

Example hostsetup command

The following `hostsetup` command sets up a host to use the LSF cluster installed in `/usr/share/lsf`. It also configures the LSF daemons to start automatically:

```
# hostsetup --top="/usr/share/lsf" --boot="y"
```

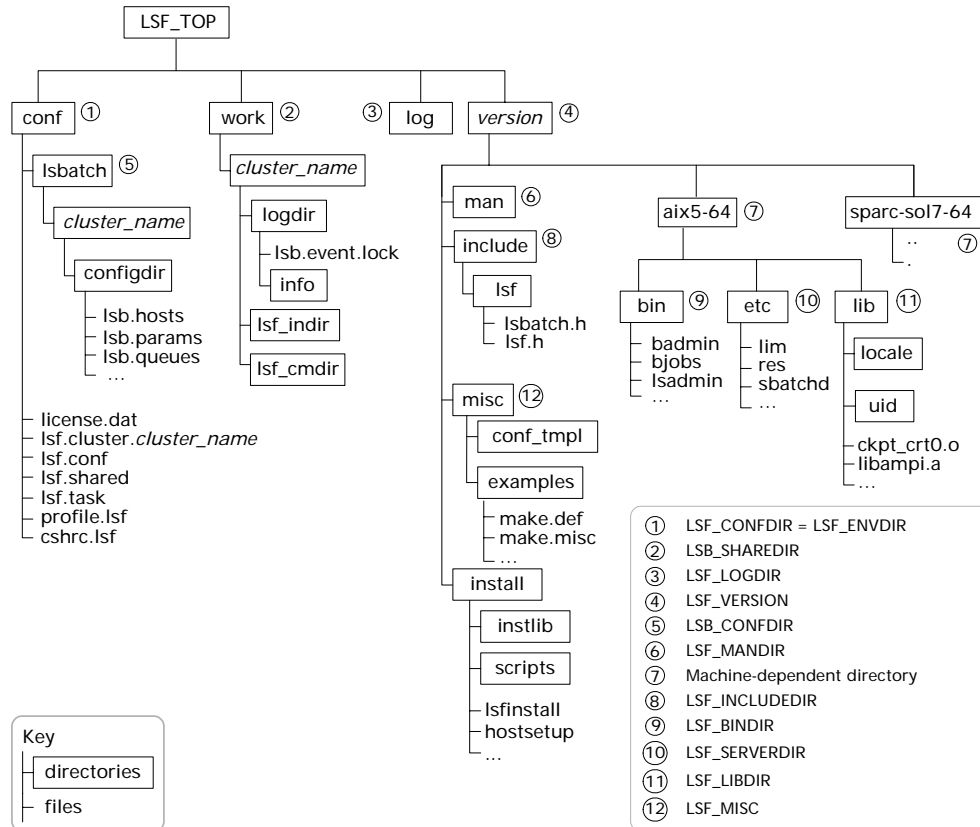
If you install LSF as a non-root user

You must chose to configure either a multi-user cluster or a single-user cluster:

- ◆ Single-user—Your user account must be primary LSF administrator. This account will be able to start LSF daemons, but it is the only user account that can submit jobs to the cluster. To display load information this user account must also be able to read the system kernel information, such as `/dev/kmem`.
- ◆ Multi-user—By default, only `root` can start the LSF daemons. Any user can submit jobs to your cluster. To make the cluster available to other users, you must manually change the ownership and setuid bit for `lsadmin` and `badmin` to `root`, and the file permission mode to `-rwsr-xr-x (4755)` so that the user ID bit for the owner is setuid. Use the following commands to set the correct owner, user ID bit, and file permission mode for a multi-user cluster:

```
❖ # chown root lsadmin badmin eauth
❖ # chmod 4755 lsadmin badmin eauth
```

Example installation directory structure



How to Start

Plan your installation

- ◆ Choose an LSF installation directory on your file server (e.g., `LSF_TOP="/usr/share/lsf"`)
- ◆ Choose LSF hosts (master host, server hosts, and client-only hosts; e.g., `LSF_ADDSERVERS="hosta hostb hostc"`)
- ◆ Choose a cluster name (39 characters or less with no white spaces; e.g., `LSF_CLUSTER_NAME="cluster1"`)
- ◆ Choose a primary LSF administrator (owns the LSF configuration files and log files; e.g., `LSF_ADMINS="lsfadmin"`)

Prepare your systems for installation

- ◆ Ensure the installation file system on the file server host has enough disk space for all host types (approximately 300 MB per host type)
- ◆ Ensure top-level installation directory (`LSF_TOP`) is accessible with the same path name from all hosts in the LSF cluster (e.g., `/usr/share/lsf`)
- ◆ Ensure the installation file system containing `LSF_TOP` is writable by the user account that is running `lsfinstall`
- ◆ Create user accounts for LSF administrators (e.g., `lsfadmin`)
- ◆ Read the LSF Version 6.2 `release_notes.html` file for detailed steps for downloading LSF distribution tar files
- ◆ Get the LSF installation script tar file `lsf6.2_lsfinstall.tar.Z` and extract it (e.g., `# zcat lsf6.2_lsfinstall.tar.Z | tar xvf -`)
- ◆ Read `lsf6.2_lsfinstall/README` for information about the contents of `lsf6.2_lsfinstall.tar.Z`
- ◆ Get the LSF distribution tar files for all host types you need, and put them in the same directory as `lsf6.2_lsfinstall.tar.Z` (e.g., for AIX: `lsfoak_beta_aix4.tar.z`). *Do not* extract the distribution tar files.
- ◆ Get an LSF license key and create an LSF license file (`license.dat`) in the same directory as the distribution files and `lsf6.2_lsfinstall.tar.Z`

You *must* have a valid license file to install LSF. If you do not specify a license file with `LSF_LICENSE`, or `lsfinstall` cannot find a license file in the default location, `lsfinstall` exits.

Install Platform LSF (lsfinstall)

- 1 Log on as `root` to the LSF installation file server. If you are not `root`, you can continue to install LSF, but by default, only `root` can start the LSF daemons.
- 2 Edit `lsf6.2_lsfinstall/install.config` to specify the installation variables you want.
- 3 Change to `lsf6.2_lsfinstall/`.
- 4 Run `./lsfinstall -f install.config`.
- 5 Before using your cluster, follow the steps in these documents:
 - ❖ `lsf6.2_lsfinstall/lsf_getting_started.html` to set up your LSF hosts, start LSF, and test your new LSF cluster
 - ❖ `lsf6.2_lsfinstall/lsf_quick_admin.html` to learn more about your new LSF cluster

lsfinstall

Synopsis

```
lsfinstall -f install.config  
lsfinstall -h
```

Description

`lsfinstall` installs a new Platform LSF Version 6.2 cluster. To install LSF so that all users can access it, you should install as `root`. You can install LSF and do host setup as a non-`root` user, but by default, only `root` can start the LSF daemons.

install.config variables

Variable	Description	Default	Example
<code>LSF_TOP="/path"</code>	Full path to the top-level installation directory. <i>path</i> must be shared and accessible to all hosts in the cluster. Cannot be the root directory (<code>/</code>).	None—required variable	<code>LSF_TOP="/usr/share/lsf"</code>
<code>LSF_ADMINS="user_name [user_name ...]"</code>	List of LSF administrators. The first user account name in the list is the primary LSF administrator. The LSF administrator accounts must exist on all hosts in the LSF cluster before installing LSF. <code>root</code> cannot be an LSF administrator.	None—required variable	<code>LSF_ADMINS="lsfadmin user1"</code>
<code>LSF_CLUSTER_NAME="cluster_name"</code>	The name of the LSF cluster. Must be 39 characters or less, and cannot contain any white spaces. Do not use an LSF host name.	None—required variable	<code>LSF_CLUSTER_NAME="cluster1"</code>
<code>LSF_TARDIR="/path"</code>	Full path to the directory containing the LSF tar files	Parent directory of the current working directory	<code>LSF_TARDIR="/usr/share/lsf_dist/6.2"</code>
<code>LSF_LICENSE="/path/license_file"</code>	Full path to the LSF license file (<code>license.dat</code>) You must have a valid license file to install LSF. If you do not specify a license file with <code>LSF_LICENSE</code> , or <code>lsfinstall</code> cannot find a license file in the default location, <code>lsfinstall</code> exits.	Parent directory of the current working directory (<code>../license.dat</code>)	<code>LSF_LICENSE="/usr/share/lsf_dist/6.2/license.dat"</code>
<code>LSF_MASTER_LIST="host_name ...]" :host_file</code>	List of hosts that are candidates to become the master host for the cluster. Listed hosts must be defined as servers in <code>LSF_ADD_SERVERS</code> .	None—optional variable Required for dynamic host configuration	<code>LSF_MASTER_LIST="hosta hostb hostc hostd"</code>
<code>LSF_ADD_SERVERS="host_name [host_name ...]" :host_file</code>	List of LSF server hosts to be added to the cluster. Specify a list of host names separated by spaces or the name of a file (<i>host_file</i>) listing hosts, one host name per line. The first host listed is the LSF master host.	For initial installation, the local host where <code>lsfinstall</code> is running	<code>LSF_ADD_SERVERS="hosta hostb hostc hostd"</code> hosta is the LSF master host or <code>LSF_ADD_SERVERS=:lsf_server_hosts</code>
<code>LSF_ADD_CLIENTS="host_name [host_name ...]" :host_file</code>	List of LSF client-only hosts to be added to the cluster. Specify a list of host names separated by spaces or the name of a file (<i>host_file</i>) listing hosts, one host name per line.	None	<code>LSF_ADD_CLIENTS="hoste hostf"</code> or <code>LSF_ADD_CLIENTS=:lsf_client_hosts</code>
<code>LSF_QUIET_INST="[y n]"</code>	Do not display LSF installation messages	Display all messages	<code>LSF_QUIET_INST="y"</code>

After installing Platform LSF

- Optional. Run `hostsetup` to set up LSF hosts.
 - Log on to each LSF server host as `root`. Start with the LSF master host.
If you are not `root`, you can continue with host setup, but by default, only `root` can start the LSF daemons.
 - Run `hostsetup` on each LSF server host. For example:

```
# cd /usr/share/lsf/6.2/install  
# ./hostsetup --top="/usr/share/lsf" --boot="y"
```

For complete `hostsetup` usage, enter `hostsetup -h`.

Required install.config variables

- ◆ `LSF_TOP="/path"`
- ◆ `LSF_ADMINS="user_name [user_name ...]"`
- ◆ `LSF_CLUSTER_NAME="cluster_name"`

Variables that require an absolute path

- ◆ `LSF_TOP="/path"`
- ◆ `LSF_TARDIR="/path"`
- ◆ `LSF_LICENSE="/path/license_file"`

- 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`
 - Run `lsfstartup` to start the cluster.
 - Test your cluster by running some basic LSF commands (e.g., `lsid`, `lshosts`, `bhosts`)
- After testing your cluster, be sure all LSF users include `LSF_CONFDIR/cshrc.lsf` or `LSF_CONFDIR/profile.lsf` in their `.cshrc` or `.profile`.