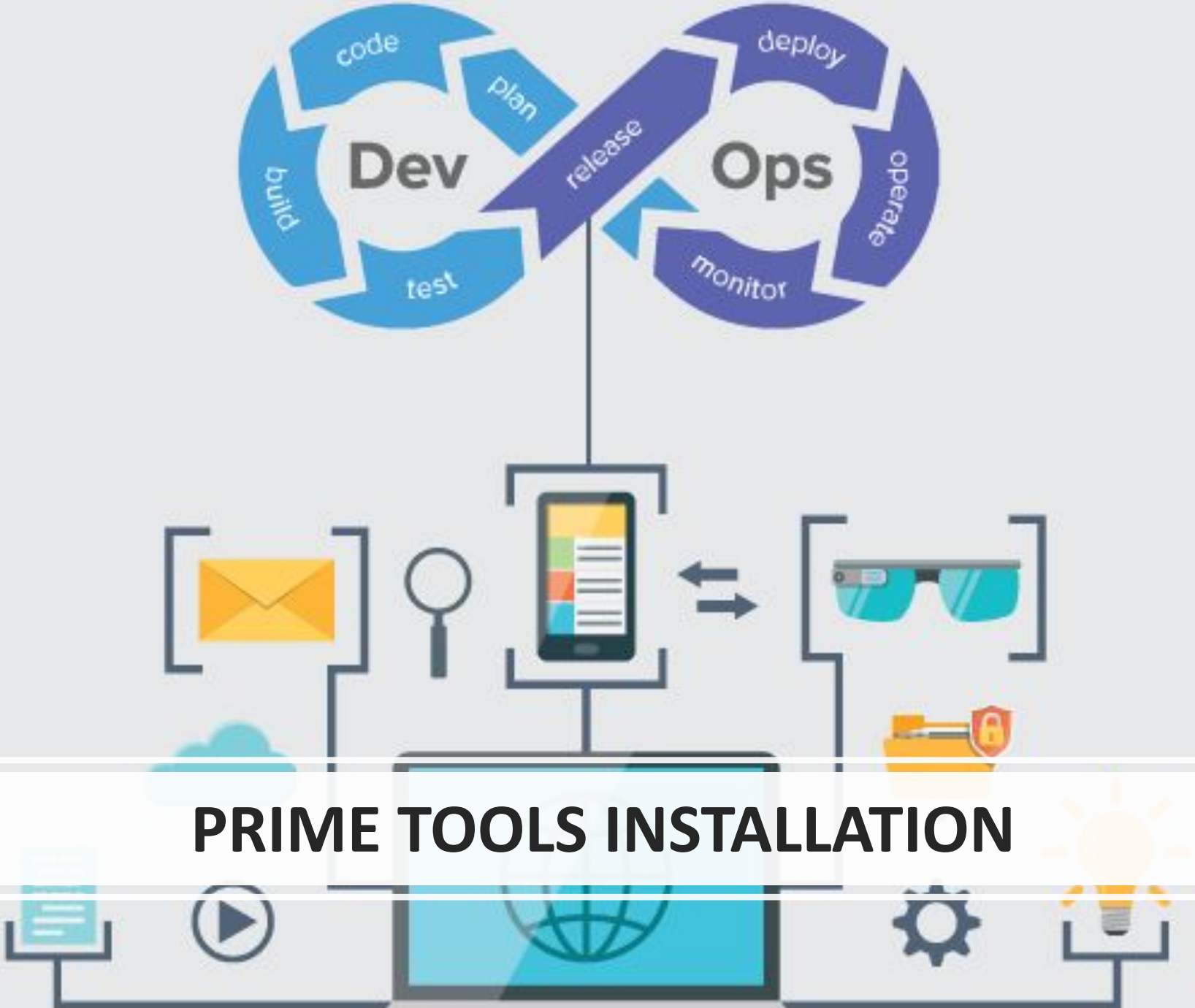


PRIME TOOLS INSTALLATION

GITHUB KB - EVERY WEEK THE REFERENCE DOCUMENTS WILL BE HERE

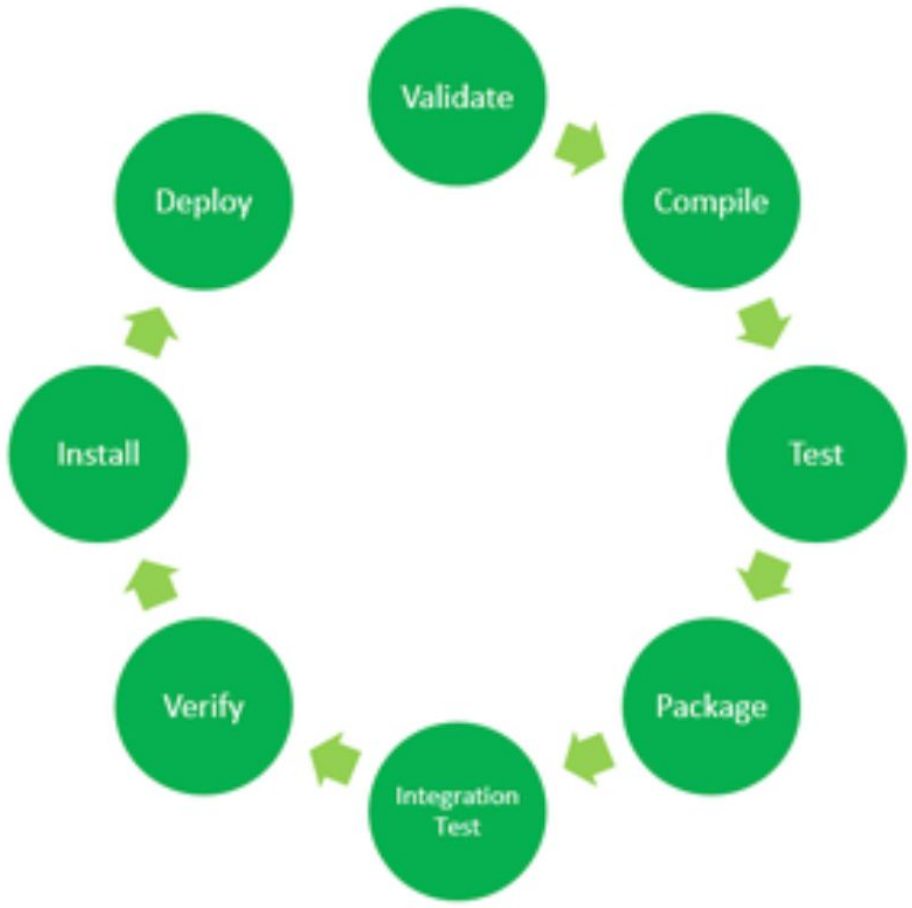
- https://github.com/praveen1994dec/Knowledge_Base.git

This github repo is for reference documents only

Github and all tools installation setup will be done shortly :)

Maven

- **Maven Lifecycle:** Below is a representation of the default Maven lifecycle and its 8 steps: Validate, Compile, Test, Package, Integration test, Verify, Install, and Deploy.



8 Phases of the Default Maven Lifecycle

1. **Validate:** This step validates if the project structure is correct. For example – It checks if all the dependencies have been downloaded and are available in the local repository.
2. **Compile:** It compiles the source code, converts the .java files to .class, and stores the classes in the target/classes folder.
3. **Test:** It runs unit tests for the project.
4. **Package:** This step packages the compiled code in a distributable format like JAR or WAR.
5. **Integration test:** It runs the integration tests for the project.
6. **Verify:** This step runs checks to verify that the project is valid and meets the quality standards.
7. **Install:** This step installs the packaged code to the local Maven repository.
8. **Deploy:** It copies the packaged code to the remote repository for sharing it with other developers.

•**mvn clean:** Cleans the project and removes all files generated by the previous build.
•**mvn compile:** Compiles source code of the project.
•**mvn test-compile:** Compiles the test source code.
•**mvn test:** Runs tests for the project.
•**mvn package:** Creates JAR or WAR file for the project to convert it into a distributable format.
•**mvn install:** Deploys the packaged JAR/ WAR file to the local repository.
•**mvn site:** generate the project documentation.
•**mvn validate:** validate the project's POM and configuration.
•**mvn idea:idea:** generate project files for IntelliJ IDEA or Eclipse.
•**mvn release:perform:** Performs a release build.
•**mvn deploy:** Copies the packaged JAR/ WAR file to the remote repository after compiling, running tests and building the project.

Curl vs Wget

- Curl is designed to be a more versatile tool and can handle a variety of data formats, including JSON, XML, and CSV. It is also able to upload data and interact with APIs.

- Wget, on other hand, is designed to be a simple, reliable tool for dowloading files.

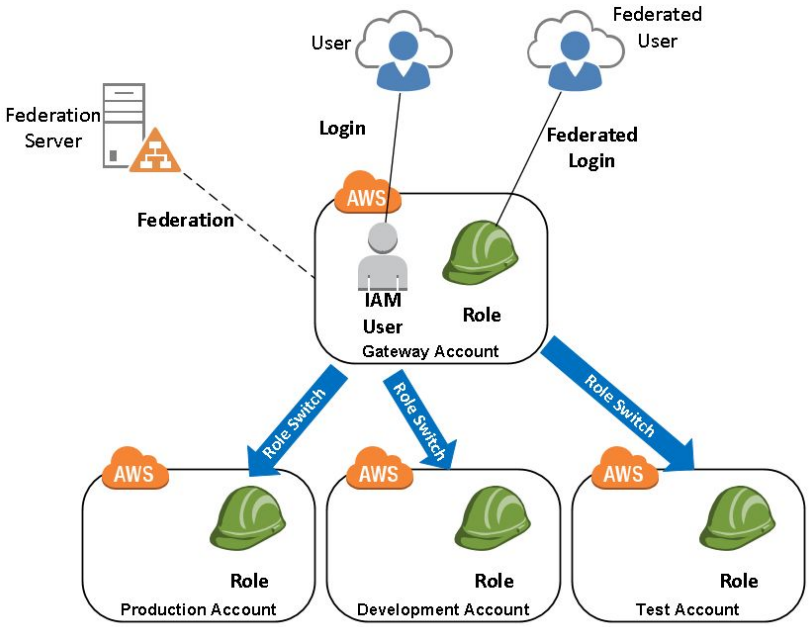
CURL	WGET
Supports a wide range of protocols, including HTTP, HTTPS, FTP, FTPS, SCP, SFTP, and more.	Supports HTTP and FTP protocols.
Can handle a variety of data formats, including JSON, XML, and CSV.	Can download recursively to download all linked files.
Supports authentication and cookies.	Can handle slow or unstable connections with ease.
Can interact with APIs.	Can resume interrupted downloads.

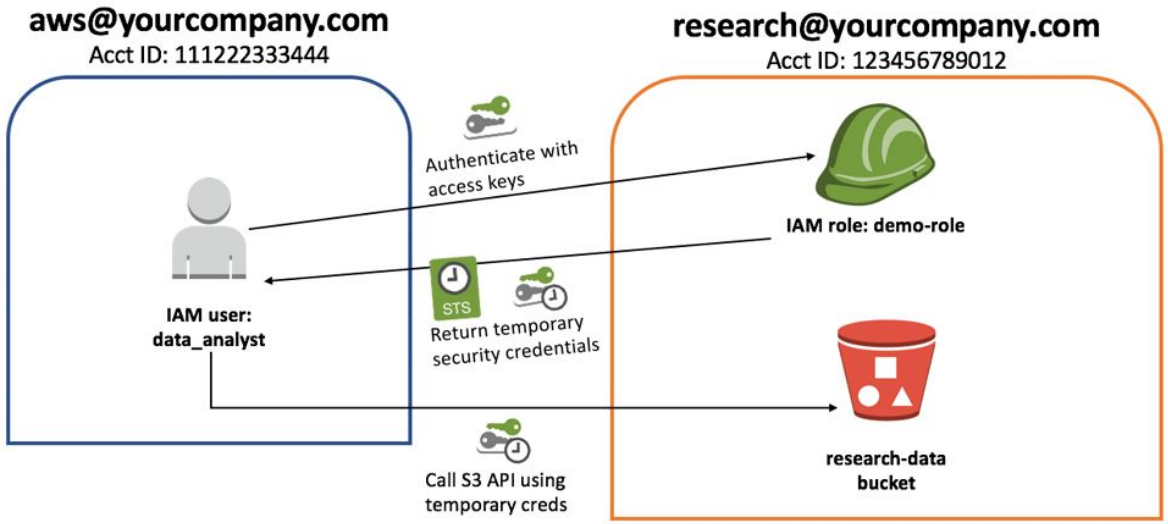
IAM Roles

- AWS Identity and Access Management (IAM) is a web service that helps you securely control access to AWS resources. You use IAM to control who is authenticated (signed in) and authorized (has permissions) to use resources.

Features

- Shared access to your AWS account
- Secure access to AWS resources for applications that run on Amazon EC2
- Multi-factor authentication (MFA)
- Identity federation





AWS LOGIN

- https://aws.amazon.com/console/
- Create IAM user
- Complete and download the csv

User name

singambatch

The user name can have up to 64 characters. Valid characters: A-Z, a-z, 0-9, and + = , . @ _ - (hyphen)

☑ Provide user access to the AWS Management Console - *optional*

If you're providing console access to a person, it's a best practice to manage their access in IAM Identity Center.

Are you providing console access to a person?

○ Specify a user in Identity Center - Recommended

We recommend that you use Identity Center to provide console access to a person. With Identity Center, you can centrally manage user access to the applications.

◉ I want to create an IAM user

We recommend that you create IAM users only if you need to enable programmatic access through access keys, service-specific credentials for AWS C a backup credential for emergency account access.

Console password

○ Autogenerated password

You can view the password after you create the user.

◉ Custom password

Enter a custom password for the user.

••••••••••••••

- Must be at least 8 characters long
- Must include at least three of the following mix of character types: uppercase letters (A-Z), lowercase letters (a-z), numbers (0-9), and symbols ! @ # $ %

☐ Show password

☐ Users must create a new password at next sign-in (recommended).

Users automatically get the IAMUserChangePassword policy to allow them to change their own password.

Set permissions

Add user to an existing group or create a new one. Using groups is a best-practice way to manage user's permissions by job functions. Learn more

Permissions options

◉ Add user to group
Add user to an existing group, or create a new group. We recommend using groups to manage user permissions by job function.

○ Copy permissions
Copy all group memberships, attached managed policies, and inline policies from an existing user.

○ Attach policies directly
Attach a managed policy directly to a user. As a best practice, we recommend attaching policies to a group instead. Then, add the user to the appropriate group.

Get started with groups
Create a group and select policies to attach to the group. We recommend using groups to manage user permissions by job function, AWS service access, or custom permissions. Learn more

Create group

▸ **Permissions boundary** - *optional*
Set a permissions boundary to control the maximum permissions for this user. Use this advanced feature used to delegate permission management to others. Learn more

Cancel | Previous | Next

Save the file

Retrieve password

You can view and download the user's password below or email users instructions for signing in to the AWS Management Console. This is the only time you can view and download this password.

Console sign-in details

Email sign-in instructions

Console sign-in URL

https://164297528770.signin.aws.amazon.com/console

User name

singambatch

Console password

********** Show

Download .csv file

Return to users list

Create the Keys

IAM > Users > singambatch > Create access key

Step 1
Access key best practices & alternatives

Step 2 - *optional*
Set description tag

Step 3
Retrieve access keys

Access key best practices & alternatives

Avoid using long-term credentials like access keys to improve your security. Consider the following use cases and alternatives.

- Command Line Interface (CLI)
  You plan to use this access key to enable the AWS CLI to access your AWS account.
- Local code
  You plan to use this access key to enable application code in a local development environment to access your AWS account.
- Application running on an AWS compute service
  You plan to use this access key to enable application code running on an AWS compute service like Amazon EC2, Amazon ECS, or AWS Lambda to access your AWS account.
- Third-party service
  You plan to use this access key to enable access for a third-party application or service that monitors or manages your AWS resources.
- Application running outside AWS
  You plan to use this access key to enable an appli
  client or third-party AWS plugin.
- Other
  Your use case is not listed here.

Alternative recommended
Use an Integrated Development Enviro
Identity Center. Learn more

I understand the above recommendation and

IAM > Users > singambatch > Create access key

Step 1
Access key best practices & alternatives

Step 2 - *optional*
Set description tag

Step 3
Retrieve access keys

Retrieve access keys

Access key

If you lose or forget your secret access key, you cannot retrieve it. Instead, create a new access key and make the old key inactive.

Access key	Secret access key
AKIA3MQHFRXBJKOPSLX	********** Show

Access key best practices

- Never store your access key in plain text, in a code repository, or in code.
- Disable or delete access key when no longer needed.
- Enable least-privilege permissions.
- Rotate access keys regularly.

For more details about managing access keys, see the Best practices for managing AWS access keys.

Download .csv file | Done

Add EC2 Permissions to User

IAM > Users > devops

devops

Go to Users -> Username-> Click on Permission-> Add policy->Attach Policy directly

Summary

ARN
arn:aws:iam::164297528770:user/devops

Console access
Enabled without MFA

Created
May 28, 2023, 10:24 (UTC+05:30)

Last console sign-in
Never

Add

1) Administrator Access
2) AmzonEC2FullAcess

Permissions | Groups | Tags (1) | Security credentials | Access Advisor

Console sign-in

Console sign-in link

Console password

Permissions | Groups | Tags (1) | Security credentials | Access Advisor

Permissions policies (2)

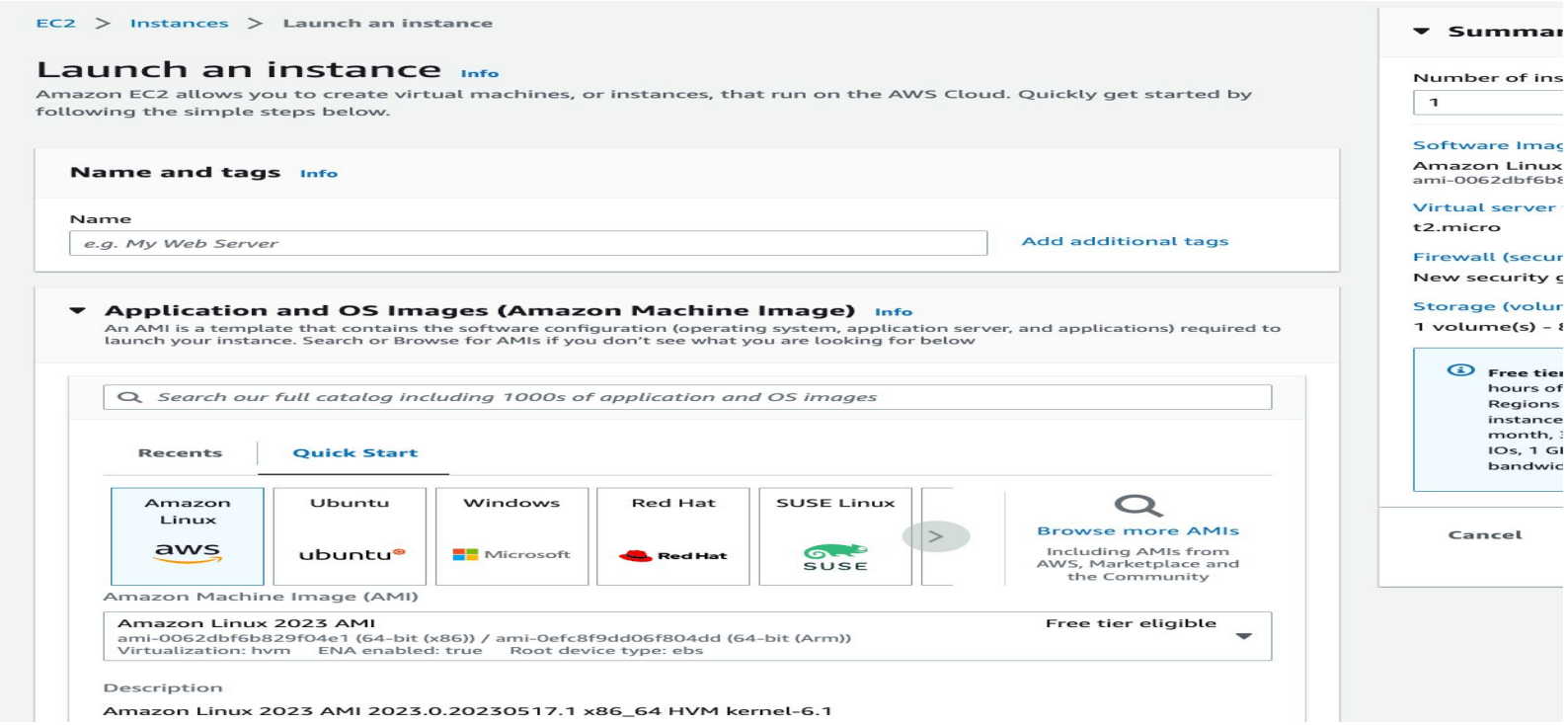
Permissions are defined by policies attached to the user directly or through groups.

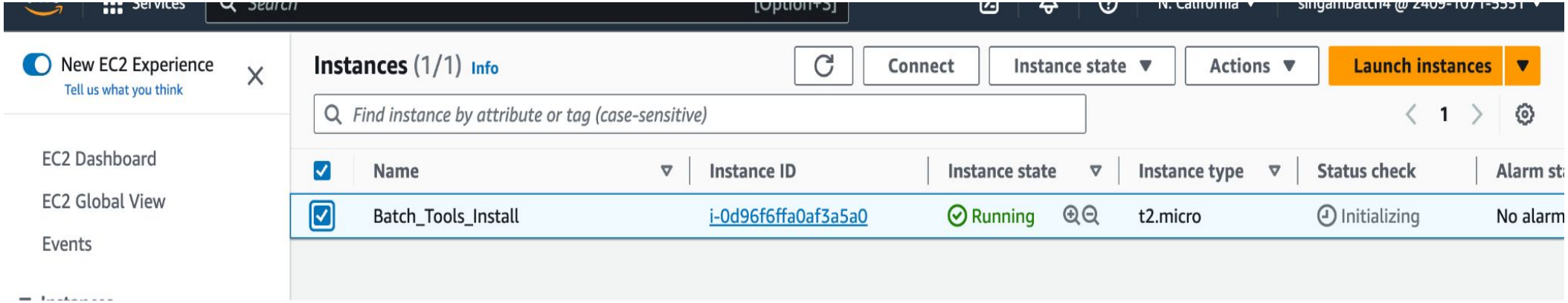
Remove | Add permissi

Search | All types | 1

Policy name	Type	Attached via
AdministratorAccess	AWS managed - job function	Directly
AmazonEC2FullAccess	AWS managed	Directly

Create the EC2 Instance in US-WEST-1 region/T2 MICRO/8 GB





SOFTWARES DOWNLOAD

1. **Visual Studio Code [IN LAPTOP TO VISUALIZE THE CODE]**

   https://code.visualstudio.com/download

   2. Python Install. —> python3 –version [IN EC2]

   yum install python

   python –-version

   3. Install AWS CLI [IN EC2]

curl "https://awscli.amazonaws.com/awscli-exe-linux-x86_64.zip" -o "awscliv2.zip"

yum install unzip

unzip awscliv2.zip

./aws/install

aws --version

4) Install Git [IN EC2]

yum install git

CREATE THE GITHUB ACCOUNT - **https://github.com/DEVOPS-WITH-WEB-DEV/Splunk_Grafana_Setup.git**

git clone **https://github.com/DEVOPS-WITH-WEB-DEV/Splunk_Grafana_Setup.git**

5) Install Java [IN EC2]

yum install java

java –version

6) Install Maven [IN EC2]

cd /opt/

wget http://mirrors.estointernet.in/apache/maven/maven-3/3.6.3/binaries/apache-maven-3.6.3-bin.tar.gz

tar xvzf apache-maven-3.6.3-bin.tar.gz

vim /etc/profile.d/maven.sh

export MAVEN_HOME=/opt/apache-maven-3.6.3

export PATH=$PATH:$MAVEN_HOME/bin

mvn -v

7**) Install Jenkins [Jenkins Always Updates the packages so make sure if any error google it]**

```
cd /opt/
sudo yum update –y
sudo wget -O /etc/yum.repos.d/jenkins.repo http://pkg.jenkins.io/redhat/jenkins.repo
sudo rpm --import https://pkg.jenkins.io/redhat/jenkins.io-2023.key
sudo yum install jenkins -y
systemctl daemon-reload
sudo systemctl start jenkins
sudo systemctl enable Jenkins
systemctl status jenkins
```

8) **Install Docker [IN EC2]**

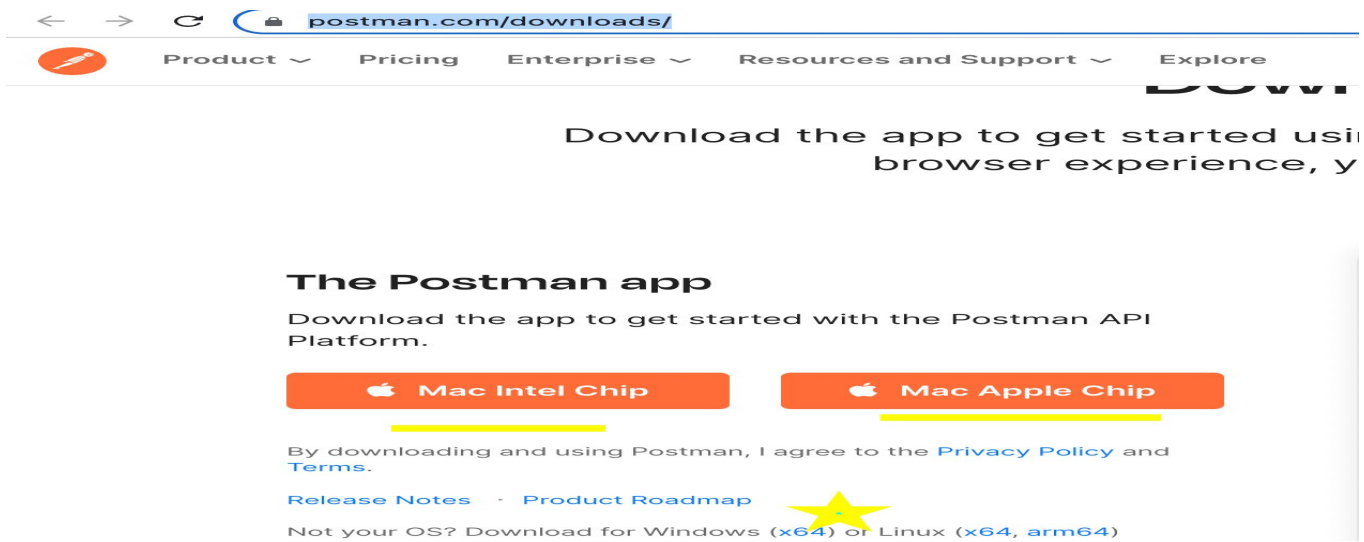
```
yum install docker -y
usermod -aG docker jenkins [ Add jenkins user to docker group ]
systemctl start docker
systemctl enable docker
```

9) **Install Kubectl [IN EC2]**

```
curl -o kubectl
https://amazon-eks.s3-us-west-2.amazonaws.com/1.14.6/2019-08-22/
bin/linux/amd64/kubectl
chmod +x ./kubectl
mkdir -p $HOME/bin
cp ./kubectl $HOME/bin/kubectl
export PATH=$HOME/bin:$PATH
echo 'export PATH=$HOME/bin:$PATH' >> ~/.bashrc
source $HOME/.bashrc
kubectl version --short –client
```

10. Install POSTMAN [In Laptop]

https://www.postman.com/downloads/



11. Install eksctl [In EC2] [AMAZON EKS]

curl --silent --location "https://github.com/weaveworks/eksctl/releases/latest/download/eksctl**_$(uname -s)_amd64.tar.gz"** | tar xz -C /tmp

sudo mv /tmp/eksctl /usr/bin

eksctl version

12. Install Node/NPM [In EC2]

Sudo yum install nodejs

node –v

npm -v

13) Install Minikube

curl -LO https://storage.googleapis.com/minikube/releases/latest/minikube-linux-amd64

sudo install minikube-linux-amd64 /usr/local/bin/minikube

minikube start –driver docker

[Error will come as minimum system requirement is t2.medium, later in hands-on we will take the t2.medium as we don’t want cost to occur now]

14) Terraform / Slack / other Softwares will be setup as per the sessions scheduled