root. Start with the LSF management host.
   b. Use the **hostsetup** script on each LSF server host.
      For example,

      ```
      cd /usr/share/lsf/10.1.0/install
      ./hostsetup --top="/usr/share/lsf/"
      ```

2. Set your LSF environment:
   For **csh** or **tcsh**, run the following command: `source LSF_TOP/conf/cshrc.lsf`

   For **sh**, **ksh**, or **bash**, run the following command: `. LSF_TOP/conf/profile.lsf`

Restarting your cluster

After you upgrade, shut down the original LSF daemons, restart LSF with the newer daemons, and reactivate your queues to accept jobs.

Procedure

1. Set the original LSF environment:
   For the **csh** or **tcsh** shell, run the following command:

   ```
   source LSF_TOP/conf/cshrc.lsf.<version>
   ```

   For example,

   ```
   source LSF_TOP/conf/cshrc.lsf.8.0
   ```

For the **sh**, **ksh**, or **bash** shell, run the following command:

```
. LSF_TOP/conf/profile.lsf.<version>
```

For example,

```
source LSF_TOP/conf/profile.lsf.8.0
```

2. Use the following commands to shut down the original LSF daemons:

```
bctrld stop sbd all
```

```
bctrld stop res all
```

```
bctrld stop lim all
```

3. Set your LSF environment:
   For the **csh** or **tcsh** shell, run the following command:

```
source LSF_TOP/conf/cshrc.lsf
```

   For the **sh**, **ksh**, or **bash** shell, run the following command:

```
. LSF_TOP/conf/profile.lsf
```

4. Use the following commands to start LSF with the newer daemons:

```
bctrld start lim all
```

```
bctrld start res all
```

```
bctrld start sbd all
```

5. Use the following command to reactivate all LSF queues completing the upgrade:
   `badmin qact all`

6. Follow the steps in $LSF_TOP/10.1.0/lsf_quick_admin.html to verify that your upgraded cluster is operating correctly.