

IBM Insights Foundation for Energy  
Version 1 Release 5

*Installing IBM Insights Foundation for  
Energy*

**IBM**



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**Note**

Before using this information and the product it supports, read the information in "Notices" on page 5.

This edition applies to IBM Insights Foundation for Energy Version 1, Release 5, Modification 0. This edition applies to all subsequent releases and modifications until otherwise indicated in new editions.

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## Installing the solution

Install IBM® Insights™ Foundation for Energy V1.5 on three servers: an analytics server, an application server, and a database server.

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## Preparing for installation

Review the prerequisites and prepare the three servers before you install IBM Insights Foundation for Energy V1.5.

## IBM Insights Foundation for Energy servers

IBM Insights Foundation for Energy 1.5 is installed on three servers.

The following software is installed on each server as part of the IBM Insights Foundation for Energy installation.

### Application server

- IBM HTTP Server 8.5.5.5
- WebSphere® Application Server Liberty Profile 8.5.5.5
- IBM WebSphere MQ 7.5.0.4
- IBM Integration Bus 9.0.0.3

### Analytics server

- IBM SPSS® Modeler 17.0
- IBM SPSS Data Access Pack 7.1.1
- IBM SPSS Modeler Batch 17.0
- SPSS Collaboration and Deployment Services 7.0.0
- IBM SPSS CNDS Statistics Adapter 23.0
- IBM SPSS CNDS Statistics Modeler Adapter 17.0
- IBM SPSS Statistics 23.0
- IBM SPSS Analytic Server 2.0
- WebSphere Network Deployment 8.5.5.5
- IBM WebSphere SDK Java™ Technology Edition 7.1.2.10
- IBM ILOG® CPLEX® Optimization Studio 12.6.0.1
- IBM HTTP Server version 8.5.5.5
- IBM Cognos® Business Intelligence 10.2.2

### Database server

- DB2® Enterprise Server Edition 10.5.0.5
- Apache Jena 0.2.3

## Hardware requirements

Each of the three IBM Insights Foundation for Energy servers must satisfy minimum hardware requirements.

The minimum requirements for the three servers that are used by IBM Insights Foundation for Energy are shown in Table 1.

Table 1. Minimum hardware requirements

| Resource   | Application server | Analytics server | Database server |
|------------|--------------------|------------------|-----------------|
| CPUs       | 4 vCPU             | 4 vCPU           | 4 vCPU          |
| Memory     | 16 GB              | 16 GB            | 8 GB            |
| Disk space | 250 GB             | 250 GB           | 250 GB          |

An additional 30 GB of disk space is required on the server that is used as the installation server. This additional space is required for the installation media. After IBM Insights Foundation for Energy has been successfully installed, these directories can be deleted. The installation directories used in these instructions are named /distributionMedia and /installMedia/afba/images but might be different if you change the default directory names during installation.

## Prerequisite software requirements

Before installing IBM Insights Foundation for Energy, all servers must have the appropriate software installed.

IBM Insights Foundation for Energy requires Red Hat Enterprise Server Linux version 6 at release 6.3 or higher. You must also install specific Linux RPM packages on the servers as part of the preparing the servers procedures. For more information, see “Installing the Linux packages.”

It is recommended that the servers only have the prerequisite software installed. You must remove any previous installations of IBM Insights Foundation for Energy on the servers before you install IBM Insights Foundation for Energy V1.5.

## Preparing the servers

Before you install IBM Insights Foundation for Energy V1.5, the three servers must be correctly prepared or the installation will fail.

## Installing the Linux packages

Before installing IBM Insights Foundation for Energy V1.5, ensure that the required Linux packages are installed on the three servers.

## Procedure

Install the Linux packages that are listed in the following table on each server by running the yum install *package\_name* command.

Table 2. Required Linux packages for the IBM Insights Foundation for Energy servers

| Package name                    | Package name            | Package name                  |
|---------------------------------|-------------------------|-------------------------------|
| audit-libs.i686.rpm             | gtk2-engines.i686.rpm   | nfs-utils.x86_64.rpm          |
| audit-libs.x86_64.rpm           | gtk2-engines.x86_64.rpm | nfs_utils-lib.x86_64.rpm      |
| bc.x86_64.rpm                   | ksh.x86_64.rpm          | nss-softokn-freebl.i686.rpm   |
| compat-db.i686.rpm              | libaio.i686.rpm         | nss-softokn-freebl.x86_64.rpm |
| compat-db.x86_64.rpm            | libaio.x86_64.rpm       | ntp.x86_64.rpm                |
| compat-glibc.x86_64.rpm         | libgcc.i686.rpm         | openmotif22.i686.rpm          |
| compat-glibc-headers.x86_64.rpm | libgcc.x86_64.rpm       | openmotif22.x86_64.rpm        |
| compat-libstdc++i686.rpm        | libstdc++.i686.rpm      | openssh-clients.x86_64.rpm    |



Table 2. Required Linux packages for the IBM Insights Foundation for Energy servers (continued)

| Package name               | Package name            | Package name              |
|----------------------------|-------------------------|---------------------------|
| compat-libstdc++x86_64.rpm | libXft.i686.rpm         | pam.i686.rpm              |
| dos2unix.x86_64.rpm        | libXft.x86_64.rpm       | pam-devel.i686.rpm        |
| elfutils.x86_64.rpm        | libXmu.i686.rpm         | pam_passwqc.x86_64.rpm    |
| elfutils-libs.i686.rpm     | libXmu.x86_64.rpm       | redhat-lsb.x86_64.rpm     |
| elfutils-libs.x86_64.rpm   | libXp.i686.rpm          | rpm-build.x86-64.rpm      |
| gettext.x86_64.rpm         | libXpm.i686.rpm         | tcsh.x86_64.rpm           |
| gettext-libs.x86_64.rpm    | libXpm.x86_64.rpm       | unzip.x86_64.rpm          |
| glibc.i686.rpm             | libXpm-devel.i686.rpm   | xorg-x11-xauth.x86_64.rpm |
| glibc.x86_64.rpm           | libXpm-devel.x86_64.rpm | zip.x86_64.rpm            |
| gtk2.i686.rpm              | libXtst.i686.rpm        | zlib.i686.rpm             |
| gtk2.x86_64.rpm            | libXtst.x86_64.rpm      | zlib.x86_64.rpm           |

## Configuring the hosts files

To enable communication between the servers, update the `/etc/hosts` file on each server to define a host name and a fully qualified host name.

### About this task

Do the following steps on the analytics server, the application server, and the database server.

### Procedure

1. Log on to the server as the root user.
2. To define a fully qualified name and a short host name for the server, add an entry to the `/etc/hosts` file in the following format:  
*IP\_address fully\_qualified\_host\_name short\_host\_name*
3. Verify that the host name and the fully qualified host name are configured correctly on the server:
  - a. Enter the following command: `hostname -s`. The verification is successful if the command returns the defined short host name for the server.
  - b. Enter the following command: `hostname -f`. The verification is successful if the command returns the defined fully qualified host name for the server.

---

## Deploying the solution

Use the command line utilities to deploy IBM Insights Foundation for Energy.

### About this task

Download the IBM Insights Foundation for Energy 1.5 package to one of the three servers, and use that server as the installation server. Extract the install package and use the command line utilities to deploy the product.

### Procedure

1. Download the `ife15.tar.bz2` package to one of the servers, for example, the database server. Use this server as the installation server.
2. On the installation server, extract the contents of the package to a new directory. For example, run the following commands to extract the contents to `/distributionMedia`:

```
mkdir /distributionMedia
tar -jxvf ife15.tar.bz2 -C /distributionMedia
tar -jxvf ife15.media.tar.bz2 -C /distributionMedia
```

The extracted contents includes the installation package, `ife_chianti_20150813-1640.zip`.

3. On the installation server, create a directory named `/install/afbaInstall`. This directory will be used as the installation directory.
4. Copy the `ife_chianti_20150813-1640.zip` file to the `/install/afbaInstall` directory.
5. Extract the `ife_chianti_20150813-1640.zip` file in the `/install/afbaInstall` directory:
6. Edit the `/install/afbaInstall/resource/custom.properties` file and set the `image.basedir.local` property to the location where the installation media is located. If the directory was unchanged from the example in step 2 on page 3, specify `/distributionMedia` for `image.basedir.local`. If a different directory was used in step 2 on page 3, specify the directory where the images were extracted.
7. Edit the `/install/afbaInstall/topology/ife.properties` file and set the host name and password values for the application, analytics, and database servers. Other passwords can be configured in the properties file, or allowed to take the default values.
8. To change the default passwords for the three sample users of IBM Insights Foundation for Energy, edit the `/install/afbaInstall/topology/ife.std.properties` file.

**Note:** After a successful installation, encrypted versions of the updated passwords are stored in the basic user registry that is provided with IBM Insights Foundation for Energy. For more information about the basic user registry, see IBM Insights Foundation for Energy knowledge center: Securing the solution.

9. Run the following command:

```
find /install/afbaInstall -name '*.sh' | xargs -I{} chmod 700 "{}"
```

10. Install Java by running the following command:

```
/install/afbaInstall/bin/install-java.sh
```

After installing Java either log back into the server or open a new session.

11. Create the keystore file in the `/install/afbaInstall/resource` directory by running the following command where `topology_password` is your desired password used to secure the topology.

```
/install/afbaInstall/bin/ba.sh createSecretKey -p topology_password
```

12. Run the following command, specifying the topology password specified in step 11, to access the installation menu. Repeat this step selecting each option, in order, until all installation tasks complete successfully.

```
/install/afbaInstall/bin/ife-std-install.sh -p topology_password
```

If any installation option fails, diagnose the error and restart the installation beginning with a clean set of servers with the issue resolved.

## What to do next

After IBM Insights Foundation for Energy has been successfully installed, the media and image directories used for the installation can be deleted from the installation server. The directories used in these instructions are named `/distributionMedia` and `/installMedia/afba/images`.

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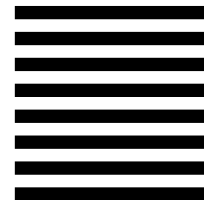
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