

# Edinburgh JAM

February 2018



# Introductions



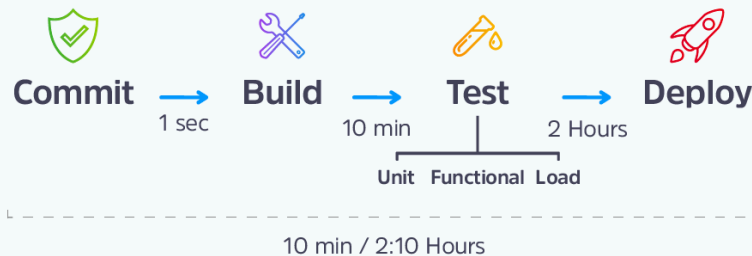
# Organizers

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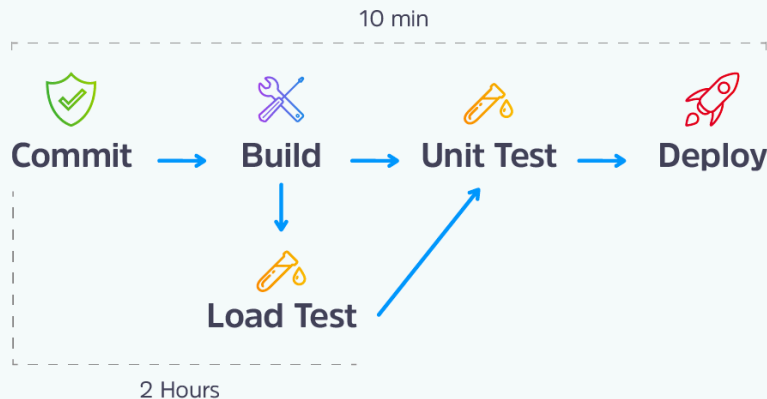
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# Jenkins Typical Use Cases

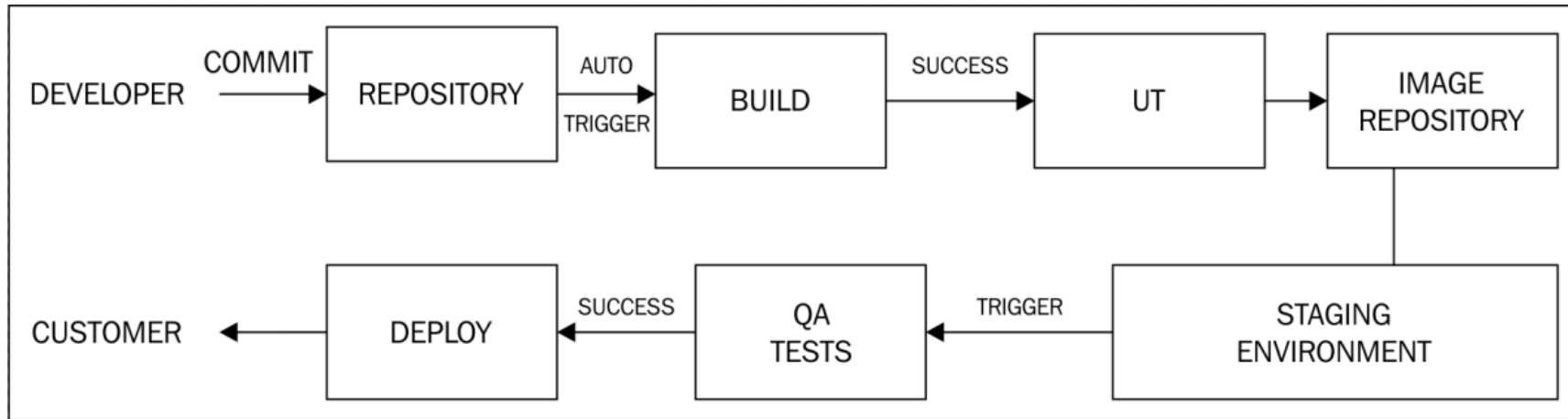
In this approach, performance testing is always included in the full testing process. While this might delay build time, as load tests might take a while to be completed compared to the other tests, the result is assured to be of very high quality.



In this approach, load testing is performed as part of the downstream job, but without blocking the main CI job. The full, longer, test can be run once in a decided upon time (let's say once a week) instead of once a day. This enables you to use Jenkins without pausing your work for too long and waiting 1.5 - 2 hours each time.

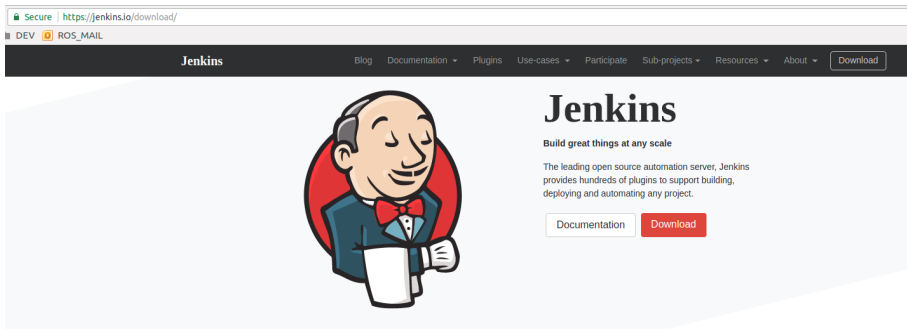


# Jenkins Typical Use Cases



# Installing Jenkins in a bare metal box

- Download from <https://jenkins.io/>



## Deploy Jenkins 2.89.3



## Download Jenkins 2.89.3 for:

|                             |
|-----------------------------|
| Docker                      |
| FreeBSD                     |
| Gentoo                      |
| Mac OS X                    |
| OpenBSD                     |
| openSUSE                    |
| Red Hat/Fedora/CentOS       |
| Ubuntu/Debian               |
| Windows                     |
| Generic Java package (.war) |

## Download Jenkins 2.106 for:

|                             |
|-----------------------------|
| Arch Linux                  |
| Docker                      |
| FreeBSD                     |
| Gentoo                      |
| Mac OS X                    |
| OpenBSD                     |
| openSUSE                    |
| Red Hat/Fedora/CentOS       |
| Ubuntu/Debian               |
| OpenIndiana Hipster         |
| Windows                     |
| Generic Java package (.war) |

# Installing Jenkins in a bare metal box

- Host installation - Command line

```
-rwxrwxr-x 1 pikoulj pikoulj 68M Aug 17 10:34 jenkins.war
drwxrwxr-x 2 pikoulj pikoulj 4.0K Oct 12 12:00 jenkins_data
drwxrwxr-x 30 pikoulj pikoulj 4.0K Feb 12 09:18 ..
drwxrwxr-x 3 pikoulj pikoulj 4.0K Feb 12 09:18 .
root@LP00555:/app/jenkins# java -jar jenkins.war --httpPort=9090
Running from: /app/jenkins/jenkins.war
```

- Initial Password

INFO:

```
*****
*****
*****
```

Jenkins initial setup is required. An admin user has been created and a password generated.  
Please use the following password to proceed to installation:

4d540d4fe1da4b0aad200b3754334f1d

This may also be found at: /root/.jenkins/secrets/initialAdminPassword

```
*****
*****
*****
```

# Installing Jenkins in a bare metal box

- Initial Admin Password

## Unlock Jenkins

To ensure Jenkins is securely set up by the administrator, a password has been written to the log ([not sure where to find it?](#)) and this file on the server:

```
/var/jenkins_home/secrets/initialAdminPassword
```

Please copy the password from either location and paste it below.

**Administrator password**



# Installing Jenkins in a bare metal box

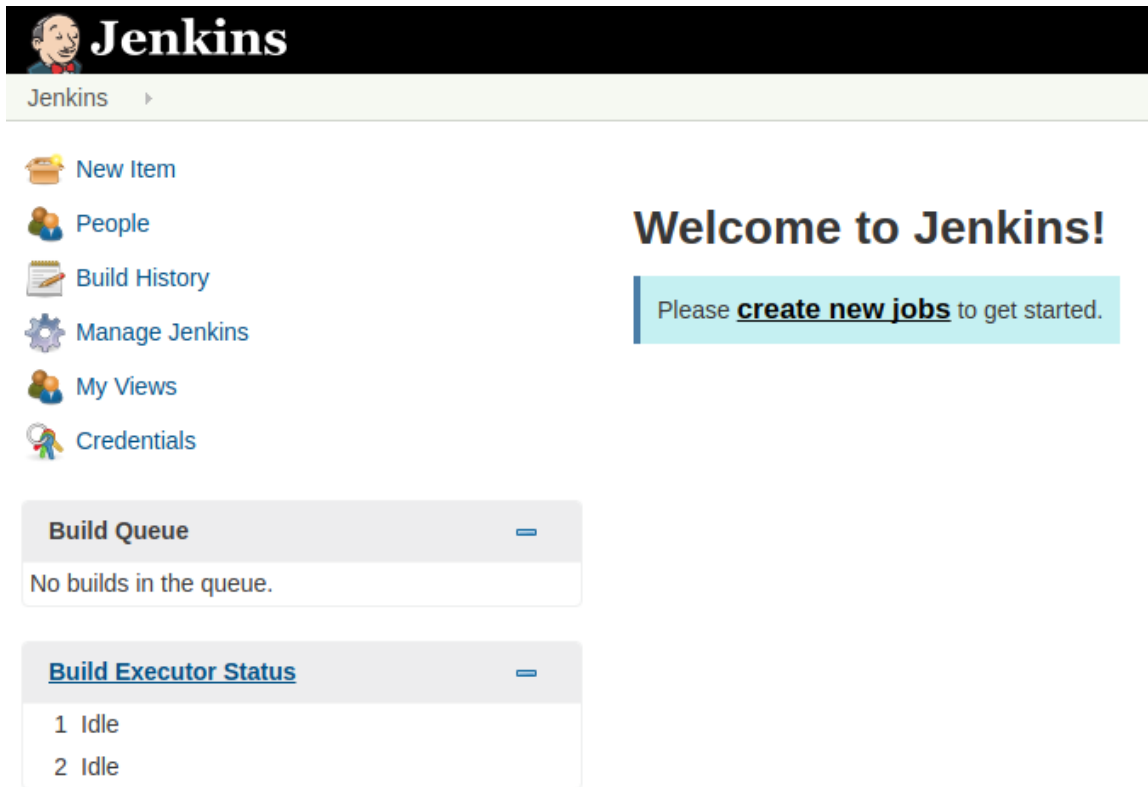
- Jenkins Initialization

## Getting Started

|                             |                                 |                                     |  |   |
|-----------------------------|---------------------------------|-------------------------------------|--|---|
| ✓ Folders Plugin            | 🔄 OWASP Markup Formatter Plugin | 🔄 Build Timeout                     | 🔄 Credentials Binding Plugin           | Folders Plugin<br>** bouncycastle API Plugin<br>** Struts Plugin<br>** Script Security Plugin<br>** Pipeline: Step API<br>** SCM API Plugin<br>** Pipeline: API |
| 🔄 Timestampers              | 🔄 Workspace Cleanup Plugin      | 🔄 Ant Plugin                        | 🔄 Gradle Plugin                        |   |
| 🔄 Pipeline                  | 🔄 GitHub Branch Source Plugin   | 🔄 Pipeline: GitHub Groovy Libraries | 🔄 Pipeline: Stage View Plugin          |   |
| 🔄 Git plugin                | 🔄 Subversion Plug-in            | 🔄 SSH Slaves plugin                 | ○ Matrix Authorization Strategy Plugin |   |
| 🔄 PAM Authentication plugin | 🔄 LDAP Plugin                   | 🔄 Email Extension Plugin            | 🔄 Mailer Plugin                        |   |

# Installing Jenkins in a bare metal box

- Jenkins Ready to Use



The screenshot shows the Jenkins web interface. At the top is a black header with the Jenkins logo (a cartoon man) and the word "Jenkins" in white. Below the header is a light green bar with the text "Jenkins" and a right-pointing arrow. To the left of the main content area is a vertical list of navigation links, each with an icon: "New Item" (box icon), "People" (people icon), "Build History" (notepad icon), "Manage Jenkins" (gear icon), "My Views" (people icon), and "Credentials" (key icon). The main content area features a large "Welcome to Jenkins!" message in a dark blue font. Below this message is a light blue box containing the text "Please **create new jobs** to get started." At the bottom of the interface are two expandable sections. The first section is titled "Build Queue" and shows "No builds in the queue." The second section is titled "Build Executor Status" and shows a list of two executors, both in an "Idle" state.

**Jenkins**

Jenkins ▶

- New Item
- People
- Build History
- Manage Jenkins
- My Views
- Credentials

## Welcome to Jenkins!

Please **create new jobs** to get started.

**Build Queue**

No builds in the queue.

**Build Executor Status**

- 1 Idle
- 2 Idle

# Installing Jenkins in a bare metal box

- Jenkins Docker run

```
root@LP00555:/app/jenkins#
root@LP00555:/app/jenkins# docker run --name dokcerizedJenkins -p 9095:8080 -p 50000:50000 -v /app/jenkin/jenkins_data:/var/jenkins_home:Z jenkins
latest: Pulling from library/jenkins
723254a2c089: Downloading [=====>] 34.86MB/45.12MB
abe15a44e12f: Download complete
409a28e3cc3d: Download complete
503166935590: Downloading [=====>] 37.08MB/50.02MB
043a12c29ea4: Download complete
303620452447: Download complete
c61f95baa024: Download complete
3f2018472a1f: Downloading [====>] 17.84MB/182.9MB
a25f8a69c882: Waiting
ef0799915650: Waiting
d9a52178f3f2: Waiting
21d8e85eda47: Waiting
d1a59d3cef17: Waiting
5736476dca56: Waiting
677d0ef908aa: Waiting
10d71ec5b7fd: Waiting
768022bc0860: Waiting
878faf994156: Pulling fs layer
0030f731e722: Waiting
13749a7f1512: Waiting
```

# Installing Jenkins in a bare metal box

- Jenkins Docker Secret

```
INFO:
```

```
*****  
*****  
*****
```

```
Jenkins initial setup is required. An admin user has been created and a password generated.  
Please use the following password to proceed to installation:
```

```
da9cf5e6e50f473cbdfc1e24cb37b0a3
```

```
This may also be found at: /var/jenkins_home/secrets/initialAdminPassword
```

```
*****  
*****  
*****
```

# Installing Jenkins in a bare metal box

- Jenkins Docker Secret

## Unlock Jenkins

To ensure Jenkins is securely set up by the administrator, a password has been written to the log (not sure where to find it?) and this file on the server:

```
/var/jenkins_home/secrets/initialAdminPassword
```

Please copy the password from either location and paste it below.

**Administrator password**

# Installing Jenkins in a bare metal box

- Jenkins Docker Check

```
root@LP00555:/app/jenkins# docker ps
CONTAINER ID   IMAGE      COMMAND                  CREATED        STATUS        PORTS                               NAMES
4df60db6425f   jenkins   "/bin/tini -- /usr/l..." 15 seconds ago Up 15 seconds 0.0.0.0:50000->50000/tcp, 0.0.0.0:9095->8080/tcp dokcerizedJenkins
root@LP00555:/app/jenkins#
```

- Jenkins Initial User

## Create First Admin User

Username:

Password:

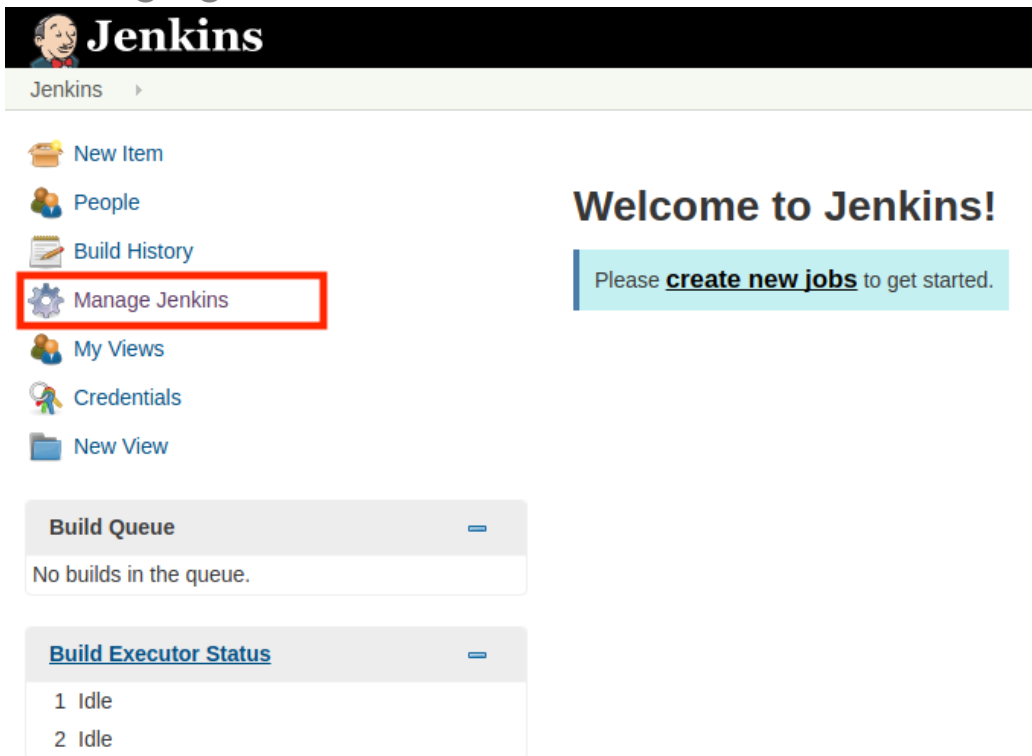
Confirm password:

Full name:

E-mail address:

# Administration and Authorization users in Jenkins

- Managing Jenkins



The screenshot shows the Jenkins dashboard interface. At the top, there is a black header with the Jenkins logo and the word 'Jenkins' in white. Below this is a light green bar with the text 'Jenkins' and a right-pointing arrow. The main content area is divided into two columns. The left column contains a list of links: 'New Item' (with a folder icon), 'People' (with a group of people icon), 'Build History' (with a document icon), 'Manage Jenkins' (with a gear icon, highlighted by a red rectangle), 'My Views' (with a group of people icon), 'Credentials' (with a key icon), and 'New View' (with a folder icon). The right column features a large blue box with the text 'Welcome to Jenkins!' and a light blue box below it with the text 'Please create new jobs to get started.' Below the sidebar, there are two expandable panels. The first panel is titled 'Build Queue' and shows 'No builds in the queue.' The second panel is titled 'Build Executor Status' and shows two executors, both in an 'Idle' state.

**Jenkins**

Jenkins ▶

- New Item
- People
- Build History
- Manage Jenkins**
- My Views
- Credentials
- New View

**Welcome to Jenkins!**

Please create new jobs to get started.

**Build Queue**

No builds in the queue.

**Build Executor Status**

- 1 Idle
- 2 Idle

# Administration and Authorization users in Jenkins

- Managing Jenkins - Configure Global security



## Configure System

Configure global settings and paths.



## Configure Global Security

Secure Jenkins; define who is allowed to access/use the system.



## Configure Credentials

Configure the credential providers and types



## Global Tool Configuration

Configure tools, their locations and automatic installers.



## Reload Configuration from Disk

Discard all the loaded data in memory and reload everything from file system. Useful when you modified config files directly on disk.



## Manage Plugins

Add, remove, disable or enable plugins that can extend the functionality of Jenkins.



## System Information

Displays various environmental information to assist trouble-shooting.



## System Log

System log captures output from `java.util.logging` output related to Jenkins.



## Load Statistics

Check your resource utilization and see if you need more computers for your builds.



## Jenkins CLI

Access/manage Jenkins from your shell, or from your script.



## Script Console

Executes arbitrary script for administration/trouble-shooting/diagnostics.



## Manage Nodes

Add, remove, control and monitor the various nodes that Jenkins runs jobs on.



## About Jenkins

See the version and license information.



# Administration and Authorization users in Jenkins

- Managing Jenkins - Users



## Configure Global Security

☒ Enable security



Disable remember me ☐



### Access Control

#### Security Realm

☐ Delegate to servlet container



☒ Jenkins' own user database



☐ Allow users to sign up



☐ LDAP



☐ Unix user/group database



#### Authorization

☐ Anyone can do anything



☐ Legacy mode



☒ Logged-in users can do anything



☐ Allow anonymous read access



☐ Matrix-based security



☐ Project-based Matrix Authorization Strategy



# Administration and Authorization users in Jenkins

- Managing Jenkins - Create User



## Manage Users

Create/delete/modify users that can log in to this Jenkins



[Back to Dashboard](#)



[Manage Jenkins](#)



[Create User](#)

## Users


These users can log into Jenkins. This i




[test\\_user1](#)

# Administration and Authorization users in Jenkins

- Managing Jenkins - Create User

 [Back to Dashboard](#)

 [Manage Jenkins](#)

 [Create User](#)

## Create User


|                   |  |
|-------------------|--|
| Username:         | <input type="text" value="test_user_2"/>         |
| Password:         | <input type="password" value="....."/>           |
| Confirm password: | <input type="password" value="....."/>           |
| Full name:        | <input type="text" value="test user 2"/>         |
| E-mail address:   | <input type="text" value="none@fake.email.com"/> |


Create User

# Administration and Authorization users in Jenkins

- Managing Jenkins - Create User

 [Back to Dashboard](#)

 [Manage Jenkins](#)

 [Create User](#)

## Users

These users can log into Jenkins. This is a sub set of [this list](#)



[test\\_user1](#)



[test\\_user\\_2](#)

# Administration and Authorization users in Jenkins

- Managing Jenkins - LDAP

☒ LDAP

Server  
Server

ldap://em-vwp-adcm01.ros.local:389

root DN

dc=ros,dc=local

☐ Allow blank rootDN

User search base

ou=Accounts

User search filter

samAccountName={0}

Group search base

ou=Security Groups

Group search filter

member={1}

Group membership

☐ Parse user attribute for list of LDAP groups

☒ Search for LDAP groups containing user

Group membership filter

Manager DN

CN=svc\_JenkinsCont\_auth,OU=Service Accounts,OU=Accounts,DC=ros,DC=local

Manager Password

.....

Display Name LDAP attribute

displayname

Email Address LDAP attribute

mail

# Administration and Authorization users in Jenkins

- Managing Jenkins - Matrix based Authorization

☒ Matrix-based security

| User/group          | Overall                  |                          | Credentials              |                          |                          |                          |                          | Agent                    |                          |                          |                          |                          | Job                      |                          |                          |                          |                          |                          |                          |                          |                          |                          | Run                      |                          | View                     |                          |                          |                          | SCM                      |                          |                                     |
|---------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|
|                     | Administer               | Read                     | Create                   | Delete                   | Manage                   | Domains                  | Update                   | View                     | Build                    | Configure                | Connect                  | Create                   | Delete                   | Disconnect               | Build                    | Cancel                   | Configure                | Create                   | Delete                   | Discover                 | Move                     | Read                     | Workspace                | Delete                   | Replay                   | Update                   | Configure                | Create                   | Delete                   | Read                     | Tag                                 |
| Anonymous Users     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Authenticated Users | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

User/group to add:

Add

☐ Project-based Matrix Authorization Strategy

☒ Matrix-based security

| User/group          | Overall                             |                                     | Credentials                         |                                     |                                     |                                     |                                     | Agent                               |                                     |                                     |                                     |                                     | Job                                 |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     | Run                                 |                                     | View                                |                                     |                                     |                                     | SCM                                 |                                     |                                     |                                     |
|---------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
|                     | Administer                          | Read                                | Create                              | Delete                              | Manage                              | Domains                             | Update                              | View                                | Build                               | Configure                           | Connect                             | Create                              | Delete                              | Disconnect                          | Build                               | Cancel                              | Configure                           | Create                              | Delete                              | Discover                            | Move                                | Read                                | Workspace                           | Delete                              | Replay                              | Update                              | Configure                           | Create                              | Delete                              | Read                                | Tag                                 |                                     |
| Anonymous Users     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |
| Authenticated Users | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| test user           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |
| test user 2         | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |
| test_user_1         | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |                                     |





User/group to add:

Add

# Administration and Authorization users in Jenkins

- Managing Jenkins - Project based Matrix Authorization

Project-based Matrix Authorization Strategy

| User/group  | Overall                             | Credentials                         |                                     |                                     |                                     |                                     | Agent                               |                                     |                                     |                                     |                                     | Job                                 |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     | Run                                 |                                     |                                     | View                                |                                     |                                     |                                     | SCM                                 |                                     |                                     |                                     |                          |
|---|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------|
|   | Administer                          | Read                                | Create                              | Delete                              | Manage                              | Domains                             | Update                              | View                                | Build                               | Configure                           | Connect                             | Create                              | Delete                              | Disconnect                          | Build                               | Cancel                              | Configure                           | Create                              | Delete                              | Discover                            | Move                                | Read                                | Workspace                           | Delete                              | Replay                              | Update                              | Configure                           | Create                              | Delete                              | Read                                | Tag                                 |                                     |                          |
|  Anonymous Users     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                          |
|  Authenticated Users | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                          |
|  test user           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                          |
|  test_user_1         | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> |

User/group to add:

test\_user\_1

Add

# Administration and Authorization users in Jenkins

- Managing Jenkins - Managing Nodes



## Configure System

Configure global settings and paths.



## Configure Global Security

Secure Jenkins; define who is allowed to access/use the system.



## Configure Credentials

Configure the credential providers and types



## Global Tool Configuration

Configure tools, their locations and automatic installers.



## Reload Configuration from Disk

Discard all the loaded data in memory and reload everything from file system. Useful when you modified config files directly on disk.



## Manage Plugins

Add, remove, disable or enable plugins that can extend the functionality of Jenkins.



## System Information

Displays various environmental information to assist trouble-shooting.



## System Log

System log captures output from `java.util.logging` output related to Jenkins.



## Load Statistics

Check your resource utilization and see if you need more computers for your builds.



## Jenkins CLI

Access/manage Jenkins from your shell, or from your script.



## Script Console

Executes arbitrary script for administration/trouble-shooting/diagnostics.



## Manage Nodes

Add, remove, control and monitor the various nodes that Jenkins runs jobs on.



## About Jenkins

See the version and license information.



# Administration and Authorization users in Jenkins

- Managing Jenkins - Manage Nodes

[Jenkins](#) > [Nodes](#) > [ENABLE AUTO REFRESH](#)

[Back to Dashboard](#)  
 [Manage Jenkins](#)  
 [New Node](#)  
 [Configure](#)

| S | Name ↓                 | Architecture  | Clock Difference | Free Disk Space | Free Swap Space | Free Temp Space | Response Time |
|---|------------------------|---------------|------------------|-----------------|-----------------|-----------------|---------------|
|   | <a href="#">master</a> | Linux (amd64) | In sync          | 127.91 GB       | 3.68 GB         | 127.91 GB       | 0ms           |
|   | last checked           | 21 min        | 21 min           | 21 min          | 21 min          | 21 min          | 21 min        |

[Refresh status](#)

- Create a new Node

[Jenkins](#) > [Nodes](#) >

[Back to Dashboard](#)  
 [Manage Jenkins](#)  
 [New Node](#)  
 [Configure](#)

Node name

**Permanent Agent**  
Adds a plain, permanent agent to Jenkins. This is called "permanent" because Jenkins doesn't provide higher level of integration with these agents, such as dynamic provisioning. Select this type if no other agent types apply — for example such as when you are adding a physical computer, virtual machines managed outside Jenkins, etc.

Build Queue

No builds in the queue.

OK

# Administration and Authorization users in Jenkins

- Managing Jenkins - Managing Nodes

|                                |   |  |
|--------------------------------|---|--|
| Name                           | <input type="text" value="node_1"/>                           |  |
| Description                    | <input type="text" value="node one test"/>                    |  |
| # of executors                 | <input type="text" value="2"/>                                |  |
| Remote root directory          | <input type="text" value="/app/jenkins/jenkins_data/node_1"/> |  |
| Labels                         | <input type="text" value="sit_test"/>                         |  |
| Usage                          | Only build jobs with label expressions matching this node     |  |
| Launch method                  | Launch slave agents via SSH                                   |  |
| Host                           | <input type="text" value="localhost"/>                        |  |
| Credentials                    | <input type="text" value="pikoulj/*****"/>                    |  |
| Host Key Verification Strategy | Non verifying Verification Strategy                           |  |
|                                |   |  |
|                                | <input type="button" value="Advanced..."/>                    |  |
| Availability                   | Keep this agent online as much as possible                    |  |

## Node Properties

- ☐ Environment variables
- ☐ Tool Locations

# Administration and Authorization users in Jenkins

- Managing Jenkins - Managing Nodes

Jenkins > Nodes >

ENABLE AUTO REFRESH

Back to Dashboard

Manage Jenkins

New Node

Configure

Build Queue


No builds in the queue.


| S | Name ↓                 | Architecture  | Clock Difference | Free Disk Space | Free Swap Space | Free Temp Space | Response Time |
|---|------------------------|---------------|------------------|-----------------|-----------------|-----------------|---------------|
|   | <a href="#">master</a> | Linux (amd64) | In sync          | 127.87 GB       | 3.43 GB         | 127.87 GB       | 0ms           |
|   | <a href="#">node_1</a> | Linux (amd64) | In sync          | 127.87 GB       | 3.43 GB         | 127.87 GB       | 2565ms        |
|   | last checked           | 0.93 sec      | 0.89 sec         | 0.84 sec        | 0.82 sec        | 0.84 sec        | 0.84 sec      |


Refresh status


# Administration Global Variables


- Managing Jenkins - Global Variables


**Configure System**  
Configure global settings and paths.


**Configure Global Security**  
Secure Jenkins; define who is allowed to access/use the system.


**Configure Credentials**  
Configure the credential providers and types


**Global Tool Configuration**  
Configure tools, their locations and automatic installers.


**Reload Configuration from Disk**  
Discard all the loaded data in memory and reload everything from file system. Useful when you modified config files directly on disk.


**Manage Plugins**  
Add, remove, disable or enable plugins that can extend the functionality of Jenkins.


**System Information**  
Displays various environmental information to assist trouble-shooting.


**System Log**  
System log captures output from java.util.logging output related to Jenkins.

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Check your resource utilization and see if you need more computers for your builds.

**Jenkins CLI**  
Access/manage Jenkins from your shell, or from your script.

**Script Console**  
Executes arbitrary script for administration/trouble-shooting/diagnostics.

**Manage Nodes**  
Add, remove, control and monitor the various nodes that Jenkins runs jobs on.

**About Jenkins**  
See the version and license information.

# Administration Global Variables

- Managing Jenkins - Global Variables

## Global properties

---

- ☐ Environment variables
- ☐ Tool Locations

- Add a new Global Variable

## Global properties

---

- ☒ Environment variables

List of variables

Name

Value



Delete

Add

# Administration Global Variables

- Managing Jenkins - Global Passwords

Mask Passwords - Parameters to automatically mask

|                                 |                                     |
|---------------------------------|-------------------------------------|
| List Subversion tags (and more) | <input type="checkbox"/>            |
| Multi-line String Parameter     | <input type="checkbox"/>            |
| Choice Parameter                | <input type="checkbox"/>            |
| Credentials Parameter           | <input type="checkbox"/>            |
| Boolean Parameter               | <input type="checkbox"/>            |
| File Parameter                  | <input type="checkbox"/>            |
| Non-Stored Password Parameter   | <input checked="" type="checkbox"/> |
| String Parameter                | <input type="checkbox"/>            |
| Password Parameter              | <input checked="" type="checkbox"/> |
| Run Parameter                   | <input type="checkbox"/>            |

Mask Passwords - Global name/password pairs

Add


Name

SIT\_ROOT\_USER

Password

.....

Delete



# Administration - Email

- Managing Jenkins – Setting up Email

## E-mail Notification

SMTP server

smtp.ros.local

Default user e-mail suffix

@ros.gov.uk

Default Subject

\$PROJECT\_NAME - Build # \$BUILD\_NUMBER - \$BUILD\_STATUS!

Maximum Attachment Size

Default Content

\$PROJECT\_NAME - Build # \$BUILD\_NUMBER - \$BUILD\_STATUS:

Check console output at \$BUILD\_URL to view the results.

# **Future Presentations!**







# www.automateditsolutions.com

**Automated IT Solutions** are planning a number of free workshops and community discussions on DevOps-related tools and practices.

Proposed topics include:

- Terraform and AWS – automating and managing AWS infrastructure using Terraform by HashiCorp
- Docker – introduction to Containerization and best practices
- Ansible – introduction and workshop
- Jenkins – automating and managing pipelines
- Adding Test automation to Docker and Jenkins pipelines

If you would like to Register Interest for these sessions – or suggest additional ones – let us know here: [www.automateditsolutions.com/register/](http://www.automateditsolutions.com/register/) and we will keep you updated!

**(Communi)Tea Time**













# Auto-Convert Freestyle to Pipeline

- Convert To Pipeline Plugin v1.0 ([plugins.jenkins.io/convert-to-pipeline](https://plugins.jenkins.io/convert-to-pipeline))
- Key features:
  - Convert single freestyle job to pipeline
  - Convert chain of freestyle jobs to single pipeline
  - Works with both Jenkins and CloudBees Jenkins Enterprise
  - Direct migration of Parameters and Agents to newly created Pipelines.
  - Environment properties: JDK, NodeJS
  - Supports Git SCM
  - Build steps: Maven, Ant, Shell, Batch, and Ansible Playbook
  - Post build actions: artifact archiver, simple mailer, TestNG reports, JUnit reports, checkstyle publisher

# Auto-Convert Freestyle to Pipeline

Jenkins ▶ My-Freestyle-Job ▶

-  Back to Dashboard
-  **Status**
-  Changes
-  Workspace
-  Build Now
-  Delete Project
-  Configure
-  Favorite
-  Convert This Job To Pipeline
-  Open Blue Ocean

# Auto-Convert Freestyle to Pipeline



## Convert This Job To Pipeline

### Job Conversion Parameters

Job name (optional)



Recursively convert downstream jobs if any? ☒



### Jenkinsfile Options

Commit Jenkinsfile?

☐

Commit message

Auto created Jenkinsfile from auto conversion



Convert



**Thanks!**