



# Linux Academy

## Study Guide

# Jenkins Cheat Sheet

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# Prerequisites

## Linux

- Packages
  - » `jenkins`
  - » `java-1.8.0-openjdk`

# Installation and Configuration

## Linux

Be sure to install repository for the latest copy. Execute the following commands:

```
yum install -y wget
sudo wget -O /etc/yum.repos.d/jenkins.repo http://pkg.jenkins-ci.org/redhat/jenkins.repo
sudo rpm --import https://jenkins-ci.org/redhat/jenkins-ci.org.key
sudo yum install jenkins java-1.8.0-openjdk
```

## User Accounts

Create a user called `jenkins` on the secondary servers you intend to use Jenkins to deploy or manage. Set the user as a `sudo` capable user and include the `NOPASSWD: ALL` directive in `/etc/sudoers`.

On the primary Jenkins server (master), be sure to add the Jenkins user as above (`NOPASSWD: ALL` in `/etc/sudoers`). You must also change the user account in `/etc/passwd` from `/bin/false` to `/bin/bash` so it is an interactive user.

Create an SSH key with `ssh-keygen` on the Jenkins server. Exchange that key using `ssh-copy-id` on each of the nodes you are running builds or deployments on. This allows the account to run with escalated privileges as needed.

## Proxy Configuration for Jenkins

By default, Jenkins listens on port 8080. In order to connect to Jenkins over port 80, you can proxy the connection with Nginx. Install Nginx:

```
sudo yum install nginx
```

Enable and start the web server:

```
sudo systemctl enable nginx
sudo systemctl start nginx
```

Edit the Nginx default configuration to proxy the connection, replace the `/location` directive under the `server` section with the following configuration:

```
location / {
    proxy_pass      http://127.0.0.1:8080;
    proxy_redirect  default;
    proxy_set_header    Host            $host;
    proxy_set_header    X-Real-IP       $remote_addr;
    proxy_set_header    X-Forwarded-For $proxy_add_x_forwarded_for;
    proxy_max_temp_file_size 0;
    #this is the maximum upload size
    client_max_body_size      10m;
    client_body_buffer_size   128k;
    proxy_connect_timeout     90;
    proxy_send_timeout        90;
    proxy_read_timeout        90;
    proxy_buffer_size         4k;
    proxy_buffers              4 32k;
    proxy_busy_buffers_size   64k;
    proxy_temp_file_write_size 64k;
}
```

Enable and start Jenkins, restart Nginx:

```
systemctl enable jenkins
systemctl restart nginx jenkins
```

## Configuration Files

- **/etc/nginx/nginx.conf**
  - » Primary Nginx configuration file
  - » Change server section as documented above
- **/etc/passwd**
  - » Enable the jenkins user to be able to login as defined above
- **/etc/sudoers**
  - » Turn off `requiretty` for remote builds to work correctly with sudo privileges from Jenkins

## Completing the Installation

Connect to your server in a web browser over port 80 (if using Nginx proxy, as defined above) or port 8080 (to go direct). You are pointed to a page asking for the default administration password. Go to the following

directory and file to pull the password needed, like so:

```
cat /var/lib/jenkins/secrets/defaultadministrationpassword
```

Once you log in as administrator, you need to create an administration account as the current admin credentials are ephemeral (as soon as you disconnect, the credentials are invalid and the file containing them above is permanently removed).

