

IBM Spectrum LSF Suite Community Edition quick start guide

This guide describes a quick and easy way to get up and running with the product.

Product overview

IBM Spectrum LSF Suite Community Edition is a no-charge community edition of the IBM Spectrum LSF workload management platform. IBM Spectrum LSF is a powerful workload management system for distributed computing environments. IBM Spectrum LSF provides a comprehensive set of intelligent, policy-driven scheduling features that enable you to utilize all of your compute infrastructure resources and ensure optimal application performance.

Its robust workload applications management capabilities are accessible using the latest design in web-based interfaces, making it powerful and simple to use.

Community assistance is available through the forums on IBM developerWorks. If you need more comprehensive support, a paid support offering is available from IBM.

1 Step 1: IBM Spectrum LSF Suite Community Edition offering components

IBM Spectrum LSF Suite Community Edition 10.2 Fix Pack 6 includes the following IBM Spectrum Computing components:

IBM Spectrum LSF 10.1 Fix Pack 6

IBM Spectrum LSF is a powerful workload management platform for demanding, distributed HPC environments. It provides a comprehensive set of intelligent, policy-driven scheduling features that enable you to use all of your compute infrastructure resources and ensure optimal application performance.

IBM Spectrum LSF Application Center 10.2 Fix Pack 6

IBM Spectrum LSF Application Center provides a flexible, easy to use interface for cluster users and administrators. IBM Spectrum LSF Application Center is the full-featured offering, including job submission, monitoring, reporting, application templates, simplified application configuration, extended template and page customization, visualization support through VNC, and configurable user access control. The IBM Spectrum LSF Application Center desktop client is also included and the IBM Spectrum LSF Application Center mobile client is free for download through your mobile App Store.

IBM Platform MPI 9.1.4 (x86 only)

IBM Platform MPI is a production-quality implementation of the Message Passing Interface (MPI) that supports the broadest range of industry standard platforms, interconnects and operating systems to help ensure that parallel applications can run on any platform.

The following component is available as an optional download:

IBM Spectrum Cluster Foundation Community Edition 4.3 Fix Pack 1

IBM Spectrum Cluster Foundation Community Edition 4.3 Fix Pack 1 is powerful cluster management technology that delivers a comprehensive set of functions to help manage hardware and software from the infrastructure level. IBM Spectrum Cluster Foundation Community Edition automates the deployment of the operating system and other software components, and complex activities, such as application cluster creation and maintenance of a system. It also offers advanced system management capabilities like multiple clusters and multitenancy.

Only available in the bare metal installation option. See Getting started with IBM Spectrum Cluster Foundation Community Edition V4.3 Fix Pack 1 for more information.

Note: Documentation for IBM Spectrum Cluster Foundation Community Edition with IBM Spectrum LSF Suite Community Edition is the same as the documentation for IBM Spectrum Cluster Foundation Community Edition with IBM Spectrum LSF Suite for Workgroups.

Download IBM Spectrum Cluster Foundation Community Edition 4.3 Fix Pack 1 from the IBM Spectrum Cluster Foundation Community Edition website (<https://www-01.ibm.com/marketing/iwm/iwm/web/preLogin.do?source=swerpzs-w-pcmce-3>).

2 Step 2: Limitations and restrictions



Installation and operation of IBM Spectrum LSF Suite Community Edition is limited to 10 hosts, including hosts added dynamically. Each host must be a single or dual socket node. Other nodes are not supported.

IBM Spectrum LSF Suite Community Edition supports 2,500 active (started and pending) jobs in the system.

Job forwarding to a remote queue when using IBM Spectrum LSF multicluster capability is supported, but an IBM Spectrum LSF Suite Community Edition submission cluster cannot receive jobs from a remote cluster (the submission queue can configure the **SNDJOBS_TO** parameter, but the **RCVJOBS_FROM** parameter is ignored). IBM Spectrum LSF Suite Community Edition does not support the lease mode for IBM Spectrum LSF multicluster capability. The **HostExport** parameter in the `lsb.resources` file is ignored.

The resource connector for IBM Spectrum LSF feature is not enabled in IBM Spectrum LSF Suite Community Edition.

IBM Spectrum LSF Application Center is limited to 10 users logged in at the same time. There is no limit for mobile users.

3 Step 3: Access the software packages



Download the IBM Spectrum LSF Suite Community Edition offering distribution package for your environment from IBM developerWorks:

<https://developer.ibm.com/storage/products/ibm-spectrum-lsf/#downloads>

IBM Spectrum LSF Suite Community Edition is supported on 64-bit x86 Linux systems, IBM POWER LE (Little Endian) Linux systems, and Linux on ARM V8 systems.

For IBM Spectrum LSF Suite Community Edition, download one of the following files:

64-bit x86 Linux systems

`lsfsce10.2.0.6-x86_64.tar.gz`

IBM POWER Linux on Power (Little Endian) systems

`lsfsce10.2.0.6-ppc64le.tar.gz`

Linux on ARM V8

`lsfsce10.2.0.6-armv8.tar.gz`

4 Step 4: Access the documentation



Access the documentation for the IBM Spectrum LSF Suite Community Edition components on IBM® Knowledge Center:

- IBM Spectrum LSF 10.1 Fix Pack 6
- IBM Spectrum LSF Application Center 10.2 Fix Pack 6
- IBM Platform MPI 9.1.4

5 Step 5: Evaluate the hardware and system configuration



The IBM Spectrum LSF Suite Community Edition installation requires:

- A computing environment that consists of 2 to 10 hosts
- A host that has at least one network interface to act as the LSF master host
- A supported operating system that is preinstalled on the LSF master host
- Compute hosts that can be set to boot over a network

The IBM Spectrum LSF Suite Community Edition must meet the minimum hardware and software requirements of the installed components.

For details about system hardware and software requirements for IBM Spectrum LSF Suite Community Edition installation, and for more information about hardware and software compatibility of IBM Spectrum LSF Suite Community Edition components, see the system requirements information in IBM Knowledge Center and on the IBM Spectrum LSF wiki:

- IBM Spectrum LSF system requirements
- IBM Spectrum LSF Application Center system requirements
- IBM Platform MPI system requirements

6 Step 6: Plan system environment before installation

Before deploying IBM Spectrum LSF Suite Community Edition, decide on a network topology and system configuration. See more information on planning your environment here:

- Plan your LSF installation
- Preparing to install IBM Spectrum LSF Application Center
- Installing IBM Platform MPI

Step 7: (Optional) Installing IBM Spectrum LSF Suite Community Edition on infrastructure deployed from bare metal with IBM Spectrum Cluster Foundation Community Edition



Installing IBM Spectrum LSF Suite Community Edition on bare metal using IBM Spectrum Cluster Foundation Community Edition is a two step procedure:

1. Use IBM Spectrum Cluster Foundation Community Edition to install the operating system on the bare metal hosts.

See Administering IBM Spectrum Cluster Foundation Community Edition V4.3 Fix Pack 1 with IBM Spectrum LSF Suite for Workgroups V10.1 for information about deploying cluster infrastructure from bare metal.

Note: The information about deploying infrastructure from bare metal for IBM Spectrum Cluster Foundation Community Edition V4.3 Fix Pack 1 with IBM Spectrum LSF Suite Community Edition V10.2 is the same as IBM Spectrum LSF Suite for Workgroups V10.1.

2. Install the individual components for IBM Spectrum LSF Suite Community Edition with the native installation programs.

After downloading and extracting the IBM Spectrum LSF Suite Community Edition offering distribution packages (lsfsce10.2.0.6-x86_64.tar.gz, lsfsce10.2.0.6-ppc64le.tar.gz, or lsfsce10.2.0.6-armv8.tar.gz) the following directories are created containing the distribution packages and other required files for the IBM Spectrum LSF Suite Community Edition components:

IBM Spectrum LSF Suite Community Edition for 64-bit x86 Linux systems

- lsfsce10.2.0.6-x86_64/lsf/lsf10.1_linux2.6-glibc2.3-x86_64.tar.Z
- lsfsce10.2.0.6-x86_64/lsf/lsf10.1_lsfinstall_linux_x86_64.tar.Z
- lsfsce10.2.0.6-x86_64/pac/pac10.2.0.6_standard_linux-x64.tar.Z

IBM Spectrum LSF Suite Community Edition for IBM POWER Linux on Power (Little Endian) systems

- lsfsce10.2.0.6-ppc64le/lsf/lsf10.1_lsfinstall_linux_ppc64le.tar.Z
- lsfsce10.2.0.6-ppc64le/lsf/lsf10.1_lnx310-lib217-ppc64le.tar.Z
- lsfsce10.2.0.6-ppc64le/pac/pac10.2.0.6_standard_linux-ppc64le.tar.Z

Follow the installation steps for each IBM Spectrum LSF Suite Community Edition component:

- Installing IBM Spectrum LSF

Note: The `LSF_ENTITLEMENT_FILE` parameter is not required in the `install.config` file for installation.

- Installing IBM Spectrum LSF Application Center

Note:

If IBM Spectrum Cluster Foundation Community Edition is not yet installed, follow the steps in Installing IBM Spectrum Cluster Foundation Community Edition before you deploy your cluster infrastructure.

Step 8: Get started



After you have install IBM Spectrum LSF Suite Community Edition, you can start configuring your applications and completing other administrative tasks.

See more about getting started with IBM Spectrum LSF Suite Community Edition components here:

- Getting started with IBM Spectrum LSF
- IBM Spectrum LSF Application Center overview
- Getting started with IBM Platform MPI on Linux

Learn more about administering IBM Spectrum LSF Suite Community Edition here:

- Administering IBM Spectrum LSF
- Administering IBM Spectrum LSF Application Center
- IBM Platform MPI User's Guide

More information



For more information about IBM Spectrum LSF Suite Community Edition components, refer to the following resources:

- IBM Spectrum Computing community

Connect. Learn. Share. Collaborate and network with the IBM Spectrum Computing experts on IBM developerWorks at <https://developer.ibm.com/storage/products/ibm-spectrum-lsf>. Join today!

Use IBM developerWorks to learn, develop, and connect:

- Connect to become involved with an ongoing, open engagement among other users, system professionals, and IBM developers of IBM Spectrum Computing products.
- Learn more about IBM Spectrum Computing products on blogs and wikis, and benefit from the expertise and experience of others.
- Share your experience in wikis and forums to collaborate with the broader software defined computing user community.

- IBM Knowledge Center

IBM Knowledge Center gathers all IBM product information into one easy-to-access place. Search across the entire IBM content library, or narrow your search to individual IBM Spectrum LSF Suite Community Edition components.

- IBM Spectrum LSF products
- IBM Redbooks®

IBM Redbooks deliver skills, technical know-how, and materials to IBM technical professionals, Business Partners, clients, and the marketplace in general.