

MRG Management Console

Installation Guide

1.0



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MRG Management Console

This book contains basic overview and installation procedures for the MRG Management Console component of the Red Hat Enterprise MRG distributed computing platform. The MRG Management Console provides a web-based tool for management of MRG Messaging



MRG Management Console: Installation Guide

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Preface

Red Hat Enterprise MRG.

This book contains basic overview and installation information for the MRG Management Console component of Red Hat Enterprise MRG. Red Hat Enterprise MRG is a high performance distributed computing platform consisting of three components:

1. *Messaging* — Cross platform, high performance, reliable messaging using the Advanced Message Queuing Protocol (AMQP) standard.
2. *Realtime* — Consistent low-latency and predictable response times for applications that require microsecond latency.
3. *Grid* — Distributed High Throughput (HTC) and High Performance Computing (HPC).

All three components of Red Hat Enterprise MRG are designed to be used as part of the platform, but can also be used separately.

MRG Management Console.

The MRG Management Console, also known as Cumin, provides a web-based graphical tool to manage your Red Hat Enterprise MRG deployment.

MRG Messaging is an open source, high performance, reliable messaging distribution that implements the Advanced Message Queuing Protocol (AMQP) standard. MRG Messaging is based on *Apache Qpid*¹, but includes persistence options, additional components, Linux kernel optimizations, and operating system services not found in the Qpid implementation. We have worked closely with companies that rely heavily on high performance messaging, and created a system to meet their real-world needs.

This book shows you how to install the MRG Management Console and explains the basic options available. For information on installing MRG Messaging see the *MRG Messaging Installation Guide*. If you want to write your own applications for use with MRG Messaging, see the *MRG Messaging Tutorial*.

1. Document Conventions

Certain words in this manual are represented in different fonts, styles, and weights. This highlighting indicates that the word is part of a specific category. The categories include the following:

Courier font

Courier font represents commands, file names and paths, and prompts.

¹ <http://cwiki.apache.org/qpid/>

When shown as below, it indicates computer output:

```
Desktop      about.html   logs        paulwesterberg.png
Mail         backupfiles mail         reports
```

Courier font

Bold Courier font represents text that you are to type, such as: `service jonas start`

If you have to run a command as root, the root prompt (#) precedes the command:

```
# gconftool-2
```

Courier font

Italic Courier font represents a variable, such as an installation directory:

```
install_dir/bin/
```

font

Bold font represents **application programs** and **text found on a graphical interface**.

When shown like this: **OK**, it indicates a button on a graphical application interface.

Additionally, the manual uses different strategies to draw your attention to pieces of information. In order of how critical the information is to you, these items are marked as follows:



Note

A note is typically information that you need to understand the behavior of the system.



Tip

A tip is typically an alternative way of performing a task.



Important

Important information is necessary, but possibly unexpected, such as a configuration change that will not persist after a reboot.



Caution

A caution indicates an act that would violate your support agreement, such as recompiling the kernel.



Warning

A warning indicates potential data loss, as may happen when tuning hardware for maximum performance.

2. We Need Feedback!

If you find a typographical error in this manual, or if you have thought of a way to make this manual better, we would love to hear from you! Please submit a report in Bugzilla:

<http://bugzilla.redhat.com/bugzilla/> against the product **Red Hat Enterprise MRG**.

When submitting a bug report, be sure to mention the manual's identifier:

Management_Console_Installation_Guide

If you have a suggestion for improving the documentation, try to be as specific as possible when describing it. If you have found an error, please include the section number and some of the surrounding text so we can find it easily.

Installing the MRG Management Console

In order to install the MRG Management Console you will need to have registered your system with [Red Hat Network](#)¹. This table lists the Red Hat Enterprise MRG channels available on Red Hat Network for the MRG Management Console.

Channel Name	Operating System	Architecture
Red Hat MRG Management	RHEL-5 Server	32bit, 64bit

Table 1.1. Red Hat Enterprise MRG Channels Available on Red Hat Network



Important

Before you install Red Hat Enterprise MRG check that your hardware and platform is supported. A complete list is available on the [Red Hat Enterprise MRG Supported Hardware Page](#)².

Installing the MRG Management Console on Red Hat Enterprise Linux 5

1. Install the MRG Management Console group using the `yum` command.

```
# yum groupinstall "MRG Management"
```

2. You can check the installation location and that the components have been installed successfully by using the `rpm -ql` command with the `cumin` package name. For example:

```
# rpm -ql cumin
/etc/cumin.conf
/usr/bin/cumin
/usr/bin/cumin-database-init
/usr/bin/cumin-test
/usr/lib/python2.4/site-packages/cumin
/usr/lib/python2.4/site-packages/cumin/__init__.py
```

¹ <https://rhn.redhat.com/help/about.pxt>

...[output truncated]...



Note

If you find that yum is not installing all the dependencies you require, make sure that you have registered your system with [Red Hat Network](#)³.

Start Console

First Run

Before you run the MRG Management Console for the first time, you will need to configure the `postgresql` database server and prepare the Cumin database.

1. The configuration file for the `postgresql` database is in `/var/lib/pgsql/data/pg_hba.conf`. Open the file in your preferred text editor, and locate the configuration settings at the end of the file. You will need to change the `METHOD` to `trust` for all the connections listed:



Note

Using the `trust` parameter means that any local user can access and modify `postgresql` data, including Cumin data. For some deployments, where a dedicated machine hosts the web console, this is acceptable. If, however, the web console is to be installed on a shared multi-user system, you should take care to use a more restrictive `postgresql` authentication method. See the `postgresql` documentation for more information.

```
...[output truncated]...
# TYPE DATABASE USER CIDR-ADDRESS METHOD

# "local" is for Unix domain socket connections only
local all all trust
# IPv4 local connections:
host all all 127.0.0.1/32 trust
# IPv6 local connections:
host all all ::1/128 trust
```



Important

If you discover that `pg_hba.conf` does not exist on your system, continue through the next steps anyway. Before you start the MRG Management Console however, return to this step, make the changes and restart the `postgresql` service. `pg_hba.conf` will be written to your system during the setup process.

2. Check the status of the `postgresql` service and restart it to pick up the configuration changes:

```
# service postgresql status
postmaster is stopped

# service postgresql start
Starting postgresql service:          [ OK ]
```

3. Initialize the Cumin database and schema:

```
# cumin-database-init
Executed 102 statements from file '/var/lib/cumin/sql/schema.sql'
Executed 6 statements from file '/var/lib/cumin/sql/indexes.sql'
```

4. A username and password is required to log on to the MRG Management Console. Switch to the *cumin* user and run the `cumin-admin add-user` command.

```
# su cumin

$ cumin-admin add-user testuser
Set password: *****
Retype password: *****
User 'testuser' is added
```

Starting the MRG Management Console

The MRG Management Console is a web-based tool. You can use any internet browser to access the tool, with or without an internet connection.

1. By default, the web console is bound to `localhost`, which allows only local connections to be made. To make the MRG Management Console accessible from other hosts on the network, add the IP address of the host to the configuration file. You can do this by editing the `/etc/cumin/cumin.conf` file directly, or by using a command line option.

To edit the configuration file directly, open `/etc/cumin/cumin.conf` with your preferred text editor and add the following line with the host IP address:

```
addr: 192.168.0.20
```

To set the host IP address using a command line option, run the following command as the *cumin* user:

```
# su cumin
$ cumin --addr 192.168.0.20
```

2. For security over a network Secure Socket Layer (SSL) support can be enabled, either by editing the `/etc/cumin/cumin.conf` file directly, or by using a command line option.

To edit the configuration file directly, open `/etc/cumin/cumin.conf` with your preferred text editor and add the following line:

```
ssl: yes
```

To enable SSL encryption using a command line option, run the following command as the `cumin` user:

```
# su cumin
$ cumin --ssl yes
```

By default, the MRG Management Console is installed with a self-signed certificate. This is useful for testing a deployment, but it is not secure. You can install a new certificate and key and save them at `/etc/cumin/cumin.crt` and `/etc/cumin/cumin.key`.

When Cumin is restarted with the `--ssl` option, it will use the new certificate files.

3. You may also want to adjust how often the MRG Messaging broker sends updated information to the MRG Management Console. The default value is 10 seconds. If you are attempting to reduce the load on the broker or your network, you may want to increase the interval for fewer updates. If you want higher-resolution statistics, you may want to decrease the interval time to 5 seconds for more frequent updates. This can be done using the `mgmt-pub-interval` option with MRG Messaging.

```
# /usr/sbin/qpidd --mgmt-pub-interval 30
```

4. To start Cumin as a service, become the root user and use the `service start` command at `/sbin/service`

```
# /sbin/service cumin start
Starting Cumin daemon: [ OK ]
```

You can also use the `service` commands to stop and restart Cumin, and check on the status:

```
# /sbin/service cumin status
cumin (pid PID) is running...

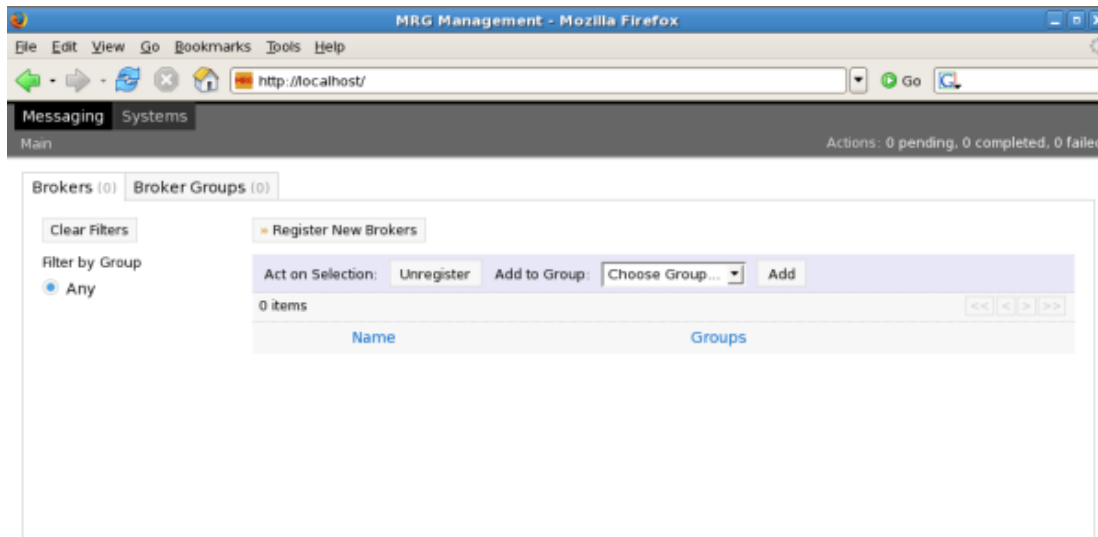
# /sbin/service cumin restart
Stopping Cumin daemon:          [ OK ]
Starting Cumin daemon:          [ OK ]

# /sbin/service cumin stop
Stopping Cumin daemon:          [ OK ]
```

5. To start Cumin as an unprivileged user, you will need to identify an unprivileged port for it to run on. You can do this with the `--port` option.

```
$ cumin --port 8080
```

6. Open your internet browser and navigate to the MRG Management Console page. If you started Cumin as root, use <http://localhost:45672/>.



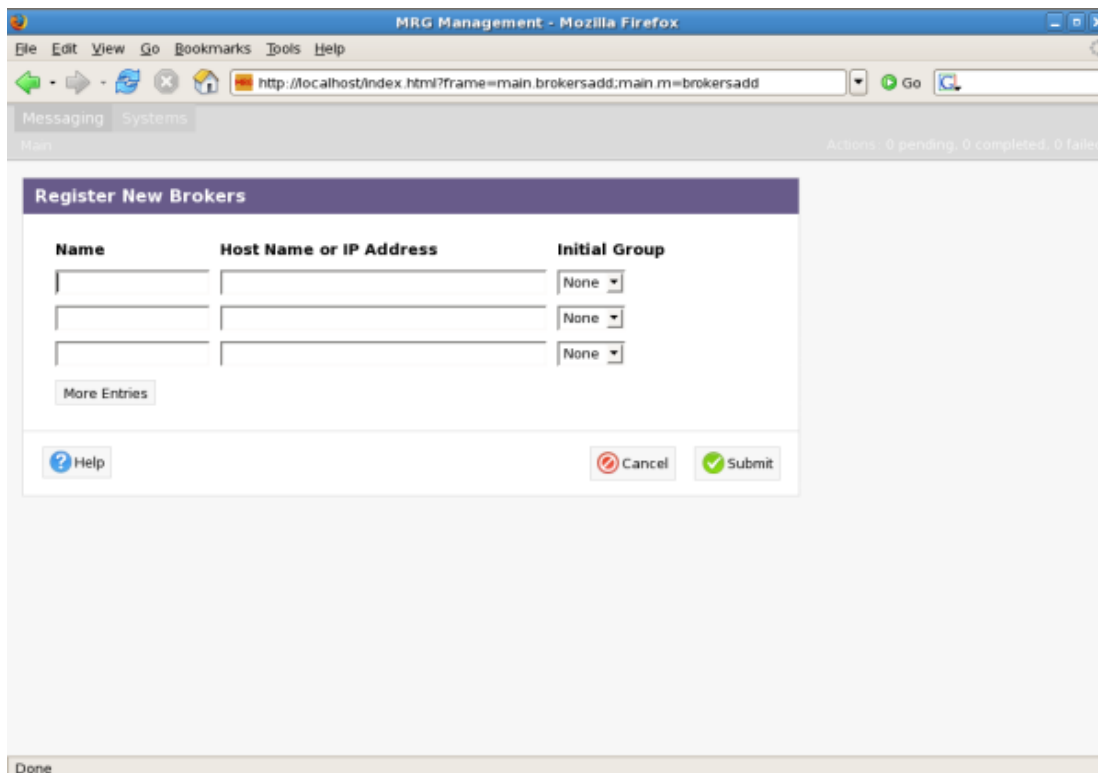
7. You can now begin using the MRG Management Console to add and manage MRG Messaging brokers.

Using the MRG Management Console

Register New Brokers

To begin using the MRG Management Console you will need to register some brokers.

1. Select **Register New Brokers** from the main window.



2. Enter the name of the new broker and its host name or IP address. Click on **Submit** to save your information and return to the Brokers screen. You should be able to see your new broker listed.
3. From the main screen you can select the name of your new broker to edit its properties, or select brokers to perform actions.

Chapter 3. Using the MRG Management Console

Messaging Systems Hi, guest Log Out
Main Actions: 0 pending, 13 completed, 5 failed

RED HAT MESSAGING

Brokers (9) Broker Groups (5)

Clear Filters

Filter by Group

- Notebook
- lab
- prod NYC
- Prod CA
- prod all
- Any

Register New Brokers

Act on Selection: Unregister Add to Group: Notebook Add

9 items << < 1 > >>

<input type="checkbox"/>	Name	Groups
<input type="checkbox"/>	notebook1	Notebook
<input type="checkbox"/>	perf4	lab
<input type="checkbox"/>	perf7	lab
<input type="checkbox"/>	prod-east1	prod NYC, prod all
<input type="checkbox"/>	prod-east2	prod NYC, prod all
<input type="checkbox"/>	prod-east3	prod NYC, prod all
<input type="checkbox"/>	prod-west1	Prod CA, prod all
<input type="checkbox"/>	prod-west2	Prod CA, prod all
<input type="checkbox"/>	prod-west3	Prod CA, prod all

Done

More Information

Reporting a Bug.

If you have found a bug in MRG Management Console, follow these instructions to enter a bug report:

1. You will need a [Bugzilla](#)¹ account. You can create one at [Create Bugzilla Account](#)².
2. Once you have a Bugzilla account, log in and click on [Enter A New Bug Report](#)³.
3. When submitting a bug report, you will need to identify the product (Red Hat Enterprise MRG), the version (1.0), and whether the bug occurs in the software (component = management) or in the documentation (component = Management_Console_Installation_Guide).

Further Reading.

- Red Hat Enterprise MRG and MRG Messaging Product Information
 - <http://www.redhat.com/mrg>
- MRG Messaging Development Wiki
 - http://rhm.et.redhat.com/page/Main_Page
- For more information on the packages available and getting started with MRG Messaging:
 - http://rhm.et.redhat.com/page/Getting_Started_With_RHM
- MRG Messaging Users Mailing List
 - Subscribe by sending an email to `<rhm-users-request@redhat.com>` with the word "Subscribe" in the subject line.

¹ <https://bugzilla.redhat.com/index.cgi>

² <https://bugzilla.redhat.com/createaccount.cgi>

³ https://bugzilla.redhat.com/enter_bug.cgi

Appendix A. Revision History

Revision History

Revision 1.2	5 June, 2008	Lana Brindley
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Completed Revision for 1.0 Release

Revision 1.1	7 March 2008	Lana Brindley
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Technical Review Completed

Revision 1.0	3 March 2008	Lana Brindley
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Initial Draft

