



CHAPTER 4

Preparing the Database

This chapter explains how to set up the MySQL database for Prime Home.

The database setup depends on the size of the network and the type of Prime Home deployment. Prime Home can be deployed in multiple node or High Availability setup.

The database must be functioning normally before you install Prime Home.

This chapter includes the following sections:

- [MySQL Database, page 4-1](#)
- [Setting Up the MySQL Database, page 4-1](#)

MySQL Database

The MySQL database is the default data store for Prime Home, and is installed on a separate host server. For deploying Prime Home, the MySQL database requires the following settings:

- Minimum 1-Gigabit Ethernet setup between the ACS host and the MySQL database. We recommend a 10-Gigabit Ethernet setup. This ensures that sufficient bandwidth is available for data transfer between the ACS host and the MySQL database.
- Java Database Connectivity (JDBC) between the ACS host and the MySQL database. To support JDBC, you have to create a specific database instance for Prime Home.
- An existing directory for storing MySQL database files. The partition should be at least ext4, preferably XFS or another file system that can provide maximum throughput for large files.
- Ensure that the MySQL connection information is based on the ACS host's naming protocol, and the login credentials are assigned accordingly. MySQL will resolve the connection hostname, and use it for authentication.
- Ensure that the Prime Home user can access the MySQL database from the ACS host.

Setting Up the MySQL Database



Caution

Prime Home is an extremely write-intensive application. Ensure that the database scaling and tuning is done accurately with proper planning.

To set up the MySQL database:

Step 1 Log into the MySQL host as root.

Step 2 Install MySQL 5 using the following command:

```
# yum -y install mysql-server
```

Step 3 Download the JDBC driver from <http://dev.mysql.com/downloads/connector/j/> and install it.



Note The JDBC driver supports the connectivity between the ACS host and the MySQL database.

Step 4 Modify the `/etc/my.cnf` file using the following command:

```
# cat <<EOF > /etc/my.cnf
```

Set the values in the `my.cnf` file as follows:

```
[mysqld]
datadir = /data/mysql
socket=/var/lib/mysql/mysql.sock
user=mysql
bind-address = 0.0.0.0
max_connections = 5000
max_connect_errors = 999999999999
key_buffer = 32M
max_allowed_packet = 32M
thread_stack = 256K
query_cache_limit = 4M
query_cache_size = 32M
auto_increment_increment = 10
innodb_data_file_path = ibdata1:512M;ibdata2:512M;ibdata3:512M:autoextend
innodb_buffer_pool_size = 2G
innodb_log_file_size = 512M
innodb_thread_concurrency = 10
innodb_flush_log_at_trx_commit = 2
table_open_cache = 256
tmp_table_size = 64M
server-id = 1
symbolic-links=0
[mysqld_safe]
log-error=/var/log/mysql.log
pid-file=/var/run/mysql/mysql.pid
EOF
```



Note

- In a High Availability environment, you must enable the primary-secondary setup for the MySQL database. Make sure that the `server-id` value in the `/etc/my.cnf` file is unique for all servers in the MySQL database cluster.
- Disable the `symbolic-links` to prevent security risks. Make sure that the `symbolic-links` value in the `/etc/my.cnf` file is set to zero.

Step 5 Enable the MySQL startup using the following command:

```
# chkconfig mysqld on
# service mysqld start
```

Step 6 Change the MySQL admin password using the following command:

```
mysqladmin -u root password newpassword
```

Creating a MySQL Database Instance for Prime Home

To enable selection, insertion, deletion, and drop privileges for Prime Home users, you must create a MySQL database instance.

Before you Begin

Make sure that you have set up the MySQL database. For details, see [Setting Up the MySQL Database, page 4-1](#).

To create a MySQL database instance for Prime Home:

Step 1 Create the database instance for Prime Home using the following commands:

```
mysql -uroot -p
Password: *****
mysql> create database _acsname;
```

where *_acsname* is the Prime Home database instance name. It should be same as the Apache Solr instance name; for example, *_sampleacs01*.



Note The Configurator tool identifies the skeletal schema of the database instance, and applies changes to the MySQL database. Hence, the Prime Home database instance also requires a skeletal schema. The recommended naming convention for Prime Home database instance is *_acsname*.

Step 2 Assign privileges to the Prime Home database instance user using the following commands:

```
mysql> grant all privileges on _acsname.* to '_acsnamedbuser'@'acshostname'
mysql> identified by '_acsnamedbpw' with grant option;
```

where:

- *_acsnamedbuser*—Prime Home database instance user
- *_acsnamedbpw*—Prime Home database instance password
- *acshostname*—Name of the Prime Home ACS host.

Step 3 Install schema definitions from the distribution file *distribution-5.1.0.tar.bz2*, using the following command:

```
# tar -O -jxf distribution-5.1.0.tar.bz2 \
database/ddl/im/im.ddl database/ddl/acs/acs-2.3.0.sql | mysql -u _sampleacs01 -ppassword -D
_sampleacs01
```

The following schema definition files are available in the *distribution-5.1.0.tar.bz2* package:

- *database/ddl/acs/acs-2.3.0.sql*—Defines the baseline schema for the database
- *database/ddl/im/im.ddl*—Defines the schema for the index manager

Step 4 Verify whether the Prime Home user can access the database instance from ACS host:

- a. Log into the ACS host.
- b. Access the Prime Home database instance using the following command:

```
mysql -u dbuser -p dbuserpw -h dbhost -D _acsname
```

Observations - MySQL Database Setup

[Table 4-1](#) is a worksheet that you must fill out after you set up MySQL database.

Table 4-1 Worksheet- MySQL Database Setup

MySQL Database Setup	Sample Observation	Your Observation
db_hostname	db01	
db_password	acs	
db_schema	_acs	
db_url	jdbc:mysql://dbhost/_acsname	
db_username	acs	
clientId	acs host	

For information on the fields listed in worksheet, see [Table 5-1](#).