

Platform LSF
Version 9 Release 1.2

Installing on Windows



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Note

Before using this information and the product it supports, read the information in Notices.

First edition

This edition applies to version 9, release 1 of IBM Platform LSF (product number 5725G82) and to all subsequent releases and modifications until otherwise indicated in new editions.

Significant changes or additions to the text and illustrations are indicated by a vertical line (|) to the left of the change.

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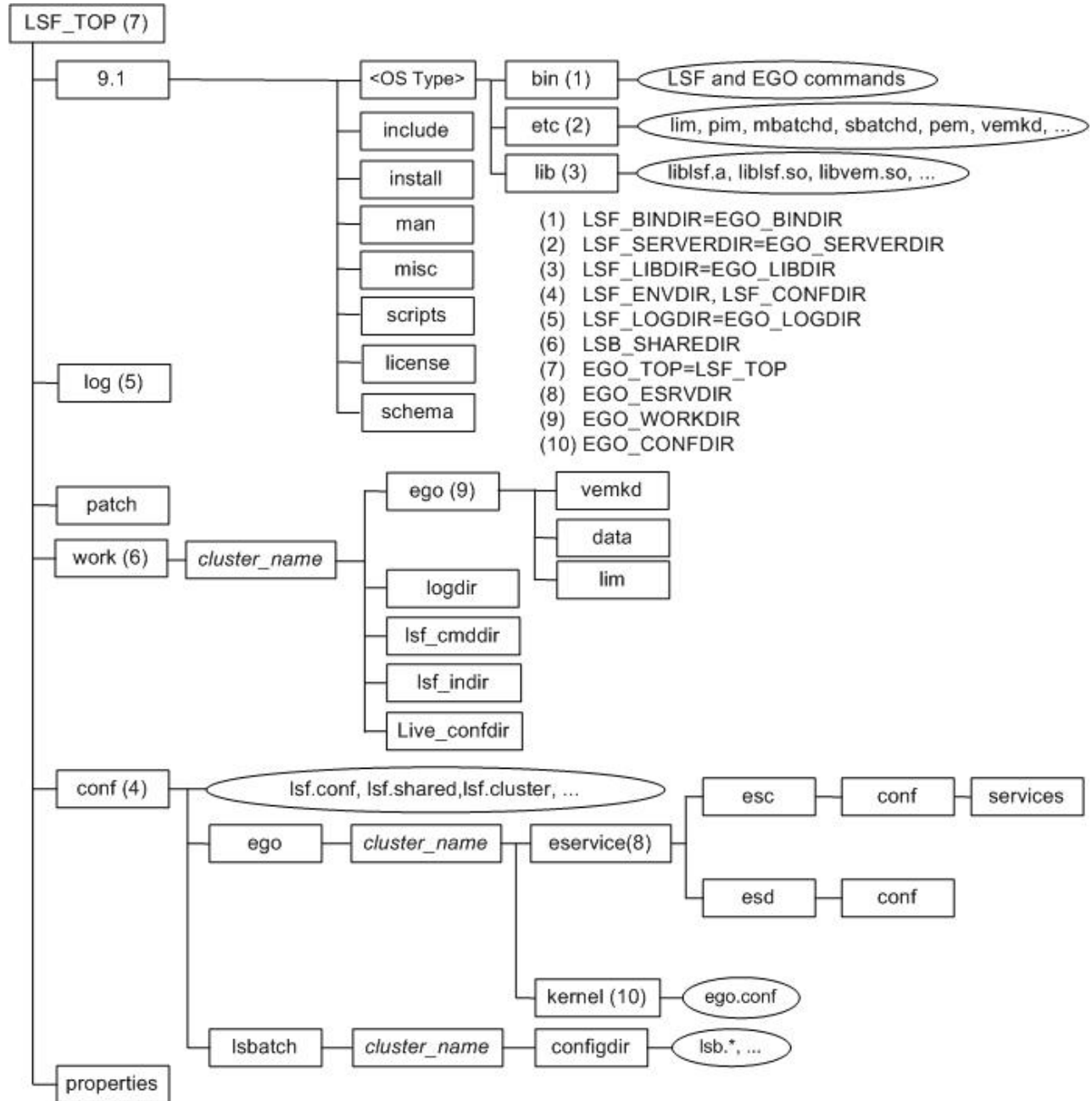
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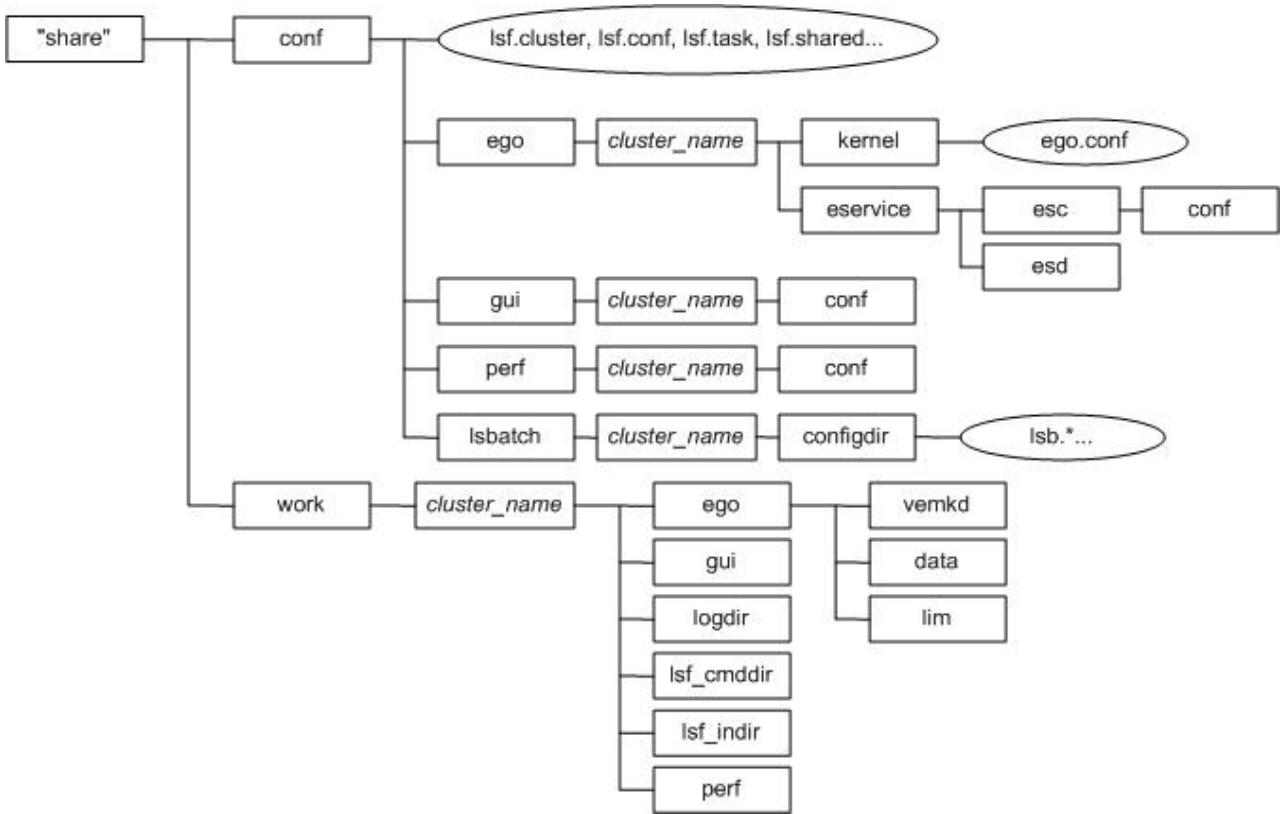
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Chapter 1. Example installation directory structures



Shared directory

The shared directory is configured if you run **egoconfig** on a host after installation:



Chapter 2. EGO in the LSF cluster

When EGO is enabled in the cluster, EGO may control services for components. This is recommended. It allows failover among multiple management hosts, and allows EGO cluster commands to start, stop, and restart the services.

See the LSF administrator documentation for more details on the benefits of enabling EGO and using EGO to control the services.

Installation choices

When you install the cluster and enable EGO, you can configure EGO control of **sbatchd** and **res** separately.

Chapter 3. Plan and prepare your systems for installation

MSI version 2.0 or later is required.

1. Choose LSF hosts (master host, master candidates, server hosts, and client-only hosts).
2. Choose an installation directory that is available on every host.
3. For failover purposes, create and share the shared directory (for example, \\HostF\EG0share).
 - a. Make sure the shared directory is accessible with the same path name from all hosts in the cluster.
 - b. Make sure the installation user has Full Control permission for the shared directory.
4. Review the installation parameter reference, and make sure the connection ports and LSF **sbatchd**, **res**, and **mbatchd** ports are available on all hosts.
5. Choose a primary LSF administrator (owns the LSF and EGO configuration files and log files; for example, DOMAIN\lsfadmin).

Create the primary LSF administrator account with the following privileges on each host:

- Act as part of the operating system
- Debug programs
- Replace a process level token
- Log on as a service
- Adjust memory quotas for a process

Note:

The account must belong to the Local Administrators group on each host.

6. Obtain the necessary files for installing LSF.

You need the LSF distribution file to install LSF.

See the LSF Release Notes for detailed steps for downloading the distribution files.

Chapter 4. IBM Platform entitlement files

LSF uses entitlement files to determine which feature set to be enable or disable based on the edition of the product. The entitlement files are:

- LSF Standard Edition - platform_lsf_std_entitlement.dat
- LSF Advanced Edition - platform_lsf_adv_entitlement.dat

You must download the entitlement file for the edition of the product you are running, and set the **ENTITLEMENTFILE** parameter (which is for silent installation) in the shared directory to the full path to the entitlement file you downloaded.

If you are installing LSF Standard, you can later upgrade to LSF Advanced Edition to take advantage of additional functionality. Simply reinstall the cluster with the LSF Advanced entitlement file (platform_lsf_adv_entitlement.dat).

You can also manually upgrade from LSF Standard Edition to Advanced Edition. Get the LSF Advanced entitlement configuration file platform_lsf_adv_entitlement.dat and restart your cluster. The new entitlement configuration enables the additional functionality of LSF Advanced Edition, but you may need to change some of the default LSF Standard configuration parameters to use the LSF Advanced features.

Chapter 5. Install a new Platform LSF cluster

1. Install the master host. Log on as the primary LSF administrator (DOMAIN\lsfadmin) to the master host (or use an installation account that belongs to the Local Administrators group) and run the installer (lsf9.1.2_win32.msi or lsf9.1.2_win-x64.msi) to create a new cluster.
After completing the master host installation, the LSF installer creates a batch file (install.bat) that you can use to silently install hosts in this cluster. The batch file sets the installation parameters and runs the installer.
You must customize this batch file for specific hosts (master candidates, LSF server hosts, and LSF client hosts) in the cluster before installation.
2. Install additional hosts.
 - a. Install master candidates.
 - b. Install LSF server hosts.
 - c. Install LSF client hosts.
3. If you disabled automatic startup of LSF after installation, log on to the master host as lsfadmin and run **lsfstartup** to start the cluster.
4. Test your cluster by running some basic LSF commands (for example, **lsid**, **lshosts**, **bhosts**).

Chapter 6. Installation parameter quick reference

Use this reference to learn about the install parameters or dialog windows.

LSF installation parameters

The installation parameters for LSF are configured automatically by the interactive installer. The related interactive install dialog window name is shown for each parameter.

If you do not use the interactive installer, specify command-line installation options as needed. The syntax is shown for each parameter.

For silent install with `msiexec`, the `msiexec` syntax is:

```
msiexec /i package_file [parameter_value ...] /quiet
```

For example, to install a server host and specify the installation directory:

```
msiexec /i \\hostB\download\lsf9.1.2_win32.msi SERVERHOSTS=hostM  
HOSTTYPE=Server INSTALLDIR=C:\LSF /quiet
```

For silent uninstall, the `msiexec` syntax is:

```
msiexec /x package_file /quiet
```

Initial configuration template

The installer uses a configuration template to specify initial LSF configuration parameters when the installation is complete. For Windows, the installer specifies the following initial configuration file parameter values based on the default configuration template:

- `lsf.conf` (LSF Standard Edition):

```
DAEMON_SHUTDOWN_DELAY=180  
EGO_ENABLE_AUTO_DAEMON_SHUTDOWN=Y  
LSB_DISABLE_LIMLOCK_EXCL=Y  
LSB_INDEX_BY_JOB="JOBNAME"  
LSB_MOD_ALL_JOBS=Y  
LSF_DISABLE_LSRUN=Y  
LSF_LINUX_CGROUP_ACCT=Y  
LSF_PIM_LINUX_ENHANCE=Y  
LSF_PIM_SLEEP_TIME_UPDATE=Y  
LSF_PROCESS_TRACKING=Y  
LSF_STRICT_RESREQ  
LSF_UNIT_FOR_LIMITS=MB
```

- `lsf.conf` (LSF Advanced Edition):

```
LSB_DISABLE_LIMLOCK_EXCL=Y  
LSB_INDEX_BY_JOB="JOBNAME"  
LSF_DISABLE_LSRUN=Y  
LSF_PIM_SLEEP_TIME_UPDATE=Y
```

- `lsb.params` (LSF Standard Edition):

```
ABS_RUNLIMIT=Y  
DEFAULT_QUEUE=normal interactive  
JOB_ACCEPT_INTERVAL=0  
JOB_DEP_LAST_SUB=1
```

```
JOB_SCHEDULING_INTERVAL=1
MAX_CONCURRENT_JOB_QUERY=100
MAX_JOB_NUM=10000
MBD_SLEEP_TIME=10
NEWJOB_REFRESH=Y
PARALLEL_SCHED_BY_SLOT=Y
SBD_SLEEP_TIME=7
```

- `lsb.params` (LSF Advanced Edition):

```
SBD_SLEEP_TIME=7
```

In addition, for LSF Standard Edition and Advanced Edition, the installer enables fairshare scheduling for all queues except `admin` and `license` as follows in `lsb.queues`:

```
Begin Queue
...
FAIRSHARE=USER_SHARES[[default, 1]]
...
End Queue
```

Parameter reference

The installer may require the following parameters.

SHAREDIR (Shared Directory window)

Description

Full path to the shared directory. The shared directory contains shared configuration files and is used for master host failover. This is recommended for production clusters.

Note:

You only specify a shared directory when both your master and all master candidate hosts are Windows hosts. You cannot have mixed Windows and UNIX master and master candidate hosts.

Syntax

```
SHAREDIR="\\fileserver\path"
```

For example: `SHAREDIR="\\HostF\EG0share"`

Default

no shared directory

ENTITLEMENTFILE

Description

Full path to the LSF entitlement file. LSF uses the entitlement to determine which feature set to be enable or disable based on the edition of the product. You must download the entitlement file for the edition of the product you are running, and set `ENTITLEMENTFILE` to the full path to the entitlement file you downloaded.

The entitlement files are:

- LSF Standard Edition - `platform_lsf_std_entitlement.dat`
- LSF Express Edition - `platform_lsf_exp_entitlement.dat`

- LSF Advanced Edition - platform_lsf_adv_entitlement.dat

Syntax

ENTITLEMENTFILE=path

Default

None

HOSTTYPE (Installation Options window)

Description

The type of host you wish to install: LSF master host (new cluster), master candidate, server, or client host.

Syntax

HOSTTYPE= Master | Candidate | Server | Client

e.g. HOSTTYPE=Server

Default

LSF master host (new cluster)

*master host always gets full package

SERVICETYPE (SBD and RES Control window)

Description

Set the value to "EGO" if you want EGO Service Controller to start LSF res and sbatchd, and restart if they fail.

Syntax

SERVICETYPE=EGO | LSF

e.g. SERVICETYPE=EGO

Default

LSF—res and sbatchd are managed as Windows services

CLUSTERNAME (Cluster Name window)

Description

Name of the LSF cluster. Do not use the same name as any LSF host, user or user group.

Syntax

CLUSTERNAME=cluster_name

e.g. CLUSTERNAME=Research

Default

Cluster1

INSTALLDIR (Installation Directory window)

Description

Full path to the top-level LSF installation directory.

Syntax

INSTALLDIR=path

Default

C:\LSF_9.1.2

CLUSTERID (Cluster ID window)

Description

This parameter is not required for normal installation of a new cluster. Specify the unique Cluster ID of your cluster.

Cluster ID is used to identify different clusters when one host belongs to multiple clusters. It is appended to Windows service names.

Syntax

CLUSTERID=cluster_id

e.g. CLUSTERID=research

Default

undefined

CLUSTERADMIN (Cluster Administrator window)

Description

Cluster administrator (lsfadmin).

Syntax

CLUSTERADMIN="domain\user_name"

or

CLUSTERADMIN=".user_name"

e.g. CLUSTERADMIN="DOMAIN\lsfadmin"

Default

installation account is the default cluster administrator

ADMINPASSWORD (Cluster Administrator window)

Description

Actual password of the cluster administrator account (lsfadmin).

Syntax

ADMINPASSWORD="password"

e.g. ADMINPASSWORD="mypasswd"

* master host only

Default

None - required

Configuration Options window

Description

Default (quick install) or custom configuration. Select default configuration to use default values for all remaining installation options. This dialog window has no corresponding installation parameter.

Default

Default configuration (quick install)

SERVICEUSERNAME (Windows Service Account window)

Description

Name of the system services execution user OS account. This account is used to run LSF system services.

Syntax

SERVICEUSERNAME="domain\user_name"

or

SERVICEUSERNAME=". \user_name"

e.g. SERVICEUSERNAME="DOMAIN\lsfadmin"

Default

the Local System account

SERVICEPASSWORD (Windows Service Account window)

Description

Actual password of the system services execution user OS account.

Syntax

SERVICEPASSWORD="password"

e.g. SERVICEPASSWORD="mypasswd"

* local server host only

Default

None - the default systems service execution user OS account is the Local System account, which does not require a password

BASEPORT (LSF Ports window)

Description

Base connection port. LSF uses 4 consecutive ports starting from the base port, e.g., 7869-7872.

Syntax

BASEPORT=port_number

e.g. BASEPORT=7869

Default

7869

* indicates ports 7869-7872

RESPORT (LSF Ports window)

Description

LSF res port.

Syntax

RESPORT=port_number

e.g. RESPORT=6878

Default

6878

SBDPORT (LSF Ports window)

Description

LSF sbatchd port.

Syntax

SBDPORT=port_number

e.g. SBDPORT=6882

Default

6882

MBDPORT (LSF Ports window)**Description**

LSF mbatchd port.

Syntax

MBDPORT=port_number

e.g. MBDPORT=6881

Default

6881

DYNAMICHOST (Dynamic Hosts window)**Description**

Set the value to Yes to enable dynamic hosts in LSF. After installation, configure security for dynamic hosts.

Syntax

DYNAMICHOST=Yes | No

e.g. DYNAMICHOST=Yes

Default

No—hosts cannot join the cluster dynamically

STARTUP (Startup window)**Description**

Set the value to "No" to disable automatic startup of LSF after installation.

Syntax

STARTUP=Yes | No

e.g. STARTUP=Yes

*for master candidates and shared server hosts, specify No

Default

Yes—start LSF automatically

ENABLEEGO (Enable EGO window)**Description**

Set the value to "Yes" if you want to enable advanced EGO features.

Syntax

ENABLEEGO=Yes | No

e.g. ENABLEEGO=Yes

Default

No—Disable advanced EGO features

SERVERHOSTS (Server Hosts window)**Description**

Define LSF server hosts that this host can contact.

Syntax

SERVERHOSTS=host_name ...

e.g. SERVERHOSTS=HostM HostW

Default

None—Optional on master host, required on slave for interactive installation

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