

## Lab 8. Managing Jenkins Security with RBAC

### Objectives:

- Enable Jenkins Security
- Exploring Authentication methods
- Install Role Strategy Plugin and Enable RBAC
- Working with RBAC

### Pre-Requisite

- OL 7 with Jenkins installed.
- Access to Jenkins as admin user.

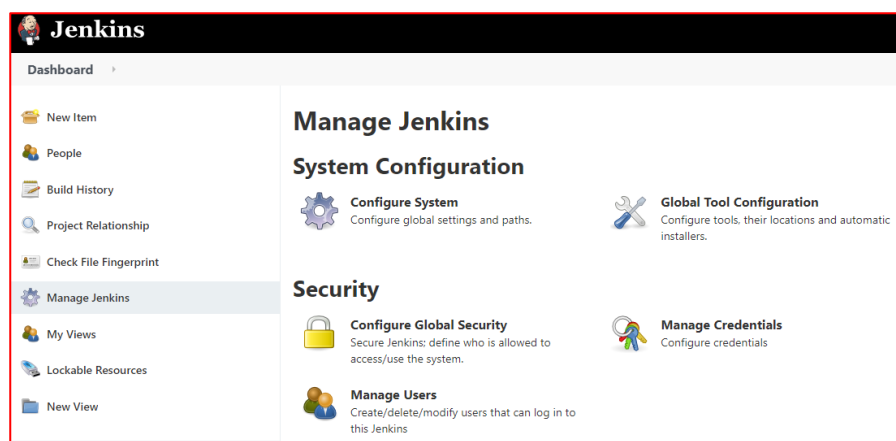
### Sequence 1. Enabling and Exploring Jenkins Security

1. Login to your Jenkins dashboard by visiting <http://10.10.0.100:8080/>



The image shows the Jenkins login page. At the top, it says "Welcome to Jenkins!". Below that, there is a text input field containing the username "admin". Underneath the username field is a password input field represented by a series of dots. Below the password field is a blue "Sign in" button. At the bottom, there is a checkbox labeled "Keep me signed in".

2. Under Manage Jenkins, Click on Configure Global Security.



3. It will open Global Security Configuration page. Explore Authentication and Authorization Options. Do not change any setting now.

**Configure Global Security**

**Authentication**

☐ Disable remember me

Security Realm

**Security Realm**

☐ Delegate to servlet container

☒ Jenkins' own user database

☐ Allow users to sign up

☐ LDAP

☐ Unix user/group database

☐ None

**Authorization**

Strategy

**Authorization**

☐ Anyone can do anything

☐ Legacy mode

☐ Logged-in users can do anything

☐ Matrix-based security

☐ Project-based Matrix Authorization Strategy

☒ Role-Based Strategy

**Markup Formatter**

## Sequence 2. Creating Users in Jenkins

1. Under Manage Jenkins, Click Manage Users.

Check File Fingerprint

Manage Jenkins

My Views

Lockable Resources

New View

**Build Queue**

No builds in the queue.

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

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

**Security**

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

**Configure Credential Providers**  
Configure the credential providers and types

**Manage Credentials**  
Configure credentials

**Manage Users**  
Create/delete/modify users that can log into Jenkins

2. Click Create User from the left side bar.

**Jenkins**

Dashboard > Jenkins' own user database

Back to Dashboard

Manage Jenkins

Create User

**Users**

These users can log into Jenkins. This is a searchable list of users.

User ID
admin

3. In the screen that open, enter User details like password, name, email etc.

## Create User

Username:

Password:

Confirm password:

Full name:



E-mail address:

[Create User](#)

- Click on create user. User will be created and appear in the list

**Users**

These users can log into Jenkins. This is a sub set of [this list](#), which also contains auto-created users who really just made some commits on some projects and have no direct Jenkins access.

User ID	Name
 admin	admin
 sangwan	sangwan

### Sequence 3. Install Role Strategy Plugin and Enable RBAC

- Go to Manage Jenkins
- Click on the Manage Plugins option.
- In available section, screen Search for "role" as given in the following screen shot.

Search:

Updates Available Installed Advanced

**Install ↑ Name**

☒ **Role-based Authorization Strategy**

Security Authentication and User Management

Enables user authorization using a Role-Based strategy. Roles can be defined globally or for particular jobs or nodes selected

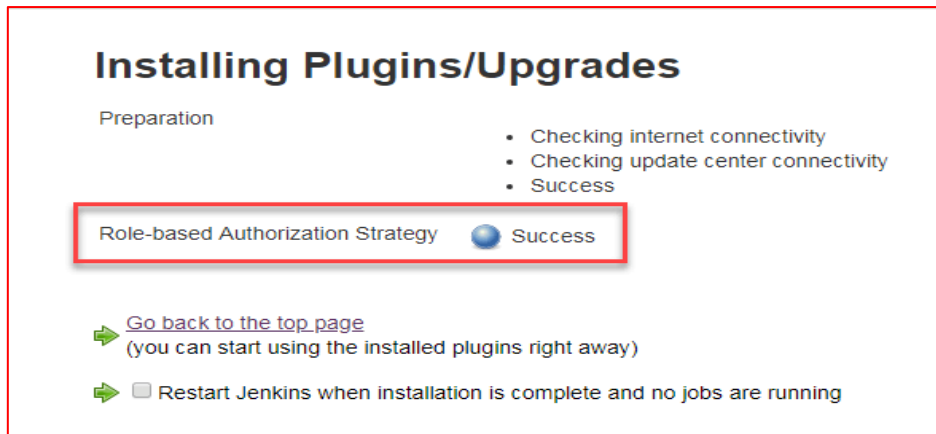
☐ **CloudBees AWS Credentials**

aws

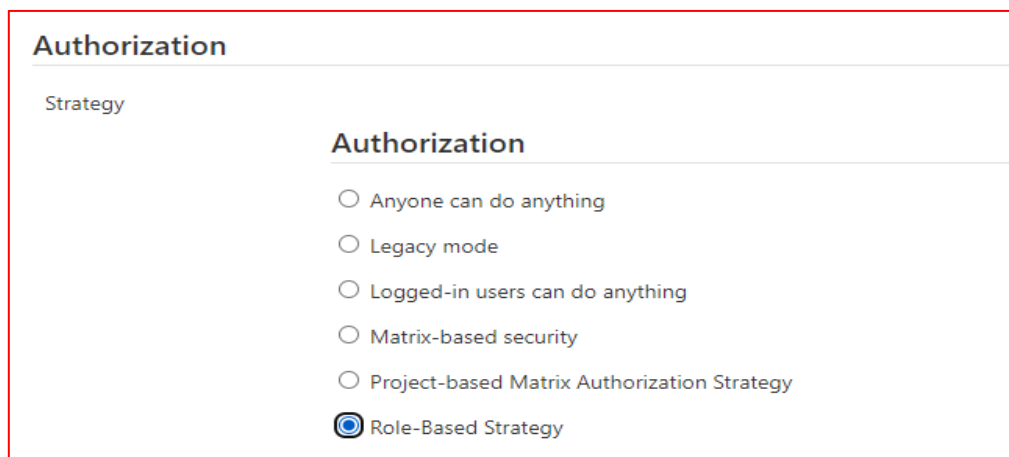
Allows storing Amazon IAM credentials within the Jenkins Credentials API. Store Amazon IAM access keys (AWSAccessKeyID, AWSSecretAccessKey), IAM Roles and IAM MFA Token.

[Install without restart](#) [Download now and install after restart](#) Update information obtained: 4 hr 5 min ago [Check now](#)

- Select Role-based Authorization Strategy plugin.
- Click on "Install without restart"
- Once the plugin is installed, a "success" status will be displayed

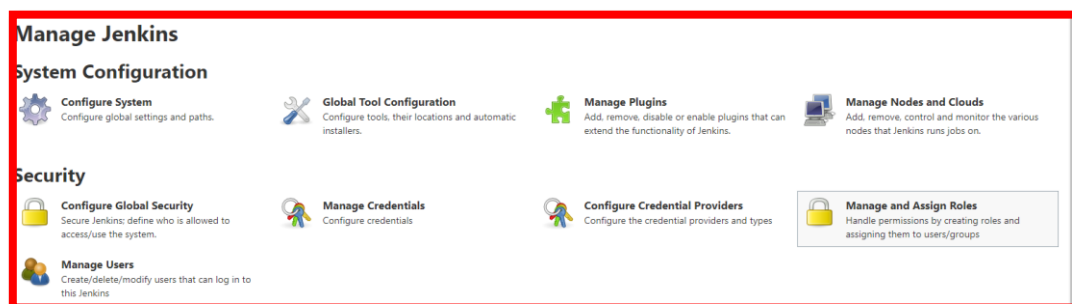


7. Click on Go back to the top page to return
8. Select Role Based Strategy for Authorization. For this, Go to **Manage Jenkins - > Configure Global Security -> Under Authorization**, select Role Based Strategy.
9. Click on Save



## Sequence 4. Assign Role to a User

1. To assign this role to a user, go to Manage Jenkins, select Manage and Assign Roles



The **Manage and Assign Roles** option will only be visible if you've installed the role strategy plugin.

2. Click on Manage Roles to add new roles based on your organization

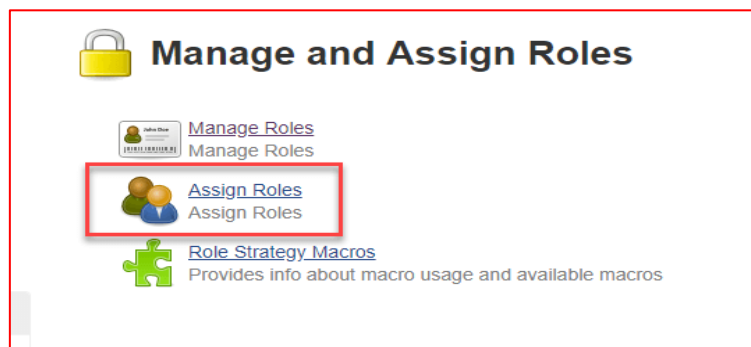
**Manage Roles**

Global roles

Role	Overall	Credentials	Agent	Job	Run	View	SCM	Lockable Resource
admin	<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"/>
developer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Role to add:

- To create a new role called "developer", type "developer" under "role" and click on "Add" to create a new role.
- Now, select the permissions you want to assign to the "Developer" role and click Save button given at the bottom of the page.
- Assign this role to user created. Go to Manage Jenkins and select Manage and Assign Roles



- We shall add the new role "developer" to user "sangwan".

**Global roles**

User/group	admin	developer
Ram Niwas Sangwan	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Anonymous	<input type="checkbox"/>	<input type="checkbox"/>
sangwan	<input type="checkbox"/>	<input checked="" type="checkbox"/>

User/group to add:

- Select the developer role checkbox for the user listed. If the user name does not appear in the list, type the user name in the box and click on add button. But remember, even if the user does not exist, it will show here. That means it is not actually creating user. But just setting the role. It appears, it is not verifying the existence of the user.
- Click Save.
- Congratulations. You have successfully completed the Lab.