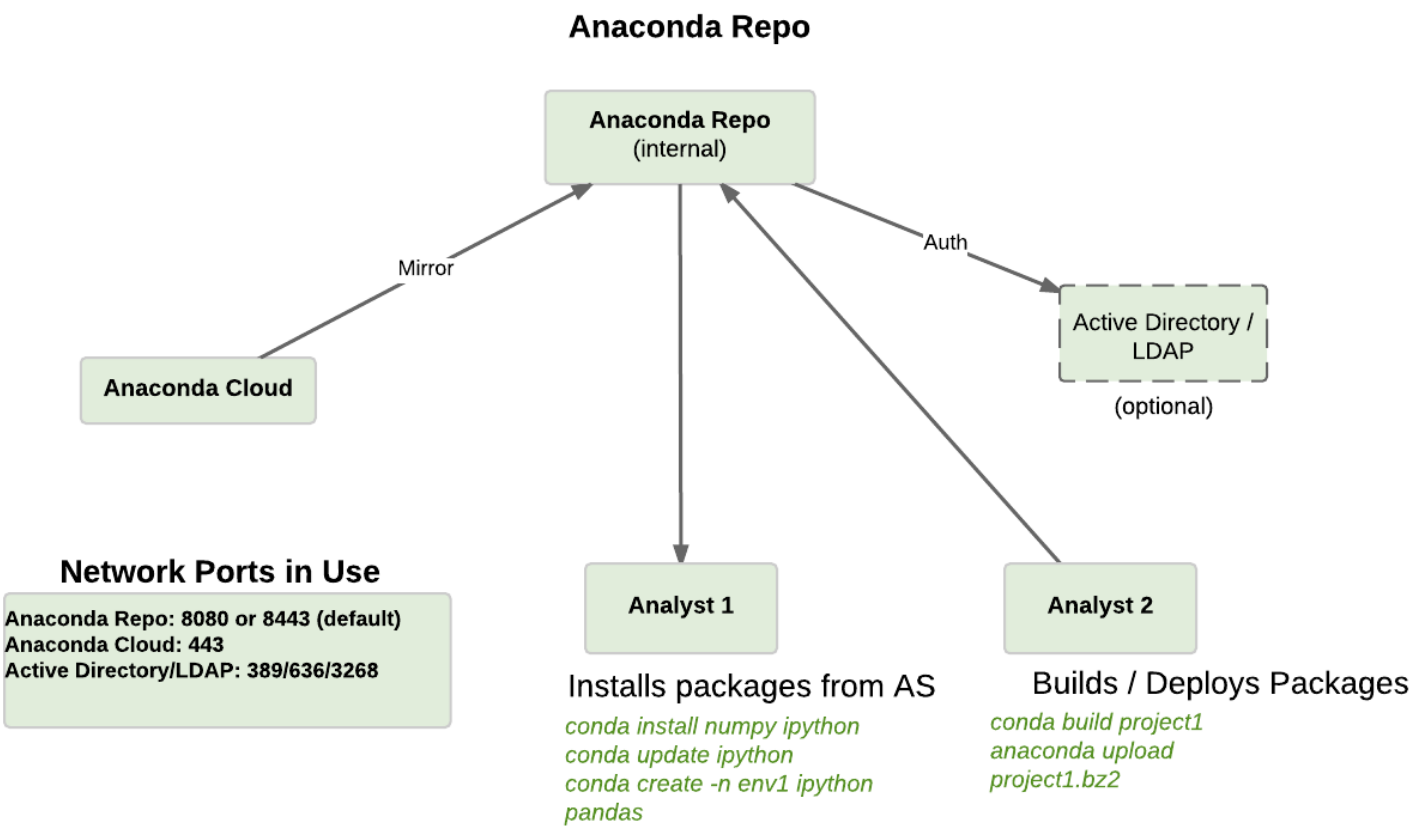
1 Anaconda Repository Runbook

- Version: 4.0-3 | October 12, 2016

This following runbook walks through the steps needed to install Anaconda Repository. The runbook is designed for two audiences: those who have direct access to the internet for installation and those where such access is not available or restricted for security reasons. For these restricted a.k.a. “Air Gap” environments, Continuum ships the entire Anaconda product suite on portable storage medium or as a downloadable TAR archive. Additionally, Continuum provides a set of Air Gap TAR archives for those environments only needing certain platform architectures, such as 64-Bit Linux, 32-Bit Linux, etc. With the exception of 64-Bit Linux, these platform-based archives include all of the available packages for that platform. The 64-Bit Linux archive contains 64-Bit Linux packages PLUS packages neecessary to install Anaconda Repository.

Additional platforms can be added by downloading the corresponding TAR archive and importing it to the local Anaconda Repository. See the section titled “Optional: Installing from Platform-based Archives” below to prepare your environment before starting the Anaconda Repository Installation.

Where necessary, additional instructions for Air Gap environments are noted throughout this document. If you have any questions about the instructions, please contact your sales representative or Priority Support team, if applicable, for additional assistance.



1.1 Requirements

1.1.1 Hardware Requirements

- Physical server or VM
- CPU: 2 x 64-bit 2 2.8GHz 8.00GT/s CPUs or better
- Memory: 32GB RAM (per 50 users), minimum 4 GB
- Storage: Recommended minimum of 300GB; Additional space is recommended if the repository is will be used to store packages built by the customer. With an empty repository a base install will require 2 GB
- If downloading air-gap tarball 150GB is needed for the full Anaconda Enterprise installer, plus another 150GB for extracting its contents, preferably to different disk on same machine.

1.1.2 Software Requirements

- RHEL/CentOS 6.5 or later (Other operating systems are supported, however this document assumes RHEL or CentOS 6.5)
- MongoDB version 2.6
- Anaconda Repository license file - given as part of the welcome packet - contact your sales representative or support representative if you cannot find your license.
- cron: The anaconda-server user needs to add an entry to cron to start the server on reboot

1.1.3 Linux System Accounts Required

One Linux system accounts (UIDs) is added to the system during installation.

- `mongod` (RHEL) or `mongodb` (Ubuntu/Debian) - Created by the RPM or deb package
- `anaconda-server`: Either make sure it exists before installation or created manually during installation; it is configurable to other names

1.1.4 Software Prerequisites

- Mongo Version: >= 2.6.8 and < 3.0

1.1.5 Security Requirements

- Required: Privileged (`root`) access or `sudo` capabilities
- Required: Open HTTP(S) port (configurable, default `8080`)
- Optional: Ability to make `iptables` modifications
- Optional: SSL certificate

Note

SELinux does not have to be disabled for Anaconda Repo operation

1.1.6 Network Requirements

- TCP Ports

direction	type	port	protocol	optional	configurable	comments
inbound	TCP	8080	HTTP		yes	Anaconda Repository
inbound	TCP	22	SSH	yes		
outbound	TCP	443	HTTPS	yes		to Anaconda Cloud or secondary local Anaconda Repo
outbound	TCP	25	SMTP	yes		email notifications
outbound	TCP	389/636	LDAP(S)	yes	yes	authentication integration

1.1.7 Other Requirements

Assuming the above requirements are met, there are no additional dependencies necessary for Anaconda Repository.

1.2 Air Gap vs. Regular Installation

As stated previously, this document contains installation instructions for two audiences: those with internet access on the destination server(s) and those who have no access to internet resources. Many of the steps below have two sections: **Air Gap Installation** and **Regular Installation**. Those without internet access should follow the **Air Gap Installation** instructions and those with internet access should follow **Regular Installation** instructions.

1.2.1 Air Gap

This document assumes that the air-gap media is available on the target server at *$INSTALLER_PATH* where the software is being installed.

There are two ways to obtain the air-gap installation assets:

1. A pen drive is over-nighted to client
2. Client downloads the latest archive tarball or component tarballs and expands the archive to `/installer`.

   Note

   The `$INSTALLER_PATH` variable must be set to the location of the air-gap media as displayed below. The `$INSTALLER_PATH` is the parent directory to the `anaconda-suite` directory. See examples below:

3. For air-gap pen drive media mounted on `/installer`:

   ```
   export INSTALLER_PATH=/installer
   ```

4. If the full anaconda installer is downloaded and expanded, say the *oct-2016* archive: *anaconda-full-2016-09-30.tar*:

   ```
   tar xvf anaconda-full-2016-09-30.tar -C /installer/
   ```

```
export INSTALLER_PATH=/installer/anaconda-full-2016-09-30
```

The *anaconda-full-2016-09-30.tar* is roughly 140GB. If only a subset of components are required, refer to 1.2.3 Optional: Air Gap Platform-based Archives (Linux).

1.2.2 Air Gap Full Installer Contents - *anaconda-full-2016-%m-%d.tar*

```
ls $INSTALLER_PATH
anaconda-adam/
anaconda-cluster/
anaconda-server/
anaconda-suite/
binstar/
mongodb-org-2.6.8-1.x86_64.rpm
mongodb-org-mongos-2.6.8-1.x86_64.rpm
mongodb-org-server-2.6.8-1.x86_64.rpm
mongodb-org-shell-2.6.8-1.x86_64.rpm
mongodb-org-tools-2.6.8-1.x86_64.rpm
r/
wakari/
```

1.2.3 Optional: Air Gap Platform-based Archives (Linux)

To install Anaconda Repository and only mirror packages for a subset of platforms (eg. Linux-64); download a component based TAR archive. Using the **64-Bit Linux** platform-based TAR archive to install Anaconda Repo is almost identical to the full install once we create the same file structure in *$INSTALLER_PATH*. A couple of things to note about platform based archives:

- The installer contains **ONLY** 64-Bit Linux packages. If support for additional platfoms is necessary, archives for those platforms should be downloaded as well.
- The installer does not contain packages for Anaconda Notebook, Anaconda Cluster or R for 64-Bit Linux. The full TAR archive is required if these packages are needed.

Each component has an md5 and list file which are both small and included more for convenience. Table below summarizes various components required for only installing AE-Repo and mirroring linux-64 packages. The top-level directory for all archives is: *anaconda-full-`date +%Y-%m-%d`*

Tarball	Contents	Size
anaconda-full-*date +%Y-%m-%d*.tar	All AE components and dependencies: • AE-N installers + dependencies • latest miniconda version (all platforms) • packages for all platforms	140 GB
ae-repo-linux-64-*date +%Y-%m-%d*.tar	• packages for linux-64 • including channels for AE-Repo packages	40 GB
win-64-*date +%Y-%m-%d*.tar	• packages for win-64	24 GB
osx-64-*date +%Y-%m-%d*.tar	• packages for osx-64	25 GB

As an example, if you only need AE-Repo, linux-64 and win-64 packages, download ae-repo-linux-64-*date +%Y-%m-%d*.tar and win-64-*date +%Y-%m-%d*.tar. Also download the associated md5 files to check integrity of downloaded data. To run in background and continue download after logout, use nohup.

After downloading, expand the tarballs. It will take sometime to expand the archives. See example below:

```
tar xf *.tar -C /installer
export INSTALLER_PATH=/installer/anaconda-full-`date +%Y-%m-%d`/
```

1.3 System Wide mongodb Installation - Requires *sudo*

1.3.1 Download MongoDB packages

- **Air Gap Installation:** Skip this step.
- **Regular Installation:**

```
RPM_CDN="https://820451f3d8380952ce65-4cc6343b423784e82fd202bb87cf87cf.ssl.cf1.rackcdn.com"
curl -O $RPM_CDN/mongodb-org-tools-2.6.8-1.x86_64.rpm
curl -O $RPM_CDN/mongodb-org-shell-2.6.8-1.x86_64.rpm
curl -O $RPM_CDN/mongodb-org-server-2.6.8-1.x86_64.rpm
curl -O $RPM_CDN/mongodb-org-mongos-2.6.8-1.x86_64.rpm
curl -O $RPM_CDN/mongodb-org-2.6.8-1.x86_64.rpm
```

1.3.2 Install MongoDB packages

- **Air Gap Installation:**

```
sudo yum install -y $INSTALLER_PATH/mongodb-org*
```

- **Regular Installation:**

```
sudo yum install -y mongodb-org*
```

1.3.2.1 Start mongodb

```
sudo service mongod start
```

1.3.3 Verify mongod is running

```
sudo service mongod status
mongod (pid 1234) is running...
```

Note
Additional mongodb installation information can be found here.

1.4 Configure Anaconda Repository

Prior to installing Anaconda Repository components the following needs to be done by someone with *sudo* privileges

1.4.1 Create Anaconda Repository administrator account

In a terminal window, create a new user account for Anaconda Repo named `anaconda-server`.

```
sudo useradd -m anaconda-server
```

Note
`anaconda-server` can be configured to any other service account name

1.4.2 Create Anaconda Repository directories

```
sudo mkdir -m 0770 /etc/anaconda-server
sudo mkdir -m 0770 /var/log/anaconda-server
sudo mkdir -m 0770 -p /opt/anaconda-server/package-storage
sudo mkdir -m 0770 /etc/anaconda-server/mirrors
```

1.4.3 Give the anaconda-server user ownership of directories

```
sudo chown -R anaconda-server. /etc/anaconda-server
sudo chown -R anaconda-server. /var/log/anaconda-server
sudo chown -R anaconda-server. /opt/anaconda-server/package-storage
sudo chown -R anaconda-server. /etc/anaconda-server/mirrors
```

1.4.4 Switch to the Anaconda Repository administrator account

Switch account, and set *$INSTALLER_PATH* environment variable correctly for your system.

```
sudo su - anaconda-server
INSTALLER_PATH=<set to path of air gap data>
```

1.5 Install Miniconda bootstrap version

1.5.1 Fetch the download script using curl

- **Air Gap Installation:** Skip this step.
- **Regular Installation:**

```
curl 'http://repo.continuum.io/miniconda/Miniconda2-latest-Linux-x86_64.sh' > Miniconda.sh
```

1.5.2 Run the Miniconda.sh installer script

- **Air Gap Installation:**

```
bash $INSTALLER_PATH/anaconda-suite/miniconda/Miniconda2-latest-Linux-x86_64.sh
```

- **Regular Installation:**

```
bash Miniconda.sh
```

1.5.3 Review and accept the license terms

```
Welcome to Miniconda (by Continuum Analytics, Inc.)
In order to continue the installation process, please review the license agreement.
Please, press ENTER to continue. Do you approve the license terms? [yes|no] yes
```

1.5.4 Accept the default location or specify an alternative:

```
Miniconda will now be installed into this location:
/home/anaconda-server/miniconda2
-Press ENTER to confirm the location
-Press CTRL-C to abort the installation
-Or specify a different location below
 [/home/anaconda-server/miniconda2] >>>" [Press ENTER]
 PREFIX=/home/anaconda-server/miniconda2
```

1.5.5 Update the anaconda-server user's path

Do you wish the installer to prepend the Miniconda install location to PATH in your /home/anaconda-server/.bashrc ?

```
[yes|no] yes
```

1.5.6 For the new path changes to take effect, "source" your .bashrc

```
source ~/.bashrc
```

1.6 Install Anaconda Repository Enterprise Packages

The following sections detail the steps required to install Anaconda Repo.

1.6.1 Add the defaults, binstar anaconda-server channels to Conda

- **Air Gap Installation:** Add the channels from local files.

```
conda config --add channels  file://$INSTALLER_PATH/anaconda-suite/pkgs/
conda config --add channels  file://$INSTALLER_PATH/anaconda-server/pkgs/
conda config --add channels  file://$INSTALLER_PATH/binstar/pkgs/
conda config --remove channels defaults --force
```

- **Regular Installation:** Add the channels from Anaconda Cloud.

```
export BINSTAR_TOKEN=<your binstar token>
export ANACONDA_TOKEN=<your anaconda-server token>
conda config --add channels https://conda.anaconda.org/t/$BINSTAR_TOKEN/binstar/
conda config --add channels https://conda.anaconda.org/t/$ANACONDA_TOKEN/anaconda-server/
```

Note

You should have received **two** tokens from Continuum Support, one for each channel. If you haven't, please contact support@continuum.io. Tokens are not required for Air Gap installs.

1.6.2 Install AE-Repository packages via conda And Setup Config Files

1. Install packages for running AE-Repo server

```
conda install anaconda-client binstar-server binstar-static cas-mirror
```

2. Initialize the web server for Anaconda Repository

```
anaconda-server-config --init --config-file /etc/anaconda-server/config.yaml
```

3. Set the Anaconda Repository package storage location

```
anaconda-server-config --set fs_storage_root /opt/anaconda-server/package-storage \
                       --config-file /etc/anaconda-server/config.yaml
```

1.6.3 Set up automatic restart on reboot, fail or error

Configure Supervisord

```
anaconda-server-install-supervisord-config.sh
```

This step:

1. writes a config file for supervisord in *~/miniconda2/etc/supervisord.conf*
2. creates the following entry in the anaconda-server user's crontab:

   `@reboot /home/anaconda-server/miniconda2/bin/supervisord`
3. generates the `/home/anaconda-server/miniconda2/etc/supervisord.conf` file
4. verify the server is running:

```
$ supervisorctl status

binstar-scheduler                      RUNNING   pid 8445, uptime 0:00:09
binstar-server                         RUNNING   pid 8263, uptime 0:06:39
binstar-worker                         RUNNING   pid 8253, uptime 0:06:39
binstar-worker-low:binstar-worker-low_00   RUNNING   pid 8261, uptime 0:06:39
binstar-worker-low:binstar-worker-low_01   RUNNING   pid 8260, uptime 0:06:39
binstar-worker-low:binstar-worker-low_02   RUNNING   pid 8259, uptime 0:06:39
binstar-worker-low:binstar-worker-low_03   RUNNING   pid 8258, uptime 0:06:39
binstar-worker-low:binstar-worker-low_04   RUNNING   pid 8257, uptime 0:06:39
binstar-worker-low:binstar-worker-low_05   RUNNING   pid 8256, uptime 0:06:39
binstar-worker-low:binstar-worker-low_06   RUNNING   pid 8255, uptime 0:06:39
binstar-worker-low:binstar-worker-low_07   RUNNING   pid 8254, uptime 0:06:39
```

1.6.4 Continue Server Configuration - requires *mongo*

1.6.4.1 Create an initial "superuser" account for Anaconda Repository

```
anaconda-server-create-user --username "superuser" --password "yourpassword" \
                            --email "your@email.com" --superuser
```

Note

To ensure the bash shell does not process any of the characters in this password, limit the password to lower case letters, upper case letters and numbers, with no punctuation. After setup the password can be changed with the web interface.

1.6.4.2 Initialize the Anaconda Repository database

```
anaconda-server-db-setup --execute
```

1.6.5 Install Anaconda Repository License

Visit **http://your.anaconda.server:8080**. Follow the onscreen instructions and upload your license file. Log in with the superuser user and password configured above. After submitting, you should see the login page.

Note

Contact your sales representative or support representative if you cannot find or have questions about your license.

1.7 Setup Mirrors

1.7.1 Mirror Installers for Miniconda

Miniconda installers can be served by Anaconda Repository via the **static** directory located at **/home/anaconda-server/miniconda2/lib/python2.7/site-packages/binstar/static/extras**. This is **required** for Anaconda Cluster integration. To serve up the latest Miniconda installers for each platform, download them and copy them to the **extras** directory.

Users will then be able to download installers at a URL that looks like the following: http://<your host>:8080/static/extras/Miniconda3-latest-Linux-x86_64.sh

1. Set the URL variable correctly for AirGap vs Regular installs:

Air Gap Installation:

```
URL="file://$INSTALLER_PATH/anaconda-suite/miniconda"
```

Regular Installation:

```
URL="https://repo.continuum.io/miniconda"
```

2. Move the latest installers to static directory

```
mkdir -p /tmp/extras
pushd /tmp/extras

versions="Miniconda3-latest-Linux-x86_64.sh \
    Miniconda3-latest-MacOSX-x86_64.sh \
    Miniconda3-latest-Windows-x86.exe \
    Miniconda3-latest-Windows-x86_64.exe \
    Miniconda-latest-Linux-x86_64.sh \
    Miniconda-latest-MacOSX-x86_64.sh \
    Miniconda-latest-Windows-x86.exe \
    Miniconda-latest-Windows-x86_64.exe"

for installer in $versions
do
   curl -O $URL/$installer
done

# Move installers into static directory
popd
cp -a /tmp/extras \
  /home/anaconda-server/miniconda2/lib/python2.7/site-packages/binstar/static
```

1.7.2 Mirror Anaconda Repo

Now that Anaconda Repository is installed, we want to mirror packages into our local repository. If mirroring from Anaconda Cloud, the process will take hours or longer, depending on the available internet bandwidth. Use the `anaconda-server-sync-conda` command to mirror all Anaconda packages locally under the "anaconda" user account.

Note

Ignore any license warnings. Additional mirror filtering/whitelisting/blacklisting options can be found here.

Air Gap Installation: Since we're mirroring from a local filesystem, some additional configuration is necessary.

1. Create a mirror config file:

```
echo "channels:" > /etc/anaconda-server/mirrors/conda.yaml
echo "  - file://$INSTALLER_PATH/anaconda-suite/pkgs" >> \
        /etc/anaconda-server/mirrors/conda.yaml
```

2. (Optional) If mirroring packages for subset of platforms (eg. linux-64 only as shown in 1.2.3 Optional: Air Gap Platform-based Archives (Linux)), or mirroring packages for a subset of python versions, append following:

```
echo "platforms:" >> /etc/anaconda-server/mirrors/conda.yaml
echo "  - linux-64" >> /etc/anaconda-server/mirrors/conda.yaml
```

3. Mirror the Anaconda packages:

```
anaconda-server-sync-conda --mirror-config /etc/anaconda-server/mirrors/conda.yaml
```

Regular Installation: If no customization is required, there is no need to define a config file.

```
anaconda-server-sync-conda
```

Note

Depending on the type of installation, this process may take hours.

To verify the local Anaconda Repository repo has been populated, visit **http://your.anaconda.server:8080/anaconda** in a browser.

1.7.3 Optional: Mirror the R channel

Air Gap Installation:

1. Create a mirror config file:

```
echo "channels:" > /etc/anaconda-server/mirrors/r-channel.yaml
echo "  - file://$INSTALLER_PATH/r/pkgs" >> /etc/anaconda-server/mirrors/r-channel.yaml
```

2. (Optional) If mirroring packages for subset of platforms (eg. linux-64 only as shown in 1.2.3 Optional: Air Gap Platform-based Archives (Linux)), append following:

```
echo "platforms:" >> /etc/anaconda-server/mirrors/r-channel.yaml
echo "  - linux-64" >> /etc/anaconda-server/mirrors/r-channel.yaml
```

3. Mirror the r-packages:

```
anaconda-server-sync-conda --mirror-config \
    /etc/anaconda-server/mirrors/r-channel.yaml --account=r-channel
```

Regular Installation:

1. Create a mirror config file:

```
vi /etc/anaconda-server/mirrors/r-channel.yaml
```

2. Add the following:

```
channels:
  - https://conda.anaconda.org/r
```

3. Mirror the R packages:

```
anaconda-server-sync-conda --mirror-config \
    /etc/anaconda-server/mirrors/r-channel.yaml --account=r-channel
```

1.7.4 Mirror the Anaconda Enterprise Notebooks Channel

Note

If AEN is not setup and no packages from wakari channel are needed then this is an **optional** mirror. If you have an Anaconda Enterprise Notebooks server which will be using this Repo Server, then this channel must be mirrored.

If the local Anaconda Repository will be used by Anaconda Enterprise Notebooks the recommended method is to mirror using the “wakari” user.

To mirror the Anaconda Enterprise Notebooks repo, create the mirror config YAML file below:

Air Gap Installation:

1. Create a mirror config file

```
echo "channels:" > /etc/anaconda-server/mirrors/wakari.yaml
echo "  - file://$INSTALLER_PATH/wakari/pkgs" >> /etc/anaconda-server/mirrors/wakari.yaml
```

2. Mirror the Anaconda Enteprise Notebooks packages:

```
anaconda-server-sync-conda --mirror-config \
    /etc/anaconda-server/mirrors/wakari.yaml --account=wakari
```

Regular Installation:

1. Create a mirror config file:

```
vi /etc/anaconda-server/mirrors/wakari.yaml
```

2. Add the following:

```
channels:
  - https://conda.anaconda.org/t/<TOKEN>/anaconda-nb-extensions
  - https://conda.anaconda.org/wakari
```

3. Mirror the Anaconda Enterprise Notebooks packages:

```
anaconda-server-sync-conda --mirror-config \
  /etc/anaconda-server/mirrors/wakari.yaml --account=wakari
```

Where `TOKEN` is the Anaconda NB Extensions token you should have received from Continuum Support.

1.7.5 Optional: Mirror the Anaconda Cluster channel

To mirror the anaconda-cluster packages for managing a cluster, create the mirror config YAML file as below:

Air Gap Installation:

1. Create a mirror config file:

```
echo "channels:" > /etc/anaconda-server/mirrors/anaconda-cluster.yaml
echo "  - file://$INSTALLER_PATH/anaconda-cluster/pkgs" >> \
    /etc/anaconda-server/mirrors/anaconda-cluster.yaml
```

2. (Optional) If mirroring packages for subset of platforms (eg. linux-64 only as shown in 1.2.3 Optional: Air Gap Platform-based Archives (Linux)), append following:

```
echo "platforms:" >> /etc/anaconda-server/mirrors/anaconda-cluster.yaml
echo "  - linux-64" >> /etc/anaconda-server/mirrors/anaconda-cluster.yaml
```

3. Mirror the Anaconda Cluster Management packages:

```
anaconda-server-sync-conda --mirror-config \
  /etc/anaconda-server/mirrors/anaconda-cluster.yaml \
  --account=anaconda-cluster
```

Regular Installation:

1. Create a mirror config file:

```
vi /etc/anaconda-server/mirrors/anaconda-cluster.yaml
```

2. Add the following:

```
channels:
 - https://conda.anaconda.org/anaconda-cluster
```

3. Mirror the Anaconda Cluster packages:

```
anaconda-server-sync-conda --mirror-config \
  /etc/anaconda-server/mirrors/anaconda-cluster.yaml \
  --account=anaconda-cluster
```

1.7.6 Optional: Adjust iptables to accept requests on port 80

The easiest way to enable clients to access an Anaconda Repository on standard ports is to configure the server to redirect traffic received on standard HTTP port 80 to the standard Anaconda Repository HTTP port 8080.

Note

These commands assume the default state of iptables on CentOS 6.7 which is “on” and allowing inbound SSH access on port 22. Take caution; mistakes with iptables rules can render a remote machine inaccessible.

Allow inbound access to tcp port 80:

```
sudo iptables -I INPUT -i eth0 -p tcp --dport 80 -m comment \
        --comment "# Anaconda Repository #" -j ACCEPT
```

Allow inbound access to tcp port 8080:

```
sudo iptables -I INPUT -i eth0 -p tcp --dport 8080 -m comment \
        --comment "# Anaconda Repository #" -j ACCEPT
```

Redirect inbound requests to port 80 to port 8080:

```
sudo iptables -A PREROUTING -t nat -i eth0 -p tcp --dport 80 -m comment \
        --comment "# Anaconda Repository #" -j REDIRECT --to-port 8080
```

Display the current iptables rules:

```
sudo iptables -L -n
Chain INPUT (policy ACCEPT)
target     prot opt source     destination
ACCEPT     tcp  --  0.0.0.0/0  0.0.0.0/0   tcp dpt:8080 # Anaconda Repository #
ACCEPT     tcp  --  0.0.0.0/0  0.0.0.0/0   tcp dpt:80 # Anaconda Repository #
ACCEPT     all  --  0.0.0.0/0  0.0.0.0/0   state RELATED,ESTABLISHED
ACCEPT     icmp --  0.0.0.0/0  0.0.0.0/0
```

```
ACCEPT     all  --  0.0.0.0/0  0.0.0.0/0
ACCEPT     tcp  --  0.0.0.0/0  0.0.0.0/0   state NEW tcp dpt:22
REJECT     all  --  0.0.0.0/0  0.0.0.0/0   reject-with icmp-host-prohibited

Chain FORWARD (policy ACCEPT)
target     prot opt source     destination
REJECT     all  --  0.0.0.0/0  0.0.0.0/0   reject-with icmp-host-prohibited

Chain OUTPUT (policy ACCEPT)
target     prot opt source     destination
```

Note

the PREROUTING (nat) iptables chain is not displayed by default; to show it, use:

```
sudo iptables -L -n -t nat
Chain PREROUTING (policy ACCEPT)
target     prot opt source     destination
REDIRECT   tcp  --  0.0.0.0/0  0.0.0.0/0   tcp dpt:80 # Anaconda Repository # redir ports 8080

Chain POSTROUTING (policy ACCEPT)
target     prot opt source     destination

Chain OUTPUT (policy ACCEPT)
target     prot opt source     destination
```

Write the running iptables configuration to **/etc/sysconfig/iptables:**

```
sudo service iptables save
```

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