Platform LSF
Version 9 Release 1.1

Migrating on UNIX and Linux

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IBM
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Migrate your IBM Platform LSF cluster to 9.1.1

IBM Platform LSF directory structure change

The installed directory structure changed in LSF Version 7 Update 2. The LSF directory structure differs from the directory structure of previous releases of LSF Version 7. The LSF directories have been consolidated to resemble the LSF 6.x directory structure, where configuration, work, and logging directories for EGO and reporting components are located under the standard LSF directories LSF_TOP/conf, LSF_TOP/work, and LSF_TOP/log for easier administration and upgrade.

These directories can be located on their own file systems and have the following access permissions:
- LSF_TOP/conf is writable by the LSF administrator, master host, and master candidate hosts
- LSF_TOP/log is writable by all hosts in the cluster
- LSF_TOP/work is writable by the master host and master candidate hosts, and is accessible to slave hosts

How to use this document

To update your existing LSF Version 7 or LSF Version 7 Update 1 cluster to 9.1.1, you must follow the steps in this document to manually copy some of your existing configuration files to other directories.

Note:

These upgrade steps only apply to LSF Version 7 and LSF Version 7 Update 1. For LSF versions prior to Version 7 or later than LSF Version 7 Update 1, you can upgrade your cluster by following the steps in Upgrading IBM Platform LSF on UNIX and Linux.

The IBM Platform Application Center (previously called the Platform Management Console) is now installed separately from LSF.

Get ready to migrate

Get an LSF Version 9.1.1 entitlement file.

Get ready to install

1. Log on to the LSF file server host as root.
2. Obtain the following files:
   - LSF installation script tar file: lsf9.1.1_lsfinstall.tar.Z
   - LSF Knowledge Center: knowledge_center9.1.1.tar.Z
   - LSF distribution tar files for all host types you need.

Download and read the LSF Version 9.1.1 Release Notes for detailed steps for downloading LSF distribution tar files.
3. Put the distribution tar files in the same directory that contains the `lsf9.1.1_lsfinstall.tar.Z` file.

4. Uncompress and extract `lsf9.1.1_lsfinstall.tar.Z`:
   ```
   # zcat lsf9.1.1_lsfinstall.tar.Z | tar xvf -
   ```
   **Important:**
   DO NOT extract the distribution tar files.

5. Define the required installation parameters in `install.config`. You should specify the same values as those defined for your existing cluster.
   - For `LSF_TOP`, specify a different directory than the one used for your existing cluster. This prevents your existing configuration files from being overwritten when you install LSF 9.1.1.
   - EGO is disabled by default in `install.config`. Your existing LSF Version 7 cluster may use EGO functionality for daemon control and reporting. To maintain the functionality of your existing cluster, set the parameter `ENABLE_EGO` to match your existing cluster.
   - LSF 9.1.1 does not use the parameter `EGO_TOP`.

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**Run lsfinstall**

1. Change to `lsf9.1.1_lsfinstall/`.
2. Read `lsf9.1.1_lsfinstall/install.config` and decide which installation variables you need to set.
3. Edit `lsf9.1.1_lsfinstall/install.config` to set the installation variables you need.
4. Follow the instructions in `lsf_unix_install.pdf` to run:
   ```
   ./lsfinstall -f install.config
   ```
   **Important:**
   You must run `lsfinstall` as root.

---

**Copy and edit LSF configuration files**

In the following procedure, the phrase `lsf_top_old` refers to the `LSF_TOP` directory for the original cluster, and the phrase `lsf_top_new` refers to the `LSF_TOP` directory for the newer cluster.

1. Deactivate all queues to make sure that no new jobs are dispatched during the update:
   ```
   badmin qinact all
   ```
2. Back up your existing `LSF_CONFDIR`, `LSB_CONFDIR`, and `LSB_SHAREDIR` according to the procedures at your site.
3. Shut down the older version of the LSF Version 7 cluster:
   ```
   lsfshutdown
   ```
4. Migrate the LSF lsbatch files directory:
   ```
   cp -rfp $LSB_CONFDIR_old/* $LSB_CONFDIR_new/
   ```
5. Migrate the LSF work directory:
   ```
   cp -rfp lsf_top_old/work lsf_top_new
   ```
6. Does your existing cluster use default values for all parameters defined in `lsf.conf`?
• If yes, you do not have to edit lsf.conf. Go to step 7.
• If no, you must edit lsf.conf and change the values of the parameters to match those defined for your existing cluster. Go to step 6.

7. You can update lsf.conf in one of two ways:
   • Copy the old lsf.conf file from lsf_top_old/conf to lsf_top_new/conf and add the parameters LSF_ENABLE_EGO and EGO_WORKDIR. For a description of LSF_ENABLE_EGO, see the IBM Platform LSF Configuration Reference. For a description of EGO_WORKDIR, see the EGO Reference.
   • Edit the new lsf.conf file in lsf_top_new/conf to match the values defined in your old lsf.conf file.

Note:
All required LIM parameters are now defined only in lsf.conf. Corresponding LIM parameters no longer appear in ego.conf.

8. If you want to change any parameter values in the cluster file, edit the file lsf.cluster.cluster_name. LSF 9.1.1 no longer uses ego.cluster.cluster_name.

Copy and edit EGO configuration files

In the following procedure, the phrase ego_top refers to the EGO_TOP directory for the existing cluster, the phrase lsf_top_new refers to the LSF_TOP directory for the new cluster, and the phrase lsf_cluster_name refers to the name of your cluster.

1. Migrate the user file:
   ```
   cp -rfp ego_top/kernel/conf/users.xml
   lsf_top_new/conf/ego/lsf_cluster_name/kernel/users.xml
   ```

2. Migrate the consumer trees file:
   ```
   cp -rfp ego_top/kernel/conf/ConsumerTrees.xml
   lsf_top_new/conf/ego/lsf_cluster_name/kernel/ConsumerTrees.xml
   ```

3. Migrate the resource groups file:
   ```
   cp -rfp ego_top/kernel/conf/ResourceGroups.xml
   lsf_top_new/conf/ego/lsf_cluster_name/kernel/ResourceGroups.xml
   ```

4. Migrate the EGO working files:
   ```
   cp -rfp ego_top/kernel/work/vemkd
   lsf_top_new/work/lsf_cluster_name/ego/
   ```
   ```
   cp -rfp ego_top/kernel/work/data
   lsf_top_new/work/lsf_cluster_name/ego/
   ```

5. If you have enabled the dynamic host feature for your cluster, migrate the host cache files:
   ```
   cp -rfp ego_top/kernel/work/lim
   lsf_top_new/work/lsf_cluster_name/ego
   ```

Start the cluster

1. Log on to the LSF master host as root and set your LSF environment:
   • For csh or tcsh: % source LSF_TOP/conf/cshrc.lsf
   • For sh, ksh, or bash: $ . LSF_TOP/conf/profile.lsf
2. Start the LSF 9.1.1 cluster:
   lsfstartup
3. Check to see that the cluster is working properly.

**Run hostsetup to set up LSF hosts**

Run the LSF 9.1.1 **hostsetup** command on each host to reset LSF runlevel changes (rc).

1. Follow the steps in [lsf9.1.1_lsfinstall/lsf_getting_started.html](https://example.com) to set up your LSF hosts (**hostsetup**).
   a. Log on to each LSF server host as root. Start with the LSF master host.
   b. Run **hostsetup** on each LSF server host.
      For example:
      ```shell
      cd /usr/share/lsf/9.1.1/install
      ./hostsetup top="/usr/share/lsf/"
      ```
      For complete **hostsetup** usage, enter **hostsetup -h**.

2. Set your LSF environment:
   - For **csh** or **tcsh**: `source LSF_TOP/conf/cshrc.lsf`
   - For **sh**, **ksh**, or **bash**: `LSF_TOP/conf/profile.lsf`

3. Follow the steps in [lsf9.1.1_lsfinstall/lsf_quick_admin.html](https://example.com) to update your license.
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