

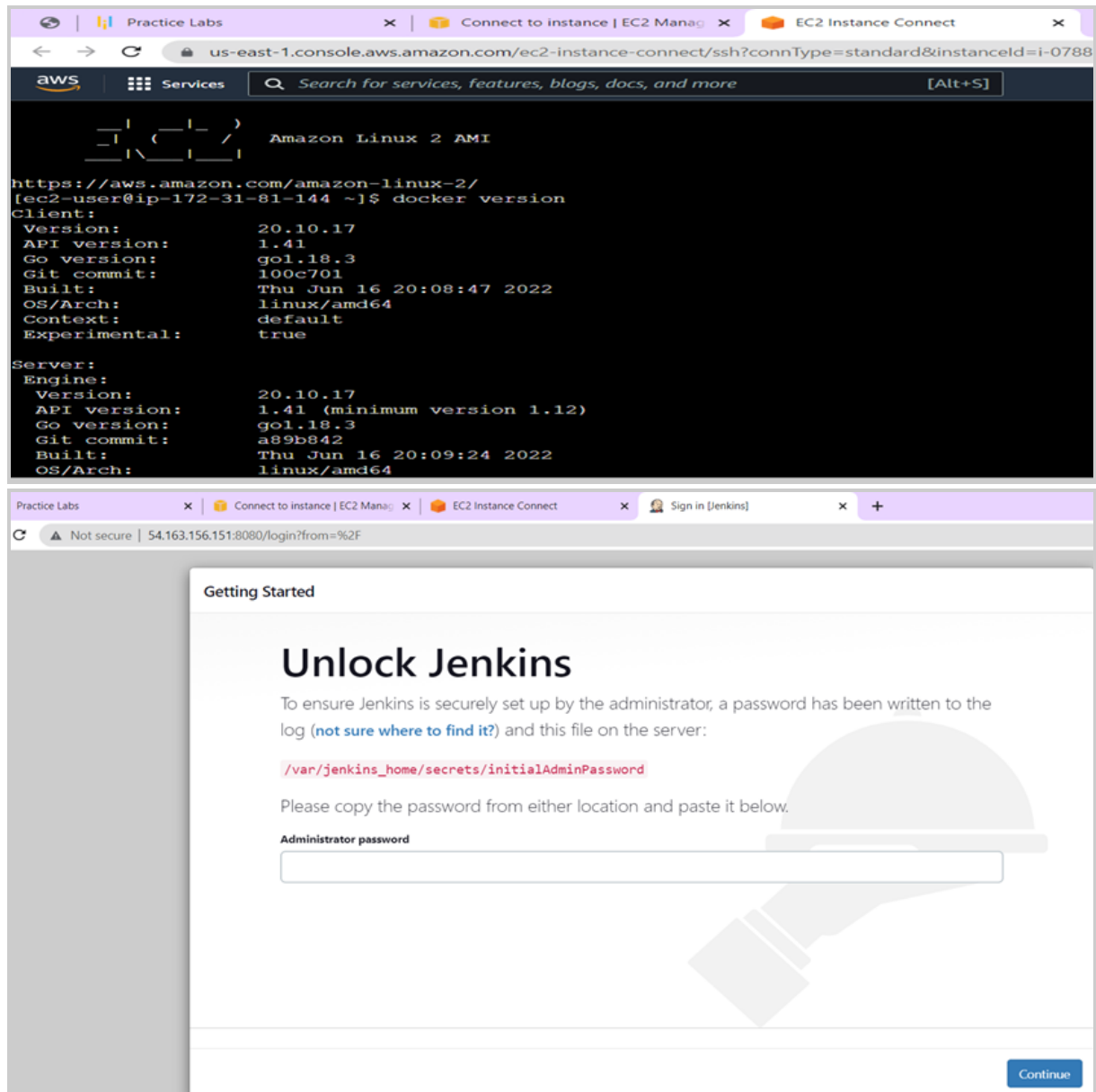
PROJECT: Jenkins pipeline to deploy Docker Swarm

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CODE:

[GITHUB REPO link](#)

OUTPUT:



The screenshot displays two browser windows. The top window is the AWS Management Console, showing a terminal session on an Amazon Linux 2 instance. The terminal output shows the command `docker version` and its output, which includes client and server details such as version 20.10.17, API version 1.41, and Go version go1.18.3. The bottom window is the Jenkins 'Getting Started' page, which prompts the user to 'Unlock Jenkins' by providing an administrator password. The page explains that a password was written to a log file and provides the path `/var/jenkins_home/secrets/initialAdminPassword`. A text input field for the 'Administrator password' is visible, and a 'Continue' button is at the bottom right.

```
https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-172-31-81-144 ~]$ docker version
Client:
Version:      20.10.17
API version:  1.41
Go version:   go1.18.3
Git commit:   100c701
Built:        Thu Jun 16 20:08:47 2022
OS/Arch:      linux/amd64
Context:      default
Experimental: true

Server:
Engine:
Version:      20.10.17
API version:  1.41 (minimum version 1.12)
Go version:   go1.18.3
Git commit:   a89b842
Built:        Thu Jun 16 20:09:24 2022
OS/Arch:      linux/amd64
```

Getting Started

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

Continue

Practice Labs

Connect to instance | EC2 Mana

EC2 Instance Connect

Setup Wizard [Jenkins]

Not secure | 54.163.156.151:8080

Getting Started

Customize Jenkins

Plugins extend Jenkins with additional features to support many different needs.

Install suggested plugins

Install plugins the Jenkins community finds most useful.

Select plugins to install

Select and install plugins most suitable for your needs.

Jenkins 2.372

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Connect to instance | EC2 Mana

EC2 Instance Connect

Setup Wizard [Jenkins]

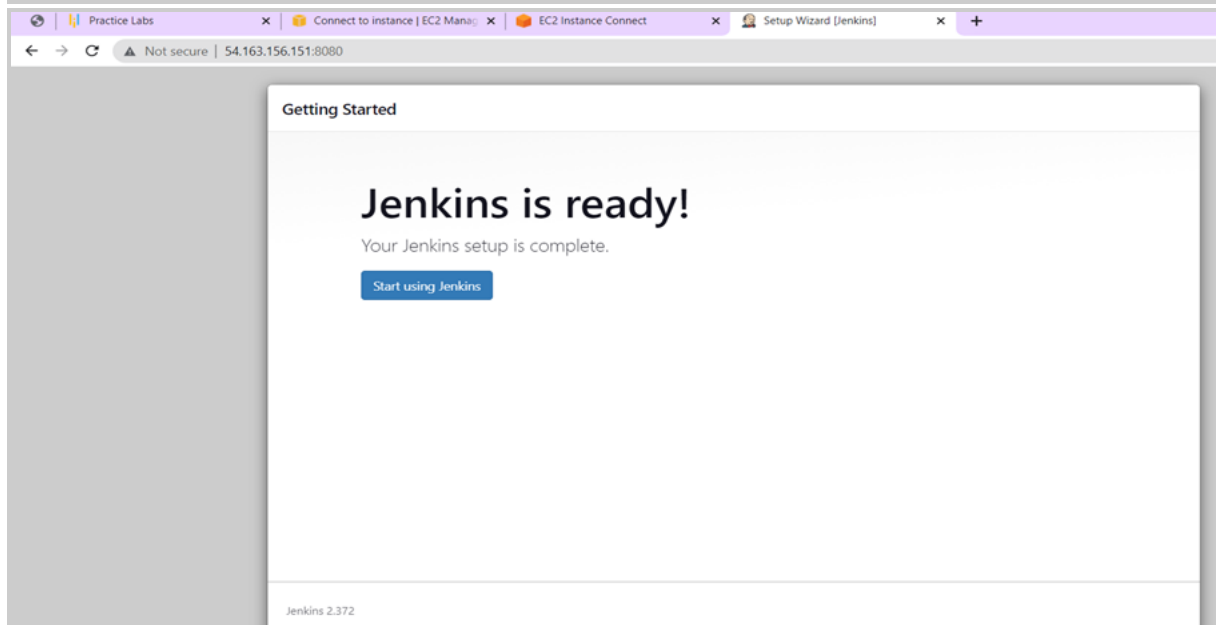
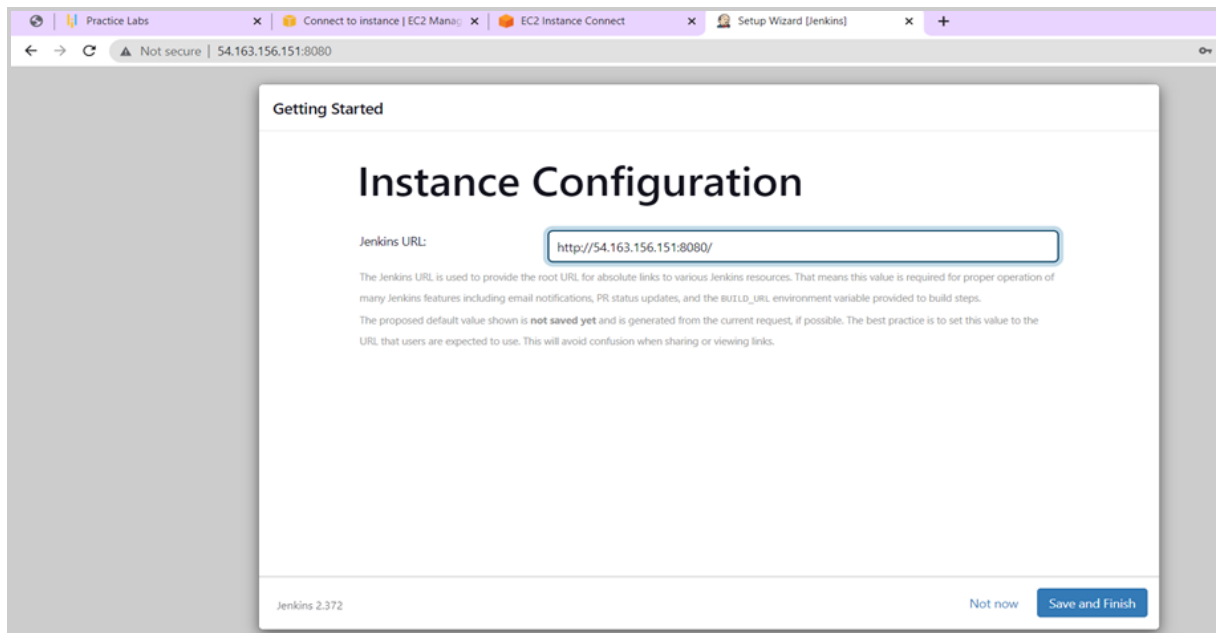
Not secure | 54.163.156.151:8080

Getting Started

Getting Started

✓ Folders	✓ OWASP Markup Formatter	✓ Build Timeout	✓ Credentials Binding	Folders <ul style="list-style-type: none">** JavaBeans Activation Framework (JAF) API** JavaMail API** bouncycastle API** Instance Identity** Mina SSHD API :: Common** Mina SSHD API :: Core** SSH server
⚙️ Timestampers	⚙️ Workspace Cleanup	⚙️ Ant	⚙️ Gradle	OWASP Markup Formatter <ul style="list-style-type: none">** Structs** Token Macro
⚙️ Pipeline	⚙️ GitHub Branch Source	⚙️ Pipeline: GitHub Groovy Libraries	⚙️ Pipeline: Stage View	Build Timeout <ul style="list-style-type: none">** Credentials** Trilead API** SSH Credentials** Pipeline: Step API** Plain Credentials
⚙️ Git	⚙️ SSH Build Agents	⚙️ Matrix Authorization Strategy	⚙️ PAM Authentication	Credentials Binding <ul style="list-style-type: none">** SCH API** Pipeline: API
⚙️ LDAP	⚙️ Email Extension	⚙️ Mailer		** - required dependency

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Connect to instance | EC2 Manag

EC2 Instance Connect

Dashboard | Jenkins

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**Jenkins**

Search (CTRL+K)

Dashboard >

+ New Item

People

Build History

Manage Jenkins

My Views

Build Queue

No builds in the queue.

Build Executor Status

1 Idle

2 Idle

Welcome to Jenkins!

This page is where your Jenkins jobs will be displayed. To get started, you can set up distributed builds or start building a software project.

Start building your software project

Create a job →

Set up a distributed build

Set up an agent →

Configure a cloud →

Learn more about distributed builds ↗

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Connect to instance | EC2 Manag

EC2 Instance Connect

Dashboard | Jenkins


Not secure | 54.163.156.151:8080/view/all/newJob

Dashboard > All >


Enter an item name

hello


» Required field

**Freestyle project**


This is the central feature of Jenkins. Jenkins will build your project, combining any SCM with any build system, and this can be even used for something other than software build.

**Pipeline**

Orchestrates long-running activities that can span multiple build agents. Suitable for building pipelines (formerly known as workflows) and/or organizing complex activities that do not easily fit in free-style job type.

**Multi-configuration project**

Suitable for projects that need a large number of different configurations, such as testing on multiple environments, platform-specific builds, etc.

**Folder**

Creates a container that stores nested items in it. Useful for grouping things together. Unlike view, which is just a filter, a folder creates a separate namespace, so you can have multiple things of the same name as long as they are in different folders.

OK

Launch Pipeline

Search (CTRL+K)

1

admin

log out

Dashboard > JenkinsPipeline >

Status

Changes

Build Now

Configure

Delete Pipeline

Full Stage View

Rename

Pipeline Syntax

Build History

trend

Filter builds...

Oct 17, 2022, 2:01 AM

Atom feed for all

Atom feed for failures

Pipeline JenkinsPipeline

Jenkins CI/CD Pipeline Project

Edit description

Disable Project

Stage View

Average stage times:

Checkout Source Code	1s
Build	12min 52s

1

Oct 07 07:01

No Changes

Permalinks

```

ec2-user@ip-172-31-30-142:~$
To add a manager to this swarm, run 'docker swarm join-token manager' and follow
the instructions.

[ec2-user@ip-172-31-30-142 ~]$ docker node ls
ID                HOSTNAME                STATUS  AVAILABI
LITY  MANAGER STATUS  ENGINE VERSION
scy5ecrvwesod9bolj3l9ghez  ip-172-31-22-0.ec2.internal  Ready  Active
8bb7kp5wdrawsf6lbbf3z49wc  ip-172-31-25-154.ec2.internal  Ready  Active
o9quvhu2l3zyir0f56dtgaib  *  ip-172-31-30-142.ec2.internal  Ready  Active
Leader
20.10.17
[ec2-user@ip-172-31-30-142 ~]$ docker service create --name myappl --replicas 5 -p 80:80 rmeiappan/myangappimage
hfvnacqe3cwpsezxmx7uu0y8z
overall progress: 5 out of 5 tasks
1/5: running [=====>]
2/5: running [=====>]
3/5: running [=====>]
4/5: running [=====>]
5/5: running [=====>]
verify: Service converged
[ec2-user@ip-172-31-30-142 ~]$ docker service ls
ID                NAME                MODE                REPLICAS  IMAGE                PORTS
hfvnacqe3cwp  myappl  replicated  5/5  rmeiappan/myangappimage:latest  *:80->80/tcp
[ec2-user@ip-172-31-30-142 ~]$ docker service ps myappl
ID                NAME                IMAGE                NODE                DESIRED STATE  CURRENT STATE  ERROR  PORTS
e3r0glavlbtbf  myappl.1  rmeiappan/myangappimage:latest  ip-172-31-22-0.ec2.internal  Running  Running 59 seconds ago
tkqcfzskjy5r  myappl.2  rmeiappan/myangappimage:latest  ip-172-31-25-154.ec2.internal  Running  Running 59 seconds ago
imtl52mb2ftp  myappl.3  rmeiappan/myangappimage:latest  ip-172-31-22-0.ec2.internal  Running  Running 59 seconds ago
alay80kyej2k  myappl.4  rmeiappan/myangappimage:latest  ip-172-31-30-142.ec2.internal  Running  Running 59 seconds ago
y74m0avkxk6q  myappl.5  rmeiappan/myangappimage:latest  ip-172-31-25-154.ec2.internal  Running  Running 59 seconds ago
[ec2-user@ip-172-31-30-142 ~]$ docker swarm join --token SWMTKN-1-56ndrlp6sfac9zlvzlwmi5sbzfk0xs3rfhi25582q
5vngsp7ro-emyoj3wvsbl18rbm3farsvcao 172.31.30.142:2377
'docker swarm join' requires exactly 1 argument.
See 'docker swarm join --help'.

Usage: docker swarm join [OPTIONS] HOST:PORT

Join a swarm as a node and/or manager
[ec2-user@ip-172-31-30-142 ~]$ docker swarm join --token SWMTKN-1-56ndrlp6sfac9zlvzlwmi5sbzfk0xs3rfhi25582q
5vngsp7ro-emyoj3wvsbl18rbm3farsvcao 172.31.30.142:2377
'docker swarm join' requires exactly 1 argument.
See 'docker swarm join --help'.

Usage: docker swarm join [OPTIONS] HOST:PORT

Join a swarm as a node and/or manager
[ec2-user@ip-172-31-30-142 ~]$

```

```
ec2-user@ip-172-31-22-0:~$
Using username "ec2-user".
Authenticating with public key "Pair"

  _ _ | ( _ _ | _ _ /
  _ _ | \ _ _ | _ _ |
                        Amazon Linux 2 AMI

https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-172-31-22-0 ~]$ docker swarm join --token SWMTKN-1-56ndrlp6sfac9ziv
zlwmi5sbzfk0xs3rfhi25582q5vngsp7ro-emyoj3wvsbl18rbm3farsvcao 172.31.30.142:2377
This node joined a swarm as a worker.
[ec2-user@ip-172-31-22-0 ~]$
```

```
ec2-user@ip-172-31-25-154:~$
Using username "ec2-user".
Authenticating with public key "Pair"

  _ _ | ( _ _ | _ _ /
  _ _ | \ _ _ | _ _ |
                        Amazon Linux 2 AMI

https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-172-31-25-154 ~]$ docker swarm join --token SWMTKN-1-56ndrlp6sfac9z
ivzlwmi5sbzfk0xs3rfhi25582q5vngsp7ro-emyoj3wvsbl18rbm3farsvcao 172.31.30.142:237
7
This node joined a swarm as a worker.
[ec2-user@ip-172-31-25-154 ~]$
```

The screenshot shows the AWS Management Console interface. On the left is a navigation menu with options like 'EC2 Dashboard', 'EC2 Global View', 'Events', 'Tags', 'Limits', 'Instances', 'Instance Types', 'Launch Templates', 'Spot Requests', 'Savings Plans', 'Reserved Instances', 'Dedicated Hosts', 'Scheduled Instances', 'Capacity Reservations', 'Images', 'AMIs', and 'AMI Catalog'. The main panel displays 'Instances (1/1)' with a table showing one instance: 'JenkinsInstance-2' (ID: i-0df59200f25d76028) in a 'Running' state, type 't2.micro', with '2/2 checks passed' and 'No alarms'. Below the table, the 'Details' tab for 'Instance: i-0df59200f25d76028 (JenkinsInstance-2)' is expanded, showing fields like Instance ID, Public IPv4 address (44.205.180.54), Private IPv4 address (172.31.95.13), Instance state (Running), Hostname type, IP name, Private IP DNS name, Amazon private resource DNS name, Instance type (t2.micro), and Elastic IP address.

The screenshot shows a web browser window with multiple tabs. The active tab is 'Instances | EC2 Manager'. The address bar shows 'Not secure | 54.225.48.51'. The page content includes a navigation bar with links: Home, Server, Products, Numbers, ShoppingCart, Accounts, Observables, TForms, RForms, Users, Posts. Below the navigation bar, there is a 'Welcome to MyApp !!' message and a blue button labeled 'Accounts'.

END

