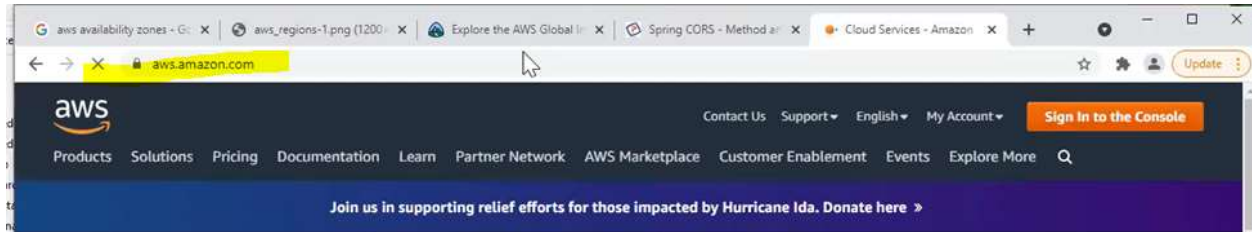
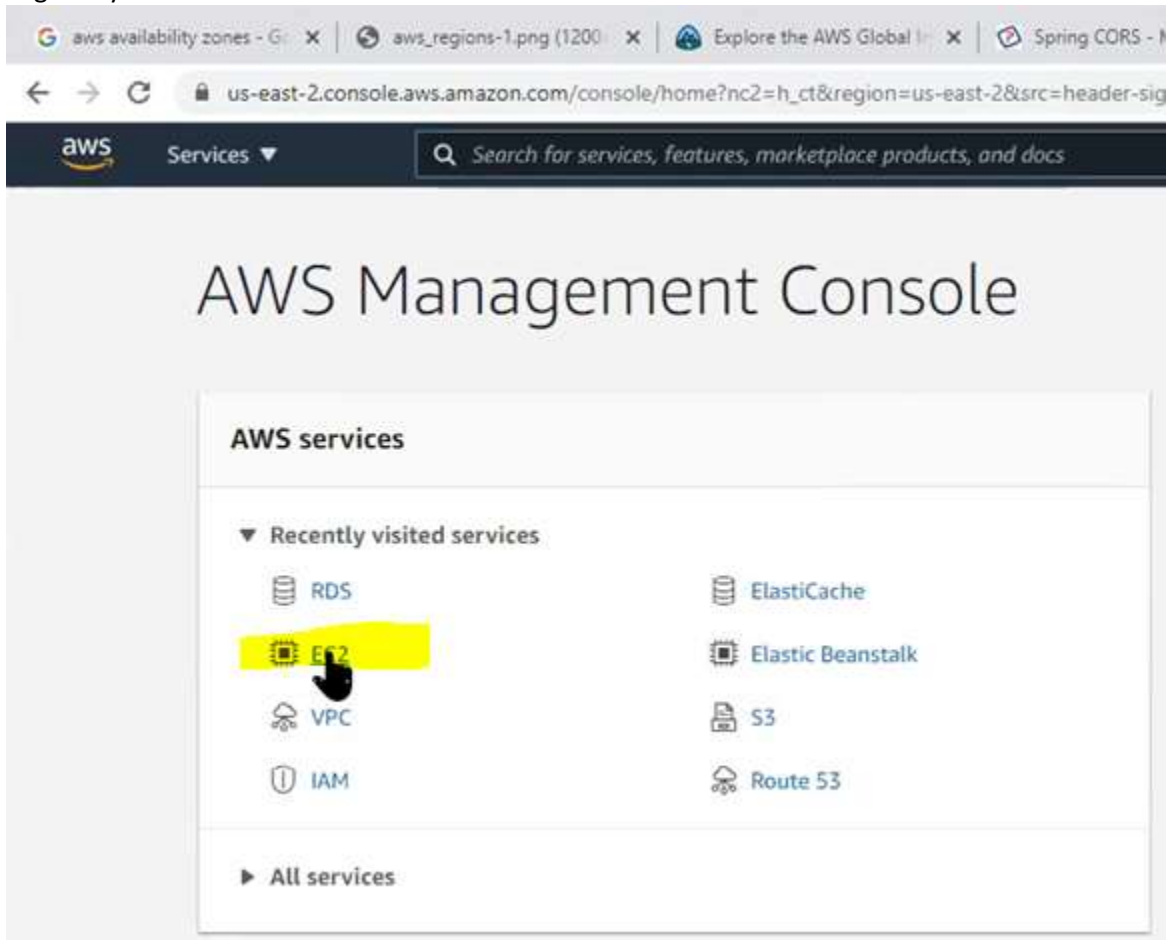


This document walks through the steps involved to build a working EC2 instance on AWS

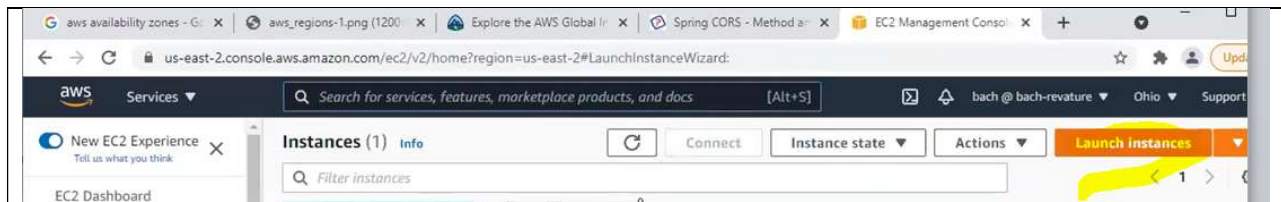
- Build an EC2 instance
- Install Git, Java, Maven, and Tomcat
- Update the java and javac version
- Deploy war file on AWS



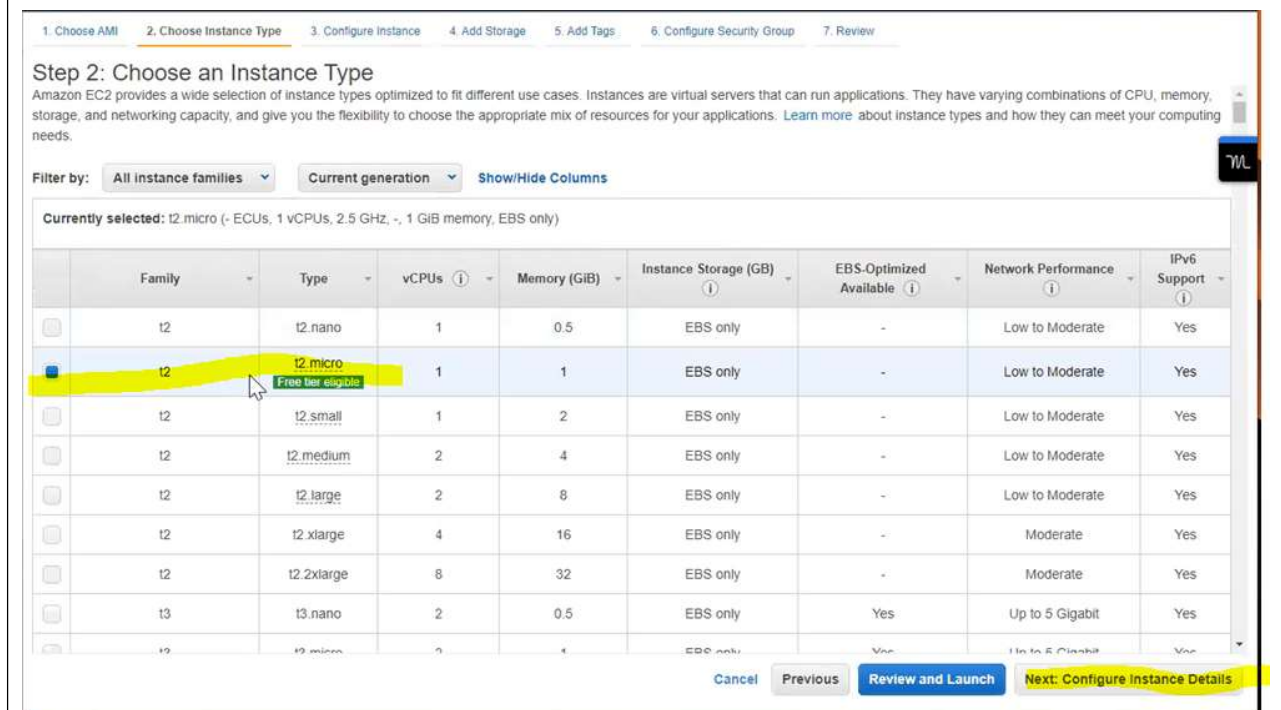
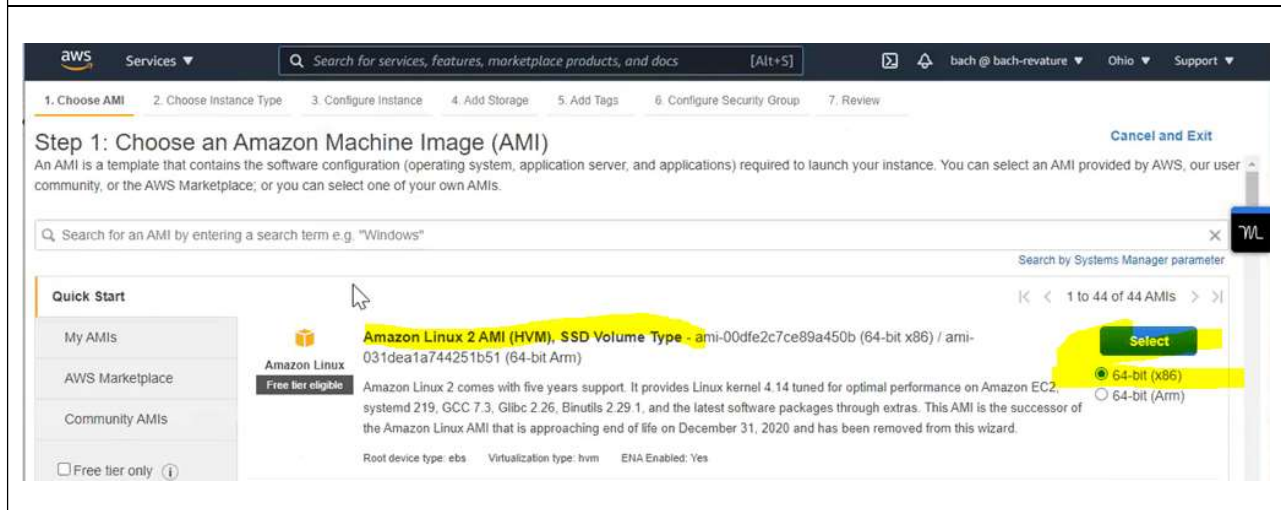
Log into your AWS account and find and select EC2



Launch instance



This button may be in a different location depending if you already have created an instance.



No changes accept defaults

1. Choose AMI
2. Choose Instance Type
3. Configure Instance
4. Add Storage
5. Add Tags
6. Configure Security Group
7. Review

### Step 3: Configure Instance Details

Configure the instance to suit your requirements. You can launch multiple instances from the same AMI, request Spot instances to take advantage of the lower pricing, assign an access management role to the instance, and more.

Number of instances ⓘ  Launch into Auto Scaling Group ⓘ

Purchasing option ⓘ ☐ Request Spot instances

Network ⓘ  [Create new VPC](#)

Subnet ⓘ  [Create new subnet](#)

Auto-assign Public IP ⓘ

Placement group ⓘ ☐ Add instance to placement group

Capacity Reservation ⓘ

Domain join directory ⓘ  [Create new directory](#)

IAM role ⓘ  [Create new IAM role](#)

Shutdown behavior ⓘ

Stop - Hibernate behavior ⓘ ☐ Enable hibernation as an additional stop behavior

Enable termination protection ⓘ ☐ Protect against accidental termination

Monitoring ⓘ ☐ Enable CloudWatch detailed monitoring  
Additional charges apply.

Cancel Previous **Review and Launch** Next: Add Storage

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1. Choose AMI
2. Choose Instance Type
3. Configure Instance
4. Add Storage
5. Add Tags
6. Configure Security Group
7. Review

### Step 4: Add Storage

Your instance will be launched with the following storage device settings. You can attach additional EBS volumes and instance store volumes to your instance edit the settings of the root volume. You can also attach additional EBS volumes after launching an instance, but not instance store volumes. [Learn more](#) about storage options in Amazon EC2.

Volume Type ⓘ	Device ⓘ	Snapshot ⓘ	Size (GiB) ⓘ	Volume Type ⓘ	IOPS ⓘ	Throughput (MB/s) ⓘ
Root	/dev/xvda	snap-0350fa19a1ac7579d	<input type="text" value="8"/>	<input type="text" value="General Purpose SSD (gp2)"/>	100 / 3000	N/A

Add New Volume

Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage. [Learn more](#) about free usage tier eligibility and usage restrictions.

Change storage if you want

aws availability zones - G... x aws\_regions-1.png (1200... x Explore the AWS Global In... x Spring CORS - Method a... x Launch instance wizard | x + -

us-east-2.console.aws.amazon.com/ec2/v2/home?region=us-east-2#LaunchInstanceWizard: Update

Services Search for services, features, marketplace products, and docs [Alt+S] bach @ bach-revature Ohio Support

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

### Step 4: Add Storage

Your instance will be launched with the following storage device settings. You can attach additional EBS volumes and instance store volumes to your instance, or edit the settings of the root volume. You can also attach additional EBS volumes after launching an instance, but not instance store volumes. [Learn more](#) about storage options in Amazon EC2.

Volume Type	Device	Snapshot	Size (GiB)	Volume Type	IOPS	Throughput (MB/s)	Delete on Termination	Encryption
Root	/dev/xvda	snap-0350fa19a1ac7579d	16	General Purpose SSD (gp2)	100 / 3000	N/A	<input checked="" type="checkbox"/>	Not Encrypted

Add New Volume

Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage. [Learn more](#) about free usage tier eligibility and usage restrictions.

Cancel Previous Review and Launch Next: Add Tags

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## No need to add tags

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

### Step 5: Add Tags

A tag consists of a case-sensitive key-value pair. For example, you could define a tag with key = Name and value = Webserver.  
A copy of a tag can be applied to volumes, instances or both.  
Tags will be applied to all instances and volumes. [Learn more](#) about tagging your Amazon EC2 resources.

Key (128 characters maximum)	Value (256 characters maximum)	Instances	Volumes	Network Interfaces
This resource currently has no tags				
Choose the Add tag button or click to add a Name tag. Make sure your IAM policy includes permissions to create tags.				

Add Tag (Up to 50 tags maximum)

Cancel Previous Review and Launch Next: Configure Security Group

Configure security group making changes highlighted below.

Give some name and description.

Change port 22 to anywhere

Add custom for port 8080

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

### Step 6: Configure Security Group

A security group is a set of firewall rules that control the traffic for your instance. On this page, you can add rules to allow specific traffic to reach your instance. For example, if you want to set up a web server and allow Internet traffic to reach your instance, add rules that allow unrestricted access to the HTTP and HTTPS ports. You can create a new security group or select from an existing one below. [Learn more about Amazon EC2 security groups.](#)

Assign a security group: ☒ Create a new security group  
☐ Select an existing security group

Security group name:

Description:   
A security group description is required.

Type	Protocol	Port Range	Source	Description
SSH	TCP	22	Anywhere	e.g. SSH for Admin Desktop
Custom TCP	TCP	8080	Anywhere	e.g. SSH for Admin Desktop

[Add Rule](#)

**Warning**

Rules with source of 0.0.0.0/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.

[Cancel](#) [Previous](#) [Review and Launch](#)

Review page then launch

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

### Step 7: Review Instance Launch

Please review your instance launch details. You can go back to edit changes for each section. Click **Launch** to assign a key pair to your instance and complete the launch process.

**Improve your instances' security.** Your security group, ship-manager-deployment-example, is open to the world.  
Your instances may be accessible from any IP address. We recommend that you update your security group rules to allow access from known IP addresses only.  
You can also open additional ports in your security group to facilitate access to the application or service you're running, e.g., HTTP (80) for web servers. [Edit security groups](#)

▼ AMI Details [Edit AMI](#)

**Amazon Linux 2 AMI (HVM), SSD Volume Type - ami-00dfe2c7ce89a450b**

Free tier eligible

Amazon Linux 2 comes with five years support. It provides Linux kernel 4.14 tuned for optimal performance on Amazon EC2, systemd 219, GCC 7.3, Glibc 2.26, Binutils 2.29.1, and the latest software packages through extras. This AMI is the successor of the Amazon Linux AMI that is a...

Root Device Type: ebs Virtualization type: hvm

▼ Instance Type [Edit instance type](#)

Instance Type	ECUs	vCPUs	Memory (GiB)	Instance Storage (GB)	EBS-Optimized Available	Network Performance
t2.micro	-	1	1	EBS only	-	Low to Moderate

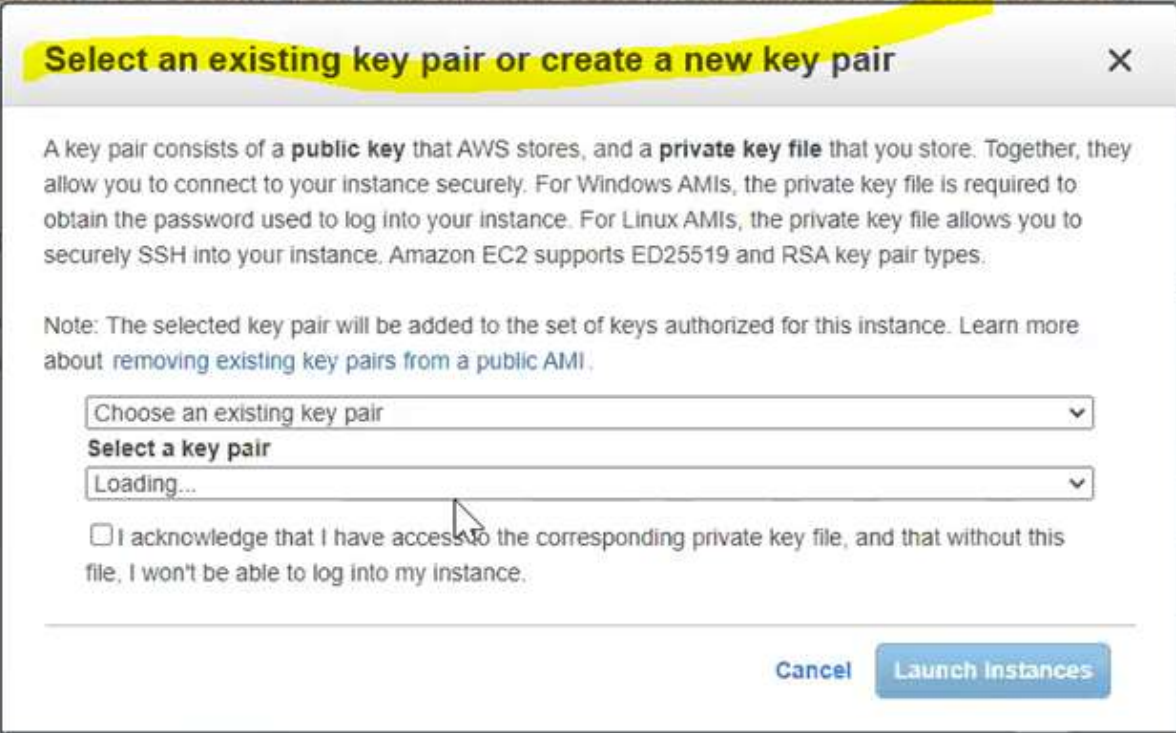
▼ Security Groups [Edit security groups](#)

Security group name: ship-manager-deployment-example  
Description: This is the security group for our EC2 deployment demo

[Cancel](#) [Previous](#) [Launch](#)



Need to create a key pair to connect to the instance



The screenshot shows a modal dialog box titled "Select an existing key pair or create a new key pair" with a close button (X) in the top right corner. The dialog contains the following text:

A key pair consists of a **public key** that AWS stores, and a **private key file** that you store. Together, they allow you to connect to your instance securely. For Windows AMIs, the private key file is required to obtain the password used to log into your instance. For Linux AMIs, the private key file allows you to securely SSH into your instance. Amazon EC2 supports ED25519 and RSA key pair types.

Note: The selected key pair will be added to the set of keys authorized for this instance. Learn more about [removing existing key pairs from a public AMI](#).

Below the text, there is a dropdown menu with the placeholder text "Choose an existing key pair". Underneath this is a section titled "Select a key pair" followed by another dropdown menu showing "Loading...".

At the bottom of the dialog, there is a checkbox with the text "I acknowledge that I have access to the corresponding private key file, and that without this file, I won't be able to log into my instance." To the right of the checkbox are two buttons: "Cancel" and "Launch Instances".

Select Create a new key pair

Keep RSA

Enter a Key pair name

Select an existing key pair or create a new key pair

A key pair consists of a **public key** that AWS stores, and a **private key file** that you store. Together, they allow you to connect to your instance securely. For Windows AMIs, the private key file is required to obtain the password used to log into your instance. For Linux AMIs, the private key file allows you to securely SSH into your instance. Amazon EC2 supports ED25519 and RSA key pair types.

Note: The selected key pair will be added to the set of keys authorized for this instance. [Learn more about removing existing key pairs from a public AMI.](#)

Create a new key pair

Key pair type

☒ RSA ☐ ED25519

Key pair name

ec2-deployment-demo

Download Key Pair

You have to download the **private key file** (\*.pem file) before you can continue. **Store it in a secure and accessible location.** You will not be able to download the file again after it's created.

Cancel

Launch Instances

Download key pair

Keep file in secure location

Do not lose or you will not be able to access your EC2 instance

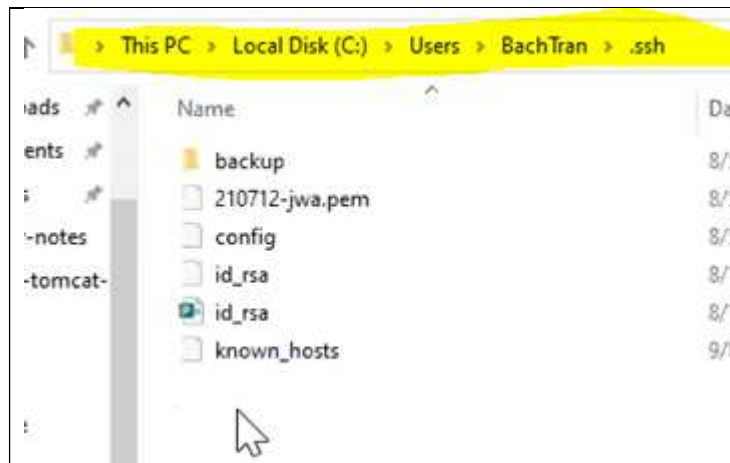
SHOULD NOT push file to git hub

ONLY share with people who will do the deployment

The file needs to be placed on your c drive under your user folder in the .ssh folder.

Download key pair  
Keep file in secure location  
Do not lose or you will not be able to access your EC2 instance  
SHOULD NOT push file to git hub  
ONLY share with people who will do the deployment

The file needs to be placed on your c drive under your user folder in the .ssh folder.

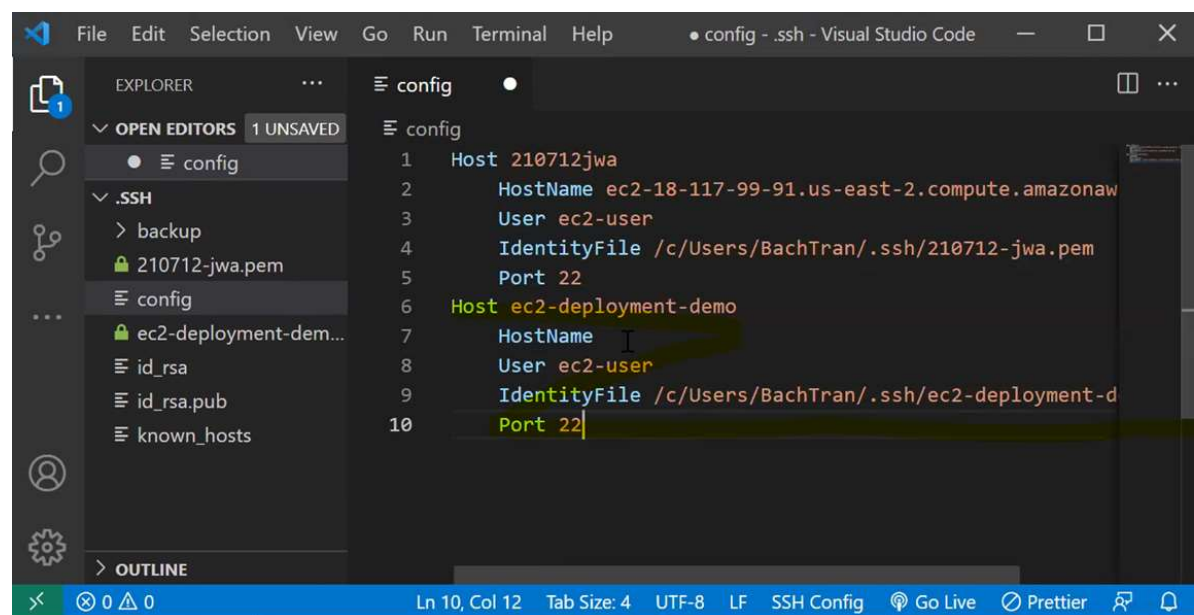


I did not have this folder so I created it.

Another file needed is a config file without an extension.

If you don't have one then create one.

The first host was already in Bach's file and don't think it is needed except for the HostName being your aws ec2 host. This should be in the ec2-deployment-demo host or whatever you call it.



You will need to wait until your instance is up and running to find the HostName for the config file.



## Select an existing key pair or create a new key pair



A key pair consists of a **public key** that AWS stores, and a **private key file** that you store. Together, they allow you to connect to your instance securely. For Windows AMIs, the private key file is required to obtain the password used to log into your instance. For Linux AMIs, the private key file allows you to securely SSH into your instance. Amazon EC2 supports ED25519 and RSA key pair types.

**Note:** The selected key pair will be added to the set of keys authorized for this instance. Learn more about [removing existing key pairs from a public AMI](#).

Create a new key pair



### Key pair type

☒ RSA ☐ ED25519

### Key pair name

ec2-deployment-demo

Download Key Pair



You have to download the **private key file** (\*.pem file) before you can continue. **Store it in a secure and accessible location.** You will not be able to download the file again after it's created.

Cancel

Launch Instances

## Launch Status



### Your instances are now launching

The following instance launches have been initiated: i-0a788d2fe24b21868 [View launch log](#)

70%



### Get notified of estimated charges

[Create billing alerts](#) to get an email notification when estimated charges on your AWS bill exceed an amount you define (for example, if you exceed the free usage tier).

### How to connect to your instances

Your instances are launching, and it may take a few minutes until they are in the **running** state, when they will be ready for you to use. Usage hours on your new instances will start immediately and continue to accrue until you stop or terminate your instances.

Click **View Instances** to monitor your instances' status. Once your instances are in the **running** state, you can **connect** to them from the Instances screen. [Find out](#) how to connect to your instances.

### Here are some helpful resources to get you started

- [How to connect to your Linux instance](#)
- [Amazon EC2: User Guide](#)
- [Learn about AWS Free Usage Tier](#)
- [Amazon EC2: Discussion Forum](#)

While your instances are launching you can also

- [Create status check alarms](#) to be notified when these instances fail status checks. (Additional charges may apply)
- [Create and attach additional EBS volumes](#) (Additional charges may apply)
- [Manage security groups](#)

View Instances

Should look something like this after starting and passing the status check.

Instances (5) <a href="#">Info</a>							
<input type="text" value="Filter instances"/>							
<input type="checkbox"/>	Name ▾	Instance ID	Instance state ▾	Instance type ▾	Status check	Alarm status	
<input type="checkbox"/>	-	i-0a57eb8bcf65c5d59	⊖ Stopped <a href="#">🔍</a>	t2.medium	-	No alarms	+
<input type="checkbox"/>	-	i-0ea1934c2998223d4	⊖ Stopped <a href="#">🔍</a>	t2.micro	-	No alarms	+
<input type="checkbox"/>	-	i-03fe8b711e54b3bf7	⊖ Stopped <a href="#">🔍</a>	t2.micro	-	No alarms	+
<input type="checkbox"/>	-	<a href="#">i-0a788d2fe24b21868</a>	✔ Running <a href="#">🔍</a>	t2.micro	✔ 2/2 checks passed	No alarms	+
<input type="checkbox"/>	-	i-03b1310074719b3eb	✔ Running <a href="#">🔍</a>	t2.micro	✔ 2/2 checks passed	No alarms	+

Now click on the instance link to go get the HostName for the config file.

Copy the Public IPv4 DNS to the HostName in your config file.

EC2 > Instances > i-0a788d2fe24b21868

### Instance summary for i-0a788d2fe24b21868 [Info](#)

Updated less than a minute ago

Instance ID

i-0a788d2fe24b21868

IPv6 address

-

Public IPv4 address

18.225.36.88 | [open address](#)

Instance state

✔ Running

Private IPv4 addresses

172.31.28.96

Public IPv4 DNS

ec2-18-225-36-88.us-east-2.compute.amazonaws.com | [open address](#)

Now we will connect to the instance using the config file through git bash

```

MINGW64:/c/Users/BachTran
AzureAD+BachTran@Rev-LR0BSME3 MINGW64 ~
$ ssh ec2-deployment-demo

```

ssh your file  
ssh amt-mvc-deploy

```

MINGW64:/c/Users/BachTran
AzureAD+BachTran@Rev-LR0BSME3 MINGW64 ~
$ ssh ec2-deployment-demo
The authenticity of host 'ec2-18-225-36-88.us-east-2.compute.amazonaws.com (18.225.36.88)' can't be established.
ECDSA key fingerprint is SHA256:H+mx21PsAmUKPyvYyRnwAka/emGR4gRBi0YS3LYPbAU.
Are you sure you want to continue connecting (yes/no/[fingerprint])? |

```

Enter yes

```
ec2-user@ip-172-31-28-96:~  
AzureAD+BachTran@Rev-LR0BSME3 MINGW64 ~  
$ ssh ec2-deployment-demo  
The authenticity of host 'ec2-18-225-36-88.us-east-2.compute.amazonaws.com (18.225.36.88)' can't be established.  
ECDSA key fingerprint is SHA256:H+mx21PsAmUKPyvYyRnwAka/emGR4gRBi0YS3LYPbAU.  
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes  
Warning: Permanently added 'ec2-18-225-36-88.us-east-2.compute.amazonaws.com,18.225.36.88' (ECDSA) to the list of known hosts.  
  
  _ | _ | _ )  
  _ | ( _ /   Amazon Linux 2 AMI  
  _ | \ _ | _ |  
  
https://aws.amazon.com/amazon-linux-2/  
[ec2-user@ip-172-31-28-96 ~]$
```

The above did not work for me at first. Instead I found the following.

If it does not work for you then something is probably wrong in your config file.

I did not have the correct User name of **ec2-user**.

Your file should look something like this:

```
Host amt-mvc-deploy  
  HostName ec2-18-117-158-53.us-east-2.compute.amazonaws.com  
  User ec2-user  
  IdentityFile /c/Users/tlw8748253/.ssh/amt-mvc-keys.pem  
  Port 22
```

There is nothing in the server directory so we need to install Git, Java and Tomcat

Do a google search for "amazon linux 2 java"



amazon linux 2 java



News

Images

Videos

Shopping

More

About 39,300,000 results (0.54 seconds)

<https://docs.aws.amazon.com/corretto/latest/amazon-linux-2-ug/amazon-linux-install.html>

## Amazon Corretto 8 Installation Instructions for Amazon Linux 2

Instructions for installing Amazon Corretto 8 on Amazon Linux 2. ... Install Amazon Corretto 8 as JDK. `sudo yum install java-1.8.0-amazon-corretto-devel`.

[Option 1: Use the yum Package Manager on Amazon Linux](#) · [Verify Your Installation](#)

<https://docs.aws.amazon.com/corretto/latest/corretto-8-ug/amazon-linux-install.html>



Search in this guide

AWS > Documentation > Corretto > Corretto 8 User Guide

### Amazon Corretto

Corretto 8 User Guide

What is Amazon Corretto 8?

List of Patches for Amazon Corretto 8

#### Linux

##### Installing on Amazon Linux 2

Installing on Debian-based, RPM-based and Alpine Linux

#### Windows

#### macOS

#### Docker

Downloads

Document History

## Amazon Corretto 8 Installation Instructions for Amazon Linux 2

[PDF](#) | [Kindle](#) | [RSS](#)

This topic describes how to install and uninstall Amazon Corretto 8 on a host or container running the Amazon Linux 2 operating system.

### Option 1: Use the yum Package Manager on Amazon Linux

#### 1. Enable the yum repository in Amazon Linux 2.

```
sudo amazon-linux-extras enable corretto8
```

#### 2. You can install Amazon Corretto 8 as either the runtime environment (JRE) or the full development environment (JDK). The development environment includes the runtime environment.

Install Amazon Corretto 8 as JRE.

```
sudo yum install java-1.8.0-amazon-corretto
```

Install Amazon Corretto 8 as JDK.

```
sudo yum install java-1.8.0-amazon-corretto-devel
```

The installation location is `/usr/lib/jvm/java-1.8.0-amazon-corretto.<cpu_arch>`.

Follow instructions on the page

## Option 1: Use the yum Package Manager on Amazon Linux

1. Enable the yum repository in Amazon Linux 2.

```
sudo amazon-linux-extras enable corretto8
```

Don't install the JRE

```
sudo yum install java-1.8.0-amazon-corretto
```

2. Install Amazon Corretto 8 as JDK.

DO install the JDK

```
sudo yum install java-1.8.0-amazon-corretto-devel
```

```
Transaction Summary
=====
Install 1 Package (+56 Dependent packages)

Total download size: 116 M
Installed size: 261 M
Is this ok [y/d/N]: |

Answer y at the prompt

Complete!
[ec2-user@ip-172-31-10-221 ~]$ |
```

Git needs to be installed as well.

```
ec2-user@ip-172-31-10-221:~
[ec2-user@ip-172-31-10-221 ~]$ git status
-bash: git: command not found
[ec2-user@ip-172-31-10-221 ~]$ |
```

```
sudo yum -y install git
```


```
ec2-user@ip-172-31-10-221:~
[ec2-user@ip-172-31-10-221 ~]$ sudo yum -y install git|
```



```
ec2-user@ip-172-31-10-221:~  
Running transaction check  
Running transaction test  
Transaction test succeeded  
Running transaction  
Installing : git-core-2.32.0-1.amzn2.0.1.x86_64 1/7  
Installing : git-core-doc-2.32.0-1.amzn2.0.1.noarch 2/7  
Installing : 1:perl-Error-0.17020-2.amzn2.noarch 3/7  
Installing : 1:emacs-filesystem-27.2-4.amzn2.0.1.noarch 4/7  
Installing : perl-TermReadKey-2.30-20.amzn2.0.2.x86_64 5/7  
Installing : perl-Git-2.32.0-1.amzn2.0.1.noarch 6/7  
Installing : git-2.32.0-1.amzn2.0.1.x86_64 7/7  
Verifying : perl-TermReadKey-2.30-20.amzn2.0.2.x86_64 1/7  
Verifying : git-core-doc-2.32.0-1.amzn2.0.1.noarch 2/7  
Verifying : perl-Git-2.32.0-1.amzn2.0.1.noarch 3/7  
Verifying : 1:emacs-filesystem-27.2-4.amzn2.0.1.noarch 4/7  
Verifying : git-2.32.0-1.amzn2.0.1.x86_64 5/7  
Verifying : git-core-2.32.0-1.amzn2.0.1.x86_64 6/7  
Verifying : 1:perl-Error-0.17020-2.amzn2.noarch 7/7  
  
Installed:  
git.x86_64 0:2.32.0-1.amzn2.0.1  
  
Dependency Installed:  
emacs-filesystem.noarch 1:27.2-4.amzn2.0.1 git-core.x86_64 0:2.32.0-1.amzn2.0.1  
git-core-doc.noarch 0:2.32.0-1.amzn2.0.1 perl-Error.noarch 1:0.17020-2.amzn2  
perl-Git.noarch 0:2.32.0-1.amzn2.0.1 perl-TermReadKey.x86_64 0:2.30-20.amzn2.0.2  
  
Complete!  
[ec2-user@ip-172-31-10-221 ~]$ git status  
fatal: not a git repository (or any of the parent directories): .git  
[ec2-user@ip-172-31-10-221 ~]$ |
```

Will need git in future to clone repositories like Jenkins

Next install Maven on Linux (Google search)

amazon linux 2 install maven

https://www.devopsnint.com › now-to-install-apache-m...

### How to Install Apache Maven on Amazon Linux 2 - DevOps Hint

Apr 29, 2021 — How to Install Apache Maven on Amazon Linux 2 · Introduction · Prerequisite ·  
#1. Install Java on Amazon Linux 2 · #2. Download Latest Apache Maven ...

https://gist.github.com › sebsto

### Install Maven with Yum on Amazon Linux - gists · GitHub

Install Maven with Yum on Amazon Linux. ... sudo yum install -y apache-maven. mvn --  
version ... andersoncarubelli commented on Dec 2, 2015 ...

<https://gist.github.com/sebsto/19b99f1fa1f32cae5d00>

← → ↻ gist.github.com/sebsto/19b99f1fa1f32cae5d00

Apps Computer Misc Personal Pinterest Pirate Resources Revature Unity Arlo Smart Home S... ATT.Net Gmail

GitHub Gist Search... All gists Back to GitHub

sebsto / gist:19b99f1fa1f32cae5d00  
Created 7 years ago • Report abuse

<> Code ↻ Revisions 1 ☆ Stars 217 🍴 Forks 99 Embe

Install Maven with Yum on Amazon Linux

gistfile1.txt Raw

```
1 sudo wget http://repos.fedorapeople.org/repos/dchen/apache-maven/epel-apache-maven.repo -O /etc/yum.repos.d/epel-apache-maven.repo
2 sudo sed -i s/\\$releasever/6/g /etc/yum.repos.d/epel-apache-maven.repo
3 sudo yum install -y apache-maven
4 mvn --version
```

Install Maven with Yum on Amazon Linux

gistfile1.txt Raw

```
1 sudo wget http://repos.fedorapeople.org/repos/dchen/apache-maven/epel-apache-maven.repo -O /etc/yum.repos.d/epel-apache-maven.repo
2 sudo sed -i s/\\$releasever/6/g /etc/yum.repos.d/epel-apache-maven.repo
3 sudo yum install -y apache-maven
4 mvn --version
```

### Copy and paste one at a time or all at once

```
sudo wget http://repos.fedorapeople.org/repos/dchen/apache-maven/epel-apache-maven.repo -O /etc/yum.repos.d/epel-apache-maven.repo
```

```
sudo sed -i s/\\$releasever/6/g /etc/yum.repos.d/epel-apache-maven.repo
```

```
sudo yum install -y apache-maven
```

```
mvn --version
```

```
Complete!
[ec2-user@ip-172-31-10-221 ~]$ mvn --version
mvn --version
Apache Maven 3.5.2 (138edd61fd100ec658bfa2d307c43b76940a5d7d; 2017-10-18T07:58:13Z)
Maven home: /usr/share/apache-maven
Java version: 1.7.0_261, vendor: Oracle Corporation
Java home: /usr/lib/jvm/java-1.7.0-openjdk-1.7.0.261-2.6.22.2.amzn2.0.1.x86_64/jre
Default locale: en_US, platform encoding: UTF-8
OS name: "linux", version: "4.14.243-185.433.amzn2.x86_64", arch: "amd64", family: "unix"
[ec2-user@ip-172-31-10-221 ~]$ |
```

You can also check the Java version

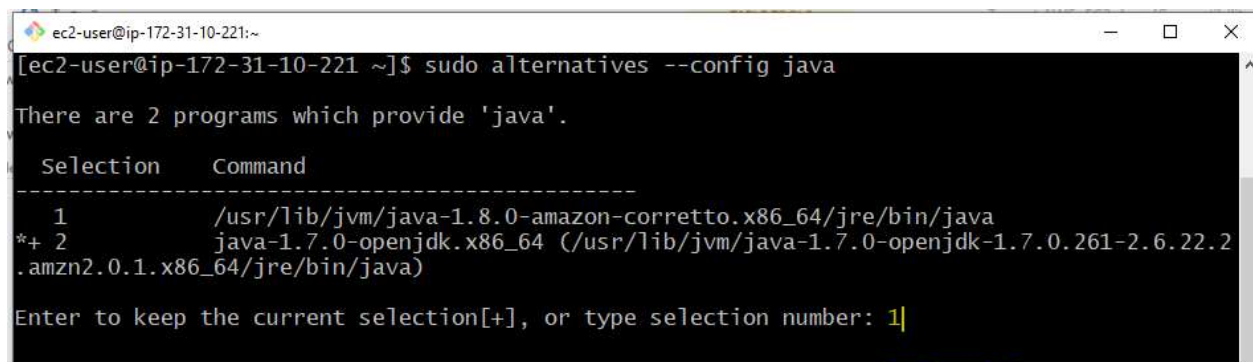
java -version

```
ec2-user@ip-172-31-10-221:~
[ec2-user@ip-172-31-10-221 ~]$ java -version
java version "1.7.0_261"
OpenJDK Runtime Environment (rhel-2.6.22.2.amzn2.0.1-x86_64 u261-b02)
OpenJDK 64-Bit Server VM (build 24.261-b02, mixed mode)
[ec2-user@ip-172-31-10-221 ~]$ |
```

It appears that Java 1.8 was not installed and not installed for Bach as well so:  
Further down the AWS page are other sudo commands.

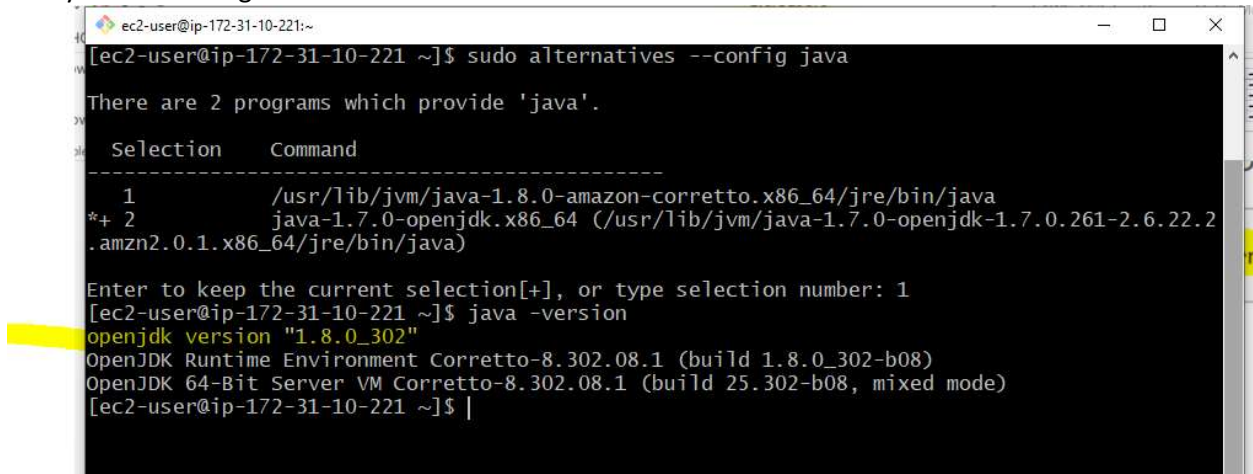


`sudo alternatives --config java`



Enter 1 for java 1.8

Verify the version again:



Now it is java 1.8

However javac version is not correct:

```
ec2-user@ip-172-31-10-221:~  
[ec2-user@ip-172-31-10-221 ~]$ javac -version  
javac 1.7.0_261  
[ec2-user@ip-172-31-10-221 ~]$ |
```

Instances | EC2 Management Console | Amazon Corretto 8 Installation Instructions | Install Maven with Yum on Amazon Linux 2

docs.aws.amazon.com/corretto/latest/corretto-8-ug/amazon-linux-install.html

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aws Search in this guide

AWS > Documentation > Corretto > Corretto 8 User Guide

Amazon Corretto Corretto 8 User Guide

What is Amazon Corretto 8?

List of Patches for Amazon Corretto 8

If using the JDK you should also run:

```
sudo alternatives --config javac
```

sudo alternatives --config javac

```
ec2-user@ip-172-31-10-221:~  
[ec2-user@ip-172-31-10-221 ~]$ javac -version  
javac 1.7.0_261  
[ec2-user@ip-172-31-10-221 ~]$ sudo alternatives --config javac  
There are 2 programs which provide 'javac'.  


| Selection | Command                                                                                                      |
|-----------|--------------------------------------------------------------------------------------------------------------|
| 1         | /usr/lib/jvm/java-1.8.0-amazon-corretto.x86_64/bin/javac                                                     |
| *+ 2      | java-1.7.0-openjdk.x86_64 (/usr/lib/jvm/java-1.7.0-openjdk-1.7.0.261-2.6.22.2.el.amzn2.0.1.x86_64/bin/javac) |

  
Enter to keep the current selection[+], or type selection number: 1|
```

Enter 1 again

Verify both:

```
ec2-user@ip-172-31-10-221:~  
[ec2-user@ip-172-31-10-221 ~]$ java -version  
openjdk version "1.8.0_302"  
OpenJDK Runtime Environment Corretto-8.302.08.1 (build 1.8.0_302-b08)  
OpenJDK 64-Bit Server VM Corretto-8.302.08.1 (build 25.302-b08, mixed mode)  
[ec2-user@ip-172-31-10-221 ~]$ javac -version  
javac 1.8.0_302  
[ec2-user@ip-172-31-10-221 ~]$ |
```

Maven is also at 1.8



```
ec2-user@ip-172-31-10-221:~  
[ec2-user@ip-172-31-10-221 ~]$ mvn -version  
Apache Maven 3.5.2 (138ed61fd100ec658bfa2d307c43b76940a5d7d; 2017-10-18T07:58:13Z)  
Maven home: /usr/share/apache-maven  
Java version: 1.8.0_302, vendor: Amazon.com Inc.  
Java home: /usr/lib/jvm/java-1.8.0-amazon-corretto.x86_64/jre  
Default locale: en_US, platform encoding: UTF-8  
OS name: "linux", version: "4.14.243-185.433.amzn2.x86_64", arch: "amd64", family: "unix"  
[ec2-user@ip-172-31-10-221 ~]$ |
```

Next download Tomcat

<https://mirrors.gigenet.com/apache/tomcat/>

The screenshot shows a web browser window with the address bar displaying <https://mirrors.gigenet.com/apache/tomcat/>. Below the address bar, there are several tabs labeled 'Apps', 'Computer', 'Misc', 'Personal', 'Pinterest', 'Pirate', and 'Reso'. The main content area displays the 'Index of /apache/tomcat/' with a list of links and their corresponding dates and times. The links are: [../](#), [jakartaee-migration/](#), [maven-plugin/](#), [taglibs/](#), [tomcat-10/](#), [tomcat-8/](#), [tomcat-9/](#), and [tomcat-connectors/](#). The dates and times for these links are: 08-May-2021 18:04, 03-Jul-2020 04:17, 03-Jul-2020 04:17, 03-Jul-2020 04:17, 10-Sep-2021 06:18, 09-Sep-2021 19:19, 10-Sep-2021 07:18, and 03-Jul-2020 04:17. Below this, there is a section titled 'Index of /apache/tomcat/tomcat-9/' with a list of links and their corresponding dates and times. The links are: [../](#), [v9.0.52/](#), and [v9.0.53/](#). The dates and times for these links are: 06-Aug-2021 05:51 and 10-Sep-2021 07:18.

Link	Date	Time
<a href="#">../</a>	08-May-2021	18:04
<a href="#">jakartaee-migration/</a>	03-Jul-2020	04:17
<a href="#">maven-plugin/</a>	03-Jul-2020	04:17
<a href="#">taglibs/</a>	03-Jul-2020	04:17
<a href="#">tomcat-10/</a>	10-Sep-2021	06:18
<a href="#">tomcat-8/</a>	09-Sep-2021	19:19
<a href="#">tomcat-9/</a>	10-Sep-2021	07:18
<a href="#">tomcat-connectors/</a>	03-Jul-2020	04:17

Link	Date	Time
<a href="#">../</a>	06-Aug-2021	05:51
<a href="#">v9.0.52/</a>	10-Sep-2021	07:18
<a href="#">v9.0.53/</a>	10-Sep-2021	07:18

Bach installed v9.0.52 on Sept 8<sup>th</sup>. A newer version was added on Sept 10<sup>th</sup>. I installed v9.0.52 to be consistent with the video and his instructions.

<https://mirrors.gigenet.com/apache/tomcat/tomcat-9/v9.0.52/>



## Index of /apache/tomcat/tomcat-9/v9.0.52/

../	
<a href="#">bin/</a>	06-Aug-2021 05:51
<a href="#">src/</a>	06-Aug-2021 05:51
<a href="#">README.html</a>	31-Jul-2021 04:22
<a href="#">RELEASE-NOTES</a>	31-Jul-2021 04:22

Click bin link

<https://mirrors.gigenet.com/apache/tomcat/tomcat-9/v9.0.52/bin/>

## Index of /apache/tomcat/tomcat-9/v9.0.52/bin/

../		
<a href="#">embed/</a>	06-Aug-2021 05:51	-
<a href="#">README.html</a>	31-Jul-2021 04:22	3739
<a href="#">apache-tomcat-9.0.52-deployer.tar.gz</a>	31-Jul-2021 04:22	2797663
<a href="#">apache-tomcat-9.0.52-deployer.zip</a>	31-Jul-2021 04:22	2811317
<a href="#">apache-tomcat-9.0.52-fulldocs.tar.gz</a>	31-Jul-2021 04:22	6558790
<a href="#">apache-tomcat-9.0.52-windows-x64.zip</a>	31-Jul-2021 04:22	12785607
<a href="#">apache-tomcat-9.0.52-windows-x86.zip</a>	31-Jul-2021 04:22	12587985
<a href="#">apache-tomcat-9.0.52.exe</a>	31-Jul-2021 04:22	12325744
<a href="#">apache-tomcat-9.0.52.tar.gz</a>	31-Jul-2021 04:22	11524133
<a href="#">apache-tomcat-9.0.52.zip</a>	31-Jul-2021 04:22	12064979

Need: apache-tomcat-9.0.52.tar.gz

<https://mirrors.gigenet.com/apache/tomcat/tomcat-9/v9.0.52/bin/apache-tomcat-9.0.52.tar.gz>

run wget command

[wget https://mirrors.gigenet.com/apache/tomcat/tomcat-9/v9.0.52/bin/apache-tomcat-9.0.52.tar.gz](https://mirrors.gigenet.com/apache/tomcat/tomcat-9/v9.0.52/bin/apache-tomcat-9.0.52.tar.gz)

```

ec2-user@ip-172-31-10-221:~
[ec2-user@ip-172-31-10-221 ~]$ mvn -version
Apache Maven 3.5.2 (138ed61fd100ec658bfa2d307c43b76940a5d7d; 2017-10-18T07:58:13Z)
Maven home: /usr/share/apache-maven
Java version: 1.8.0_302, vendor: Amazon.com Inc.
Java home: /usr/lib/jvm/java-1.8.0-amazon-corretto.x86_64/jre
Default locale: en_US, platform encoding: UTF-8
OS name: "linux", version: "4.14.243-185.433.amzn2.x86_64", arch: "amd64", family: "unix"
[ec2-user@ip-172-31-10-221 ~]$ wget https://mirrors.gigenet.com/apache/tomcat/tomcat-9/v9.0.52/bin/apache-tomcat-9.0.52.tar.gz
--2021-09-11 00:35:10-- https://mirrors.gigenet.com/apache/tomcat/tomcat-9/v9.0.52/bin/apache-tomcat-9.0.52.tar.gz
Resolving mirrors.gigenet.com (mirrors.gigenet.com)... 69.65.16.171, 2001:1850:f000:f000:f000:f000::
Connecting to mirrors.gigenet.com (mirrors.gigenet.com)|69.65.16.171|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 11524133 (11M) [application/octet-stream]
Saving to: 'apache-tomcat-9.0.52.tar.gz'

100%[=====>] 11,524,133 29.1MB/s in 0.4s

2021-09-11 00:35:11 (29.1 MB/s) - 'apache-tomcat-9.0.52.tar.gz' saved [11524133/11524133]

[ec2-user@ip-172-31-10-221 ~]$

```

```

ec2-user@ip-172-31-10-221:~
[ec2-user@ip-172-31-10-221 ~]$ ls
apache-tomcat-9.0.52.tar.gz
[ec2-user@ip-172-31-10-221 ~]$ |

```

Now unzip the tar file:

tar -zxvf apache-tomcat-9.0.52.tar.gz

```

ec2-user@ip-172-31-10-221:~
[ec2-user@ip-172-31-10-221 ~]$ ls
apache-tomcat-9.0.52.tar.gz
[ec2-user@ip-172-31-10-221 ~]$ tar -zxvf apache-tomcat-9.0.52.tar.gz|

```

```

ec2-user@ip-172-31-10-221:~
[ec2-user@ip-172-31-10-221 ~]$ ls
apache-tomcat-9.0.52 apache-tomcat-9.0.52.tar.gz
[ec2-user@ip-172-31-10-221 ~]$ |

```

Creates directory: `apache-tomcat-9.0.52`

cd `apache-tomcat-9.0.52`

ls

```

ec2-user@ip-172-31-10-221:~/apache-tomcat-9.0.52
[ec2-user@ip-172-31-10-221 ~]$ ls
apache-tomcat-9.0.52 apache-tomcat-9.0.52.tar.gz
[ec2-user@ip-172-31-10-221 ~]$ cd apache-tomcat-9.0.52
[ec2-user@ip-172-31-10-221 apache-tomcat-9.0.52]$ ls
bin BUILDING.txt conf CONTRIBUTING.md lib LICENSE logs NOTICE README.md RELEASE-NOTES RUNNING.txt temp webapps work
[ec2-user@ip-172-31-10-221 apache-tomcat-9.0.52]$ |

```

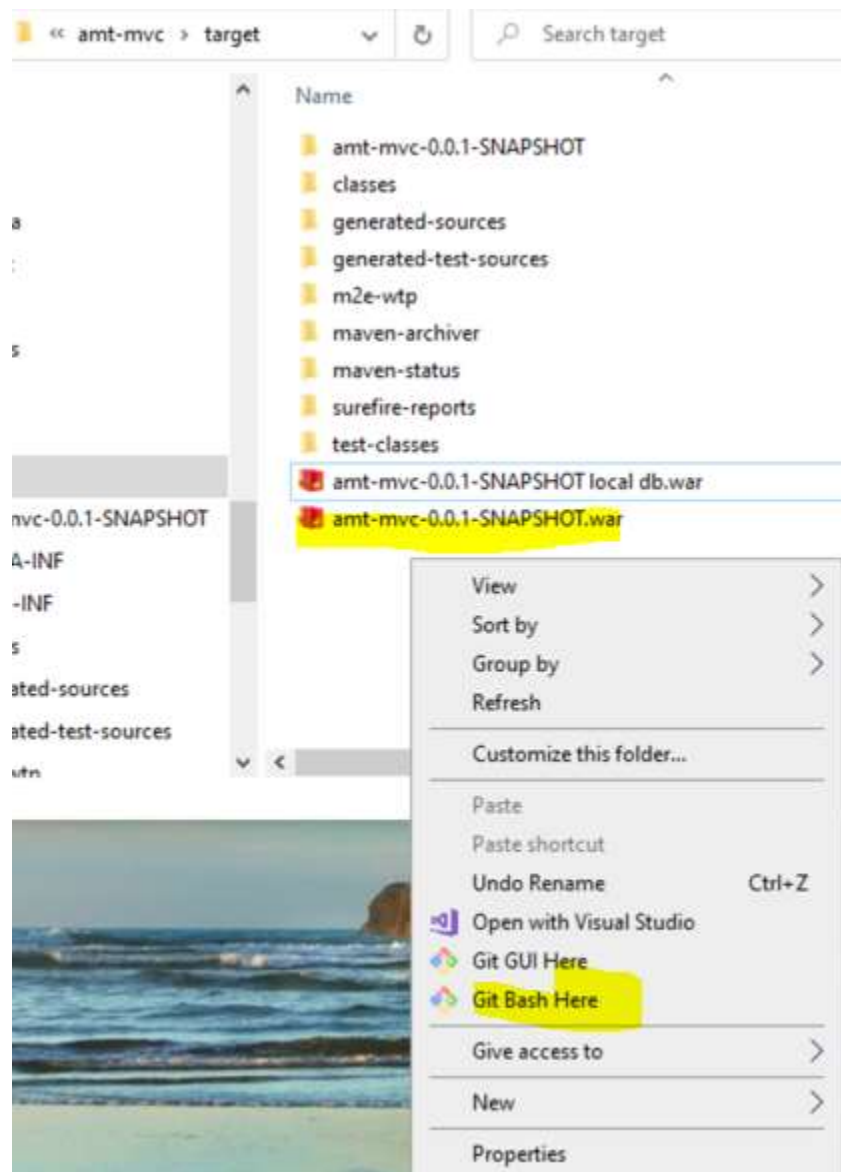
Has same directory structure as on our local machine

Need to copy our war file to Tomcat on AWS.  
Will be using scp commands for more info:

<https://linuxize.com/post/how-to-use-scp-command-to-securely-transfer-files/>

```
scp [OPTION] [user@]SRC_HOST:]file1 [user@]DEST_HOST:]file2
```

First using Windows explorer navigate to the directory with the war file to upload  
Right click and open git bash



In the other git bash window you want to be in /home/ec2-user

```
ec2-user@ip-172-31-10-221:~  
[ec2-user@ip-172-31-10-221 ~]$ pwd  
/home/ec2-user  
[ec2-user@ip-172-31-10-221 ~]$ |
```

In war file git bash do ls

```
MINGW64:/c:/Users/tlw8748253/Desktop/Projects/amt-mvc/target  
tlw8748253@TLW8748253-DL13 MINGW64 ~/Desktop/Projects/amt-mvc/target (main)  
$ ls  
amt-mvc-0.0.1-SNAPSHOT/      m2e-wtp/  
'amt-mvc-0.0.1-SNAPSHOT local db.war'  maven-archiver/  
amt-mvc-0.0.1-SNAPSHOT.war  maven-status/  
classes/                   surefire-reports/  
generated-sources/         test-classes/  
generated-test-sources/  
tlw8748253@TLW8748253-DL13 MINGW64 ~/Desktop/Projects/amt-mvc/target (main)
```

Where: **amt-mvc-0.0.1-SNAPSHOT.war** is the name of your war file.

```
scp amt-mvc-0.0.1-SNAPSHOT.war amt-mvc-deploy:/home/ec2-user
```

```
scp amt-mvc.war amt-mvc-deploy:/home/ec2-user
```

with this config file in the .ssh directory

```
Host amt-mvc-deploy  
HostName ec2-18-216-251-223.us-east-2.compute.amazonaws.com  
User ec2-user  
IdentityFile /c/Users/tlw8748253/.ssh/amt-mvc-keys.pem  
Port 22
```

```
[ec2-user@ip-172-31-10-221 ~]$  
[ec2-user@ip-172-31-10-221 ~]$  
[ec2-user@ip-172-31-10-221 ~]$ ls  
amt-mvc-0.0.1-SNAPSHOT.war  apache-tomcat-9.0.52  apache-tomcat-9.0.52.tar.gz  
[ec2-user@ip-172-31-10-221 ~]$ |
```

Verify file is on server with ls command

Rename file with mv command:

```
mv amt-mvc-0.0.1-SNAPSHOT.war amt-mvc.war
```



```
ec2-user@ip-172-31-10-221:~
[ec2-user@ip-172-31-10-221 ~]$ ls
amt-mvc.war  apache-tomcat-9.0.52  apache-tomcat-9.0.52.tar.gz
[ec2-user@ip-172-31-10-221 ~]$ |
```

Now move the file to the apache directory

mv amt-mvc.war apache-tomcat-9.0.52/webapps/

```
[ec2-user@ip-172-31-10-221 ~]$ ls
apache-tomcat-9.0.52  apache-tomcat-9.0.52.tar.gz
[ec2-user@ip-172-31-10-221 ~]$ ls apache-tomcat-9.0.52/webapps/
amt-mvc.war  docs  examples  host-manager  manager  ROOT
[ec2-user@ip-172-31-10-221 ~]$ |
```

Go to apache bin directory

cd apache-tomcat-9.0.52/bin

```
[ec2-user@ip-172-31-10-221 bin]$ ls
bootstrap.jar          configtest.sh          shutdown.sh
catalina.bat           daemon.sh              startup.bat
catalina.sh            digest.bat             startup.sh
catalina-tasks.xml     digest.sh              tomcat-juli.jar
ciphers.bat            makebase.bat           tomcat-native.tar.gz
ciphers.sh             makebase.sh            tool-wrapper.bat
commons-daemon.jar     setclasspath.bat       tool-wrapper.sh
commons-daemon-native.tar.gz setclasspath.sh        version.bat
configtest.bat         shutdown.bat           version.sh
[ec2-user@ip-172-31-10-221 bin]$ ^C
[ec2-user@ip-172-31-10-221 bin]$ |
```

Run the startup script

./startup.sh

```
[ec2-user@ip-172-31-10-221 bin]$ ./startup.sh
Using CATALINA_BASE:   /home/ec2-user/apache-tomcat-9.0.52
Using CATALINA_HOME:   /home/ec2-user/apache-tomcat-9.0.52
Using CATALINA_TMPDIR: /home/ec2-user/apache-tomcat-9.0.52/temp
Using JRE_HOME:        /usr
Using CLASSPATH:        /home/ec2-user/apache-tomcat-9.0.52/bin/bootstrap.jar:/home/ec2-user/apache-tomcat-9.0.52/bin/tomcat-juli.jar
Using CATALINA_OPTS:
Tomcat started.
[ec2-user@ip-172-31-10-221 bin]$ |
```

To stop the Tomcat use:

./shutdown.sh


In the bin directory

Do not stop it at this time



Now try and send in a request.  
You will need your instance's public IPv4

Public IPv4 DNS

 ec2-18-216-251-223.us-east-2.compute.amazonaws.com

ec2-18-216-251-223.us-east-2.compute.amazonaws.com

replace localhost in Postman urls: http://localhost:8080/amt-mvc/hello from

from localhost to your instance's public IPv4 like mine:

ec2-18-117-158-53.us-east-2.compute.amazonaws.com

Which results in:

**http://ec2-18-117-158-53.us-east-2.compute.amazonaws.com:8080/amt-mvc/hello**



Hello world!

At the time of writing this document the above url is working and EC2 instance is up and running if you want to try from a browser.

**NOTE:** the AWS endpoint will change any time you restart the EC2 instance.

**This should conclude the building and deployment of the EC2 instance.**