



Enomalism 2.0 Beta Administrator's Guide

Installing on Ubuntu 7.10 Desktop/Server/Alternate Distributions.....	2
Pre-Installation for Ubuntu.....	2
Installing Enomalism on Ubuntu.....	2
Configuring Enomalism on Ubuntu.....	3
Running Enomalism on Ubuntu.....	3
Installing on Red Hat Enterprise Linux 5.1, CentOS 5.1, and Fedora 8 Distributions.....	4
Pre-Installation for Red Hat, CentOS, and Fedora.....	4
Configuring Enomalism on Red Hat, CentOS, and Fedora.....	5
Running Enomalism on Red Hat, CentOS, and Fedora.....	5
Setting up a Cluster.....	6
Troubleshooting.....	7
VNC CIDR Problems.....	7
MySQL Encoding.....	7
Xen domU Kernels.....	7
Unstable Libvirt.....	8
Frequently Asked Questions - Beta Release.....	8
I'm having problems with libvirt.....	8
Everything installed correctly and started up, but I don't know how to create a virtual machine.....	9
Can I make my own virtual machines?.....	9
Can I use Enomalism to connect or import a currently running virtual machine?.....	9
I'm able to download and provision a Xen virtual machine but I can't seem to start it.....	9

Installing on Ubuntu 7.10 Desktop/Server/Alternate Distributions

Pre-Installation for Ubuntu

Note: At one point, you will be asked to provide a root password for MySQL. Be sure to remember this password—you will need to use it later.

Xen/KVM Installations

- Run the following from the command line:

```
sudo apt-get install ssh build-essential python-dev libxen3.1-dev kvm mysql-
server \
libmysqlclient15-dev python-libvirt python-mysqldb libvirt-bin python-
setuptools \
xen-utils-3.1 linux-xen qemu bridge-utils
sudo mkdir -p /opt
cd /opt
```

KVM Only Installations (Recommended for systems that cannot boot Xen kernels)

- Run the following from the command line:

```
sudo apt-get install ssh build-essential python-dev libxen3.1-dev kvm mysql-
server \
libmysqlclient15-dev python-libvirt python-mysqldb libvirt-bin python-
setuptools \
qemu bridge-utils
sudo mkdir -p /opt
cd /opt
```

Installing Enomalism on Ubuntu

1. Download the Enomalism source package from SourceForge to /opt.
2. Run the following from the command line:

```
cd /opt
sudo tar -xvzf Enomalism2-2.0A-865.noarch.tar.gz
mv Enomalism2-2.0A-865 enomalism2
cd enomalism2
python setup.py install
```
3. If you have an error with httplib2 broken link (<http://pypi.python.org/simple/httplib2/>), you can use the following workaround:

```
easy_install -U http://archive.ubuntu.com/ubuntu/pool/universe/p/python-  
httplib2/python-httpplib2_0.2.0.orig.tar.gz
```

Configuring Enomalism on Ubuntu

1. MySQL should now be running. To allow the database init script to create the default database and permissions for Enomalism, type the following at the command line:

```
scripts/init-db.sh mysql_root_password user password
```

where *mysql_root_password* is the MySQL root password you created earlier.

Replace *user* and *password* with the username and password of your choice.

2. To copy the default.cfg to config/\$HOSTNAME.cfg, type the following at the command line:

```
cp default.cfg config/$HOSTNAME.cfg
```

3. Edit config/\$HOSTNAME.cfg.

- Change `sqlobject.dburi="mysql://enomalism2:zx45qw12@localhost/enomalism2"` to reflect your actual MySQL username and password.
- Change `enomalism2.self="5fe6f05e-7ee0-11dc-ba7c-0011d88b8e81"` to reflect a unique identifier for your cluster environment (each instance must be unique).
- Change `enomalism2.baseurl="http://127.0.0.1:8080/rest/"` to the IP/hostname you use to access the Enomalism web interface.
- Change `enomalism2.ip_addr="1.2.3.4"` to the IP/hostname you use to access the Enomalism web interface. This will be used later for clustering.

Running Enomalism on Ubuntu

1. Type the following at the command line:

```
scripts/enomalism2.sh start
```

2. If no errors occur, point your browser to:

```
http://server:8080
```

where *server* is the IP or the hostname of the Enomalism server.

3. After the installation is complete, click the bottom link and log in using the following credentials:

username: admin

password: password

Installing on Red Hat Enterprise Linux 5.1, CentOS 5.1, and Fedora 8 Distributions

Pre-Installation for Red Hat, CentOS, and Fedora

All RPM Based Installations

- Download `enomalism001.pubkey.asc` and install it using the following command:

```
rpm --import enomalism001.pubkey.asc
```

RHEL 5.1 and CentOS 5.1

- After downloading all the RPMs for your platform from SourceForge, run the following from the command line:

```
ln -s /usr/bin/qemu-kvm /usr/bin/kvm
yum install libvirt-python-0.4.1-1.CentOS5.i386.rpm \
libvirt-devel-0.4.1-1.CentOS5.i386.rpm Enomalism2-2.0A-1.CentOS5.i386.rpm \
libvirt-0.4.1-1.CentOS5.i386.rpm
```

Fedora 8

- After downloading all the RPMs for your platform from SourceForge, run the following from the command line:

```
yum install libvirt-python-0.4.1-1.fc8.i386.rpm \
libvirt-devel-0.4.1-1.fc8.i386.rpm Enomalism2-2.0A-1.fc8.i386.rpm \
libvirt-0.4.1-1.fc8.i386.rpm
```

All RPM Systems

1. Start MySQL from the command line by typing:
`/etc/init.d/mysqld start`
2. Set a root password on MySQL (you will need to use this password later):
`mysqladmin password mysql_root_password`
3. To allow MySQL to start on boot up, enter the following command:
`chkconfig mysqld on`

Configuring Enomalism on Red Hat, CentOS, and Fedora

1. MySQL should now be running. To allow the database init script to create the default database and permissions for Enomalism, type the following at the command line:

```
cd /opt/enomalism2
scripts/init-db.sh mysql_root_password user password
```

where *mysql_root_password* is the MySQL root password you created earlier.

Replace *user* and *password* with the username and password of your choice.

2. To copy the default.cfg to config/\$HOSTNAME.cfg, use the following command:

```
cp default.cfg config/$HOSTNAME.cfg
```

3. Edit config/\$HOSTNAME.cfg.

- Change `sqlobject.dburi="mysql://enomalism2:zx45qw12@localhost/enomalism2"` to reflect your actual MySQL username and password.
- Change `enomalism2.self="5fe6f05e-7ee0-11dc-ba7c-0011d88b8e81"` to reflect a unique identifier for your cluster environment (each instance must be unique).
- Change `enomalism2.baseurl="http://127.0.0.1:8080/rest/"` to the IP/hostname you use to access the Enomalism web interface.
- Change `enomalism2.ip_addr="1.2.3.4"` to the IP/hostname you use to access the Enomalism web interface. This will be used later for clustering.

Running Enomalism on Red Hat, CentOS, and Fedora

1. Type the following at the command line:

```
cd /opt/enomalism2
scripts/enomalism2.sh start
```

2. If no errors occur, point your browser to:

```
http://server:8080
```

where *server* is the IP or the hostname of the Enomalism server.

3. After the installation is complete, click the bottom link and log in using the following credentials:

```
username: admin
```

```
password: password
```

4. To stop Enomalism, enter the following command:

```
cd /opt/enomalism2
scripts/enomalism2.sh stop
```

Setting up a Cluster

To configure a cluster, you must first get a single machine up and running with Enomalism2. See the installation instructions for Ubuntu (page 2) or Red Hat, CentOS and Fedora (page 4). Once the initial cluster is configured, you can create an NFS configuration to share your machine and application repository.

To add a new server to the cluster, you must edit the new server's configuration file. **All configuration files must be correct before continuing**, or you will need to edit the configuration information in the database. This is easy to do but it is easier to configure the server correctly to begin with.

1. To copy the default.cfg to config/\$HOSTNAME.cfg, enter the following command:

```
cp default.cfg config/$HOSTNAME.cfg
```
2. Edit config/\$HOSTNAME.cfg.
 - Change `enomalism2.ip_addr="127.0.0.1"` to the actual externally routable IP address of the new server.
 - Change `sqlobject.dburi="mysql://USER:PASSWD@HOSTNAME/DBNAME"` to reflect your actual MySQL username and password, database and host names. **These should be the same as the original server.**
 - Change `enomalism2.self="INSERT NEW UUID HERE"` to reflect a unique identifier for your machine (each instance must be unique). You can run `uuidgen` from the command line to get a new UUID. **No two machines can have the same UUID!**
 - Change `enomalism2.baseurl="http://127.0.0.1:8080/rest/"` to the IP/hostname you use to access the Enomalism2 web interface.
3. Start Enomalism. See the instructions for Ubuntu (page 3) or Red Hat, CentOS and Fedora (page 5).
4. To add the new server to the cluster, go to `http://newmachine:8080/install`.

Troubleshooting

VNC CIDR Problems

If you are experiencing errors when trying to access VNC remotely, change the following sections in the following files:

/etc/libvirt/qemu

```
# VNC is configured to listen on 127.0.0.1 by default.
# To make it listen on all public interfaces, uncomment
# this next option.
#
# NB, strong recommendation to enable TLS + x509 certificate
# verification when allowing public access
#
vnc_listen = "0.0.0.0"
```

/etc/xen/xend-config.sxp

```
# The interface for VNC servers to listen on. Defaults
# to 127.0.0.1 To restore old 'listen everywhere' behaviour
# set this to 0.0.0.0
#
(vnc-listen '0.0.0.0')
```

MySQL Encoding

Occasionally, issues occur when the stock MySQL server/client forces ISO-8859-1 encoding where Enomalism expects UTF-8. The easiest solution is to install the PyPI version of the libraries. Just type the following at the command prompt:

```
sudo easy_install -U MySQL-python
```

Xen DomU VM's

Please see <http://trac.enomalism.com/enomalism/wiki/enomalism-trouble> for up to the minute troubleshooting steps for Xen DomU VM's and issues.

Unstable Libvirt

Libvirt 0.4.0 seems to have stability issues when used from Enomalism. Upgrading to libvirt 0.4.1 is recommended, since it does not appear to have the same issues. We provide packages in our downloads area for several platforms, including Centos5 X86_64. Otherwise, download the tarball from <http://libvirt.org/> and recompile libvirt.

Frequently Asked Questions - Beta Release

I'm having problems with libvirt.

You may experience problems with libvirt under some circumstances.

- If you've been directed to do so by Enomalism support, install the current snapshot of libvirt by running the following from the command line:

```
apt-get install libxml2-dev libgnutls-dev libsasl2-dev libgsasl7-dev libxen3.1-dev
apt-get install python-profiler
```

- **Required for Red Hat 5 only:** To manually compile libvirt, run the following from the command line:

```
wget http://libvirt.org/sources/libvirt-0.4.1.tar.gz
tar -xvzf libvirt-0.4.1.tar.gz
cd libvirt-0.4.1
./configure --prefix=/usr && make && make install
```

Everything installed correctly and started up, but I don't know how to create a virtual machine.

We currently support two methods of deploying virtual machines: Creating machines from scratch, or downloading existing pre-packaged machines from a VMCast source. To create a machine from scratch, use the VM Creator icon under the infrastructure tab. To download a machine from a VMCast perform the following:

1. Click Repository, then click Manage Repository.
2. Click the yellow refresh icon beside "Enomalism VM Casting Released Appliances Feed". This will refresh the VMCast feed and allow you to download a machine from the Remote Repository tab.

Can I use Enomalism to connect or import a currently running virtual machine?

No, this is not possible at this time. This is a planned feature for a future release.

I am able to provision a Xen VM, why can't I start it?

Xen, by default in most Linux distros, is not configured to work properly with Enomalism. Please see our troubleshooting section to properly configure Xen.

What's going on with OpenVZ?

It is possible to use OpenVZ. Currently, we have a test machine running, but the libvirt OpenVZ support is fairly lacking, so for the time being unless your're extremely technical I would hold off. We plan to support it more fully in about a month. Anyone interested in helping out, please let me know. If you're feeling adventurous., your best bet is to check out the libvirt site for help with any questions or problems.

When I create a new machine using Provisioning and Management, why does it keep booting the ISO image I uploaded?

Edit the XML machine definition under the new VM (while it's turned off) and remove the <boot> line and the reference to the CD-ROM device.