

Calpont InfiniDB® JumpStart Guide

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Introduction

This guide contains a quick summary of steps needed to perform an install of Calpont InfiniDB Community. Please see the Calpont InfiniDB Installation Guide for installation of InfiniDB Enterprise.

Some of the content in this guide is only available with Calpont InfiniDB Enterprise.

Audience

This guide is written for IT administrators who are responsible for implementing the Calpont System.

Document standards

The following typographical conventions and user alerts are used throughout this guide:



Table 1: Typographical Conventions

Item	Description
Bold Typeface	Characters you type exactly as shown. For example: Type getLogInfo You would type: getLogInfo

Table 1: Typographical Conventions

Item	Description
<i>Bold Italic Typeface</i>	Used as a variable or placeholder. Type the appropriate replacement text. Variables identified with more than one word are connected by underscores. Examples: Type <i>ID</i> You would type the ID number: <i>34878</i> Type <i>IP_address</i> You would type the IP address: <i>110.68.52.01</i>

Table 2: User Alerts

Item	Description
	Note: Informs you of helpful information.
	Warning: Alerts you to possible hardware and/or software failures that can lead to loss of data or corruption.

List of documentation

Calpont InfiniDB documentation consists of several guides intended for different audiences. The documentation is described in the following table:

Table 3: Documentation

Document	Description
Calpont InfiniDB Administrator Guide	Provides detailed steps for maintaining Calpont InfiniDB.
Calpont InfiniDB Minimum Recommended Technical Specifications	Lists the minimum recommended hardware and software specifications for implementing Calpont InfiniDB.
Calpont InfiniDB Installation Guide	Contains a summary of steps needed to perform an install of Calpont InfiniDB in a distributed configuration
Calpont InfiniDB SQL Syntax Guide	Provides syntax native to Calpont InfiniDB.
Calpont InfiniDB Concepts Guide	Introduction to the Calpont InfiniDB analytic database.
Performance Tuning for the InfiniDB Analytics Database	Provides help for tuning the InfiniDB analytic database for parallelization and scalability.

Obtaining documentation

These guides reside on our <http://www.infinidb.org/> and <http://www.calpont.com> websites. Contact support@calpont.com for any additional assistance.

Documentation feedback

We encourage feedback, comments, and suggestions so that we can improve our documentation. Send comments to support@calpont.com along with the document name, version, comments, and page numbers.

Additional resources

If you need help installing, tuning, or querying your data with Calpont InfiniDB, you can contact support@calpont.com.



Installing and Configuring Calpont InfiniDB

Calpont InfiniDB Single Server Software Installation

Choosing the Type of Initial Download/Install

Initial Download/Install of Calpont InfiniDB RPMs

1. Starting with a RHEL 5.x server install:

Note: IDB is certified to run on:

RHEL/CentOS v5, v6

Debian v5, v6

Ubuntu 10.04 LTS, 12.04 LTS

(contact Calpont sales for 12.04 LTS availability)

but it should run on any recent Linux system.

Windows Server 2008

2. Install Calpont InfiniDB as user *root*:

Note: Calpont InfiniDB installation will install with a single MySQL userid of *root* with no password. You may setup users and permissions for a Calpont InfiniDB account just as you would in MySQL. Consult the MySQL documentation for further information on these procedures.

- Download the package `calpont-release#.x86_64.tar.gz` (RHEL5 64-BIT) to the server where you are installing Calpont InfiniDB.
- Unpack the tarball, which will generate 3 RPMs that will reside in the `/calpont_InfiniDB` directory.

```
tar -zxf calpont-release#.x86_64.tar
```

- Install the 3 RPMs. The Calpont InfiniDB software will be installed in `/usr/local/Calpont`.

```
rpm -ivh calpont*release#*.rpm
```

Initial Download/Install of InfiniDB Binary package

Install Calpont InfiniDB as user *root* on the server designated as PM1:

Note: You may setup users and permissions for a Calpont InfiniDB account just as you would in MySQL. Consult the MySQL documentation for further information on these procedures.

- Download the package into the */usr/local* directory `calpont-infinidb-ent-release#.x86_64.bin.tar.gz` (Binary 64-BIT) to the server where you are installing Calpont InfiniDB.
- Unpack the tarball, which will generate the */usr/local/Calpont* directory.

```
# tar -zxvf calpont-infinidb-ent-release#.x86_64.bin.tar.gz
```

Initial Download/Install of InfiniDB DEB package

Install Calpont InfiniDB on a Debian or Ubuntu OS as user *root*:

Note: You may setup users and permissions for a Calpont InfiniDB account just as you would in MySQL. Consult the MySQL documentation for further information on these procedures.

1. Download the package `calpont-infinidb-release#.amd64.deb.tar.gz` (DEB 64-BIT) into the */root* directory of the server where you are installing Calpont InfiniDB.
2. Unpack the tarball, which will generate 3 DEBs.

```
# tar -zxf calpont-infinidb-release#.amd64.deb.tar.gz
```

3. Install the InfiniDB DEBs. The Calpont InfiniDB software will be installed in */usr/local/Calpont*.

```
# dpkg -i calpont*release#.deb
```

Single Server Utilizing Local Disk

- The Calpont InfiniDB MySQL daemon utilizes port 3306. If another MySQL service is running, you must change the port. To use a different port, update the 2 locations in the following file:

```
/usr/local/Calpont/mysql/my.cnf
port      = 3306
port      = 3306
```

You must reserve the following ports to run the Calpont InfiniDB software:

8600 - 8622, 8700, and 8800

- To configure and run on a single server system utilizing local disk storage, run install-infinidb script:

`/usr/local/Calpont/bin/install-infinidb.sh`

- To configure the InfiniDB Aliases, run the following:

`. /usr/local/Calpont/bin/calpontAlias`

Note: You may wish to add this line to your shell startup script to have these aliases available every time you log in.

The following alias will be created after running the calpontAlias:

```
idbmysql          = /usr/local/Calpont/mysql/bin/mysql  
                  --defaults-file=/usr/local/Calpont/mysql/my.cnf  
                  -u root
```

idbmysql: Launches the Calpont InfiniDB MySQL Console

Single Server Utilizing Shared/Network Storage

You may install the software and the database on a SAN device by simply mounting that device on `/usr/local/Calpont` and following the installation instructions.

If you would just like the database on a SAN device, mount that device on `/usr/local/Calpont/data1`.

Recommended SAN mount options:

`rw,noatime,nodiratime`

Starting/Stopping Calpont InfiniDB

To manually start the Calpont InfiniDB software as the root user run:

`service infinidb start`

To stop the Calpont InfiniDB software, run:

```
service infinidb stop
```

To start/stop the Calpont InfiniDB software during system boot/shutdown use the *chk-config* command

```
/sbin/chkconfig --add infinidb
```

```
/sbin/chkconfig infinidb on
```

This script can also be used to start/stop the server anytime by running the command itself.

```
/etc/init.d/infinidb start
```

```
/etc/init.d/infinidb stop
```

Logging into InfiniDB

- At a Linux prompt:
idbmysql [optional database name]

Logging into InfiniDB with Windows

If you are running InfiniDB under a Windows platform, the default command window for some Windows OS versions may not run with enough permissions to write to InfiniDB files. You should start a privileged command window by right-clicking on the command window item in the Start menu and choose the “Run as Administrator” option.

Setting Permissions

Please see “Granting Access for Users” in the Calpont InfiniDB Administrator’s Guide on setting initial permissions for user accounts.

Performance Optimization Considerations

There are optimizations that should be made when using InfiniDB listed below. As always, please consult with your network administrator for additional optimization considerations for your specific installation needs.

- ◆ Disk I/O Scheduler - You may find that Linux disk I.O schedulers other than the default *cfq* work better with InfiniDB. You can experiment with any of them to see if your specific kernel driver/disk subsystem performs better with one versus another.
- ◆ GbE NIC settings - Please consult your network admin for optimal NIC settings.

Example Calpont InfiniDB Database Setup

Once logged into idbmysql:

```
create database infinidb;
use infinidb;
create table idbtest(col1 int, col2 int) engine=infinidb;
show create table idbtest;
insert into idbtest values (1, 2);
insert into idbtest values (3, 4);
select * from idbtest;
```

Notes on database access:

- ◆ Calpont InfiniDB is accessed via MySQL for all Inserts, Updates, Deletes and Queries.

Importing Data into InfiniDB

While Calpont InfiniDB supports multiple ways to get data into the database (individual insert, batch insert, load data infile and import), the most efficient manner to load significant amounts of data into Calpont InfiniDB is through the import utility. See “Importing Data” in the Calpont InfiniDB Administrator’s Guide for more detail.

1. A delimited import file should be created to match the table that you want to import data to similar to the following. In this example, the file will be saved as `idbtest.tbl`:

```
100|1001|
200|2002|
```
2. Save/place this file in a directory.

3. From that same directory, import the rows:

```
/usr/local/Calpont/bin/cpimport infinidb idbtest idbtest.tbl
```

4. Verify the data imported successfully:

```
idbmysql infinidb  
select * from idbtest;
```

Importing UTF-8 data

When using the cpimport utility, the input file must be converted to UTF-8 data. The Linux program iconv is one utility to convert it.

```
iconv -f ISO-8859-1 -t UTF-8 < input.txt > output.txt
```

Upgrading Calpont InfiniDB

Calpont InfiniDB Single Server Software Upgrade

Note: Calpont.XML modifications you have made are not automatically carried forward on an upgrade. These modifications will need to be incorporated back into Calpont.XML once the upgrade has occurred.

The previous Calpont configuration file will be saved as `/usr/local/Calpont/etc/Calpont.xml.rpmsave`.

Important Release 2.1 (and higher) Upgrade Note

The location of the DBRM (Extent Map) Data files changed in Release 2.1. The default location is being moved from `/usr/local/Calpont/dbrm` for prior releases to `/usr/local/Calpont/data1/systemFiles/dbrm` in release 2.1.

During the execution of the 'install-infinidb.sh' upgrade script, the location of the Extent Map files will be analyzed and the following will occur:

- ◆ If files exist in the pre-2.1 directory (`/usr/local/Calpont/dbrm`) and not in the post-2.1 directory (`/usr/local/Calpont/data1/systemFiles/dbrm`), the files will automatically be copied over. The pre-2.1 directory will then be renamed to `/usr/local/Calpont/dbrm.old`. A message will be issued back to the installer that these files have been moved. There is no additional action that the installer will need to take.
- ◆ If, for any reason, files exist in both directories, the Extend Map files will **not** automatically be copied over and a message will be issued to the installer to perform the following:
 1. Check the files in the 2 directories to determine the correct version. Generally, the files with the most recent date are the correct version.
 - If the correct version is in the post-2.1 directory, rename the `/usr/local/Calpont/dbrm` directory to `/usr/local/Calpont/dbrm.old`. This will

prevent the installer from having to perform this manual step on future upgrades.

- If the correct version is in the pre-2.1 directory
 - 1.Backup, then delete the files in the post-2.1 directory (**/usr/local/Calpont/data1/systemFiles/dbrm**)
 - 2.Copy the files from the pre-2.1 directory (**/usr/local/Calpont/dbrm**) to the post-2.1 directory (**/usr/local/Calpont/data1/systemFiles/dbrm**)
 - 3.Edit the following file to change the BRM path:

```
/usr/local/Calpont/data1/systemFiles/dbrm/BRM_saves_current
```

and change:

```
/usr/local/Calpont/dbrm/BRM_saves
```

to:

```
/usr/local/Calpont/data1/systemFiles/dbrm/BRM_saves
```
 - 4.Rename the **/usr/local/Calpont/dbrm** directory to **/usr/local/Calpont/dbrm.old**. This will prevent the installer from having to perform this manual step on future upgrades.

Please contact Calpont Support at support@calpont.com for additional questions or assistance.

Choosing the type of Upgrade

Upgrading Calpont InfiniDB using RPMs

5. Upgrade Calpont InfiniDB as user *root*:
 - Download the package `calpont-release#.x86_64.tar.gz` (RHEL5 64-BIT) to the server where you are installing Calpont InfiniDB.
 - Stop the Calpont InfiniDB service:

```
service infinidb stop
```
 - Make backup of Calpont MySQL Configuration file.

```
# mv /usr/local/Calpont/mysql/my.cnf  
/usr/local/Calpont/mysql/my.cnf.rpmsave
```
 - Unpack the tarball, which will generate 3 RPMs that will reside in the `/calpont_InfiniDB` directory.


```
tar -xzf calpont-release#.x86_64.tar
```

- Upgrade the 3 RPMs. The Calpont InfiniDB software will be installed in /usr/local/Calpont.

Note: If another version of MySQL is currently running, this service will need to be stopped before running this command. After the rpm command has been executed, you can restart the service.

```
rpm -Uvh calpont*release#*.rpm
```

For RPM Upgrade, the previous Calpont configuration file will be saved as: /usr/local/Calpont/etc/Calpont.xml.rpmsave

- Any changes made to the my.cnf would need to be manually carried forward to the current my.cnf.

Initial Download/Install of InfiniDB Binary package

Install Calpont InfiniDB as user *root* on the server designated as PM1:

- Download the package into the /usr/local directory calpont-infinidb-release#.x86_64.bin.tar.gz (Binary 64-BIT) to the server where you are installing Calpont InfiniDB.
- Stop the Calpont InfiniDB service:

```
service infinidb stop
```
- Run pre-uninstall script

```
# /usr/local/Calpont/bin/pre-uninstall
```
- Make backup of Calpont Configuration files. This step is important in that it will allow for automatic utilization of the Calpont.xml configuration data when running the install_infinidb script.

```
# mv /usr/local/Calpont/etc/Calpont.xml  
/usr/local/Calpont/etc/Calpont.xml.rpmsave  
# mv /usr/local/Calpont/mysql/my.cnf  
/usr/local/Calpont/mysql/my.cnf.rpmsave
```
- Unpack the tarball, which will generate the /usr/local/Calpont directory.

```
# tar -zxvf calpont-infinidb-release#.x86_64.bin.tar.gz
```
- Run post-install scripts

```
# /usr/local/Calpont/bin/post-install
```

- Any changes made to the my.cnf would need to be manually carried forward to the current my.cnf.

Upgrading Calpont InfiniDB using the DEB package

A DEB upgrade would be done on a system that supports DEBs like Debian or Ubuntu systems.

Install Calpont InfiniDB as user *root* on the server designated as PM1:

- Download the package into the */root* directory `calpont-infinidb-release#.amd64.deb.tar.gz` (DEB 64-BIT) to the server where you are installing Calpont InfiniDB.
- Stop the Calpont InfiniDB service:
`service infinidb stop`
- Make backup of Calpont Configuration files. This step is important in that it will allow for automatic utilization of the Calpont.xml configuration data when running the `install_infinidb` script.

```
# mv /usr/local/Calpont/etc/Calpont.xml
    /usr/local/Calpont/etc/Calpont.xml.rpmsave
# mv /usr/local/Calpont/mysql/my.cnf
    /usr/local/Calpont/mysql/my.cnf.rpmsave
```
- Unpack the tarball, which will generate 3 DEBs.
`# tar -zxf calpont-infinidb-release#.amd64.deb.tar.gz`
- Remove, purge and install all Calpont InfiniDB debs

```
# cd /root/
# dpkg -r calpont calpont-mysql calpont-mysqld
# dpkg -P calpont calpont-mysql calpont-mysqld
# dpkg -i calpont*release#.deb
```
- Any changes made to the my.cnf would need to be manually carried forward to the current my.cnf.

Upgrade Single Server Utilizing Local Disk

- To upgrade on a single server system utilizing local disk storage, run `install-infinidb` script:
`/usr/local/Calpont/bin/install-infinidb.sh`

- To configure the InfiniDB Aliases, run the following:

```
. /usr/local/Calpont/bin/calpontAlias
```

Note: You may wish to add this line to your shell startup script to have these aliases available every time you log in.

The following alias will be created after running the calpontAlias:

```
idbmysql          = /usr/local/Calpont/mysql/bin/mysql  
                  --defaults-file=/usr/local/Calpont/mysql/my.cnf  
                  -u root
```

idbmysql: Launches the Calpont InfiniDB MySQL Console

- See Starting/Stopping Calpont InfiniDB above for starting/stopping InfiniDB.

Single Server Utilizing Shared/Network Storage

Use the same procedure as Utilizing Local Disk above.

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