

# **Agile and DevOps Training**

**Day 1: -**

## **Agile Methodology (4 Hours)**

- SDLC Life Cycle
- Waterfall Model
- Agile Methodology
- Introduction to Agile
- Why Agile?
- Lean Methodology
- Agile Principles & Practices
- Scrum
- Sprint Meetings and daily standups
- Kanban and Scrum Boards
- User Stories

**Demo: Tracking user stories with JIRA**

## **DevOps Fundamentals (1 hour)**

- Why DevOps is needed
- What is DevOps
- Objective of DevOps
- Overview of the end-to-end flow of DevOps tooling/pipeline
  - CI/CD Pipelines as focus for Grads because they are primarily looking at Dev side
- DevOps Skillset – tooling and culture
- DevOps in Real world practice
- How DevOps is different than traditional approach

## **Version Control System (GIT) (1.5 Hours)**

- Understanding Code Versioning and Central Management using Github
- What is VCS?
- Different type of VCS – CVCS, DVCS
- Introduction to GIT (brief as they will already know how to use it)
- Git add, Commit, log and reverts
- Versioning basics
- Remote Repositories and need for same
- Pull & Push for codes
- Branching at Git

**Lab: Git Fundamentals**

## **Day 2: -**

### **Version Control System (GIT) ( 1 hr )**

- Conflict management
- GIT Workflow

### **Continuous Integration and Deployment with Jenkins CICD Pipelines ( 5.5 hrs)**

- Introduction to Jenkins
- Introduction to CICD Pipelines
- How Jenkins can be used for CICD Pipelines
- Why Jenkins?
- Role played by Jenkins in Continuous Integration
- Working with Jenkins Plug-ins
- Build Plans in Jenkins
- Configuring Jenkins
- Integrating Jenkins with GIT
- Configuring End to End Delivery Pipeline in Jenkins
- Working with Global Tools Configuration
- Setting up system properties
- Jenkins Server-Client Architecture
- Multi-pipelining concepts
- Triggers and Dependency runs

**Lab: Create a CICD pipeline to auto-fetch the code from github on commits. Build same using Maven and Deploy it with tomcat.**

## **Lab and Participants- Prerequisites**

- Administrator access on the laptop/desktop (64 bit Machine)
- Guest Operating Systems – Preferably Windows also fine.
- Access to internet
- Putty and Puttygen tools on participants systems (If participants are using Windows OS) -Refer Appendix
- Free Oracle Java Account- Refer Appendix
- Free Docker Account-Refer Appendix
- Latest Java to be installed on the systems- Refer Appendix
- Latest git version to be installed on their laptops - Refer Appendix

- ssh client (If participants are using Linux/Mac OS)
- Eclipse IDE to be installed and configured on the systems - Refer Appendix
- All the labs will be done on personal AWS Cloud Free Account (Debit or Credit Card is required) -Refer Appendix
- Ports to be opened – 22, 3389, 80, 443,8080, 8443, 3306, 5985,8140,3000 ,8443
- **Participants need to have basic knowledge of Linux , Java and using vi editor tools**

## Appendix:

### Installing Putty:

Logon to [www.putty.org](http://www.putty.org) and click on here button as given below



#### Download PuTTY

PuTTY is an SSH and telnet client, developed originally by Simon Tatham for the Windows platform. PuTTY is open source software that is available with source code and is developed and supported by a group of volunteers.

You can download PuTTY [here](#).

In the next screen, please click on either 32-bit or 64-bit msi installer file, it will ask you to save file. Save and run the file

## Package files

You probably want one of these. They include all the PuTTY utilities.

(Not sure whether you want the 32-bit or the 64-bit version? Read the [FAQ entry](#).)

### MSI ('Windows Installer')

32-bit: [putty-0.70-installer.msi](#) (or by FTP) (signature)

64-bit: [putty-64bit-0.70-installer.msi](#) (or by FTP) (signature)

### Unix source archive

.tar.gz: [putty-0.70.tar.gz](#) (or by FTP) (signature)

## Installing Puttygen:

Logon to the below link

<http://www.softpedia.com/get/Network-Tools/Misc-Networking-Tools/PuTTY-Key-Generator.shtml>

Click on DOWNLOAD button in the below link

The screenshot shows the Softpedia website page for the PuTTY Key Generator (PuTTYgen). The page features a navigation bar with categories like Windows, Drivers, Games, Mac, Android, Linux, Webapps, and News. The main content area displays the software's name, a prominent 'DOWNLOAD' button, and various statistics including 80,776 downloads and a 3.9/5 star rating. A section for the 'CURRENT VERSION' (0.70) is visible, along with a 'REALTIME BACKUP ON ZIMBRA' advertisement. The page also includes a 'REVIEW' section, a 'DOWNLOAD' button, and a 'CHANGELOG' link. A sidebar on the left shows '5 SCREENSHOTS' and 'FILE SIZE: 7.8 MB'. The bottom of the page mentions 'DSA keys using this tool'.

In the next screen which launches , click on either – External mirror 1 or External mirror based on the system architecture , download would start automatically. Save the file and run the file.

[↩ Back to main page](#)

### PuTTY Key Generator (PuTTYgen) - Download locations

Advertisement

**1 | New Loggly 3.0**


Loggly unifies log monitoring, analysis, and the ability to rewrite code in GitHub log-management.loggly.com


[➤](#)

**2 | Submit Resume Now**

Immediate Requirement. Sign up to Apply & Find Jobs monsterindia.com



[➤](#)

 **External mirror 1 - x86**



 **External mirror 2 - x64**

External mirror 1 - x86


MSI

 2.8 MB file size     This download is provided to you FREE of charge.

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 All files are original, Softpedia does not repack or modify downloads in any way.

## Java:

<https://www.oracle.com/java/technologies/downloads/>

[https://download.oracle.com/java/17/latest/jdk-17\\_windows-x64\\_bin.exe](https://download.oracle.com/java/17/latest/jdk-17_windows-x64_bin.exe)

<https://javatutorial.net/set-java-home-windows-10>

## Eclipse: (Windows)

<https://www.eclipse.org/downloads/packages/release/2021-12/r/eclipse-ide-java-developers>

## Git Installation: (Windows)

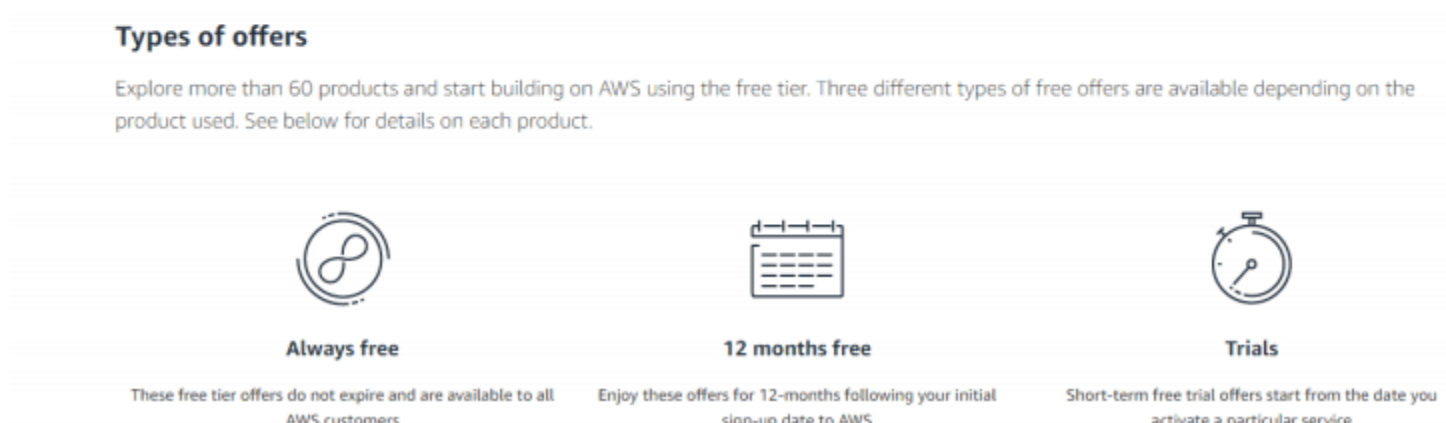
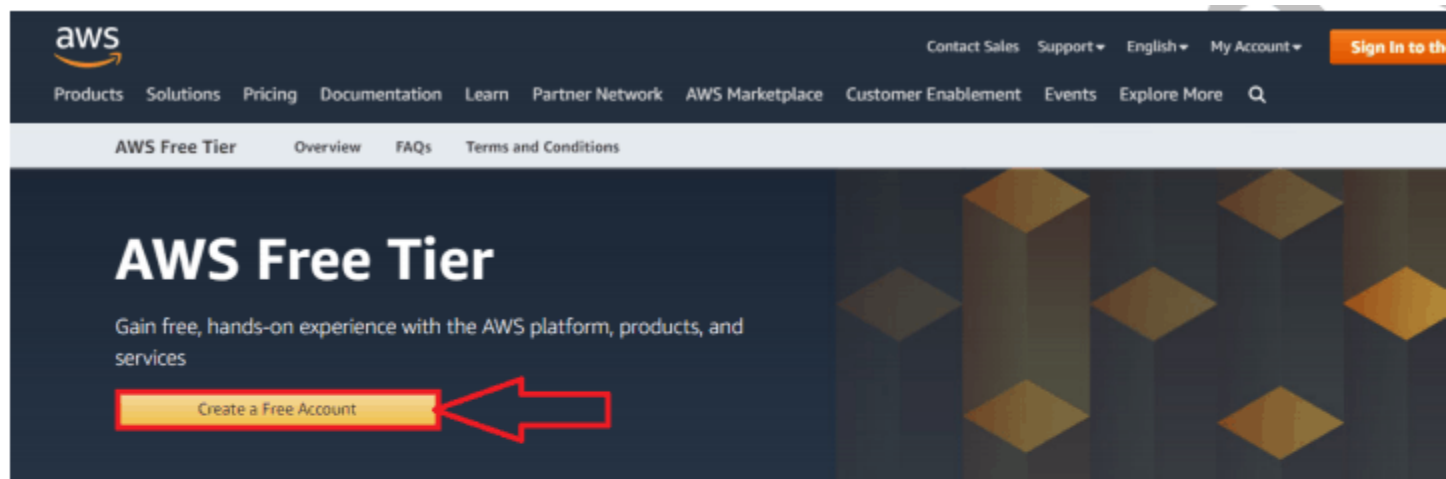
<https://git-scm.com/download/win>

## Oracle account:

<https://profile.oracle.com/myprofile/account/create-account.jsp>

## REGISTER FOR AWS FREE TIER ACCOUNT

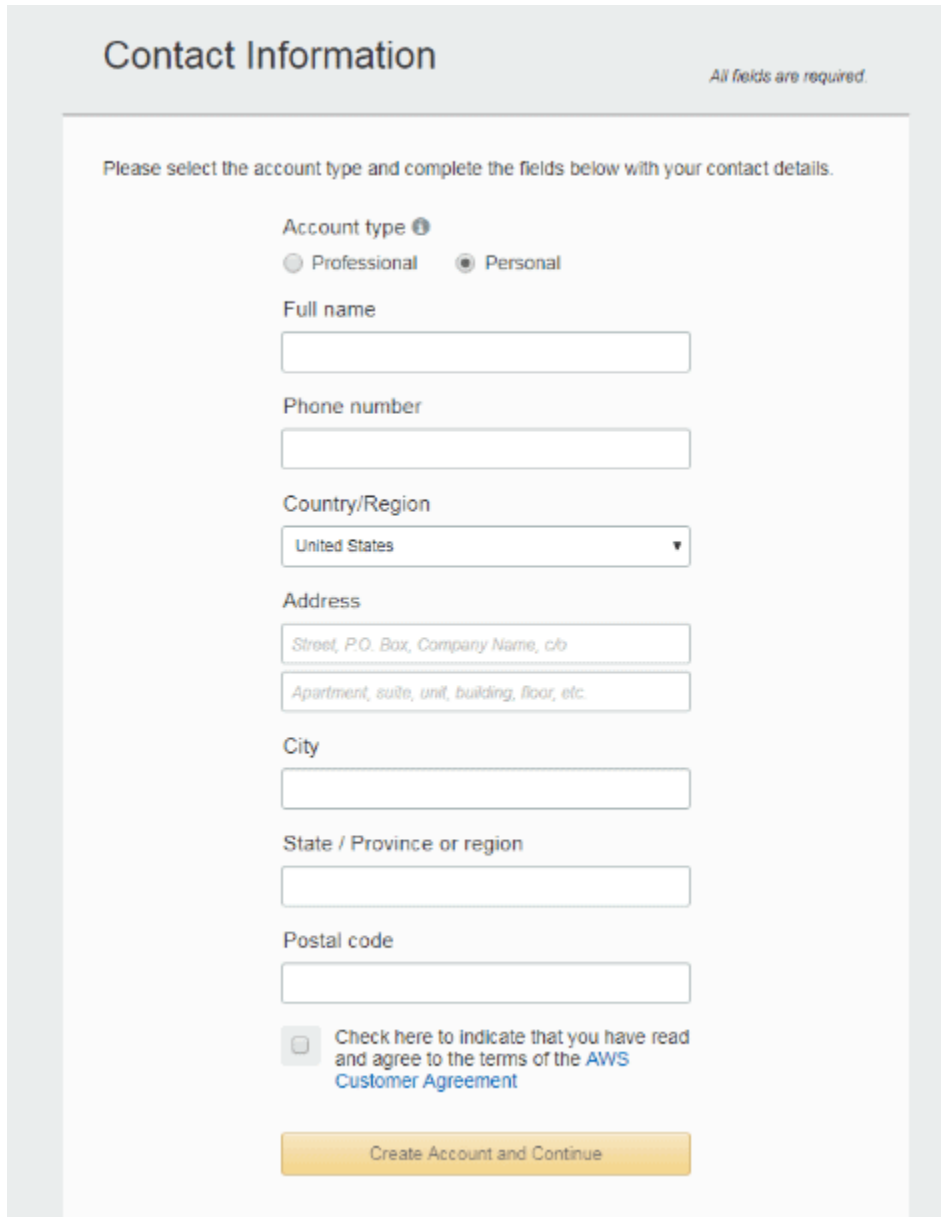
1. First Open your web browser and navigate to AWS Free Tier Page
2. On middle-click on Create a Free Account



3. Issue the details which you want to use for login your AWS account and click on Continue
  - Email address: Provide the mail id which hasn't registered yet with Amazon AWS.
  - Password: Type your password.
  - Confirm password: Authenticate the password.
  - AWS Account name: Choose a name for your account. You can change this name in your account settings after you sign up.

#### 4. Contact Information

Select your AWS type (Profesional/ Personal) Fill the correct information to validate your account if you're going to create personal use then click on "personal Account" else use "Company Account", Accepts the Terms and condition and then click on Create Account and Continue



The screenshot shows the 'Contact Information' page of the AWS account creation process. At the top, the title 'Contact Information' is displayed in a large, bold font, with a note 'All fields are required.' to its right. Below the title, a message states: 'Please select the account type and complete the fields below with your contact details.' The form includes a section for 'Account type' with two radio buttons: 'Professional' and 'Personal'. The 'Personal' option is selected. Below this are several text input fields: 'Full name', 'Phone number', 'Country/Region' (a dropdown menu currently showing 'United States'), 'Address' (two stacked fields for street and apartment/suite/unit/building/floor/etc.), 'City', 'State / Province or region', and 'Postal code'. At the bottom of the form, there is a checkbox labeled 'Check here to indicate that you have read and agree to the terms of the AWS Customer Agreement'. A yellow button labeled 'Create Account and Continue' is positioned at the very bottom of the form.

Note: Make sure to provide proper contact details and mobile number to get the Verification code from AWS.

5. Payment and PAN information: In this step, you must fill in your credit card /Debit Card info and billing address and click on Secure Submit.

## Payment Information

Please type your payment information so we can verify your identity. We will not charge you unless your usage exceeds the [AWS Free Tier Limits](#). Review [frequently asked questions](#) for more information.

Credit/Debit card number

XXXXXXXXXXXX

Expiration date

MM

YY

Cardholder's name

XXXXXXXXXXXX

Billing address

☒ Use my contact address

XXXXXXXXXXXX

☐ Use a new address

Secure Submit

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6. In this step, it will take you to the payment gateway to validate your payment information and for your credit card verification, Amazon will charge the minimum price based on Country. Here I have provided India, so Amazon charged 2 INR.





#### Merchant details

Merchant Name:	AMAZON INTERNET SERVICES
Date:	Jul 23, 2020
Card Number:	4160 XXXX XXXX 6037
Total Charge:	<b>Rs. 2.00</b>

#### Authenticate Transaction

OTP

Successfully sent the One Time Password to your Registered Mobile Number 86\*\*9\*\*\*29.

Enter OTP

\*\*\*\*\*

Resend OTP

CANCEL

SUBMIT

Note- Please ensure that your latest mobile number/ email id is updated in the Bank records. Visit nearest Branch or call Customer Care for the same.

This page will automatically time out after **02:27** seconds

7. Phone verification: Here you will be taken to an identity verification page that will already have your phone number, so you just have to select either "Text message or Voice call" Provide a valid phone number, Solve the captcha and then click on Send SMS or Call Me Now(depending upon your selection).

# Confirm your identity

Before you can use your AWS account, you must verify your phone number. When you continue, the AWS automated system will contact you with a verification code.

How should we send you the verification code?

☒ Text message (SMS) ☐ Voice call

Country or region code

India (+91)

Cell Phone Number

[REDACTED]

Security check



4n84ny

Send SMS

8. After clicking on Send SMS or Call me Now, you will immediately receive a call or SMS from Amazon, for verification code, Enter your code then click on Verify Code.

## Enter verification code

Enter the 4-digit verification code that you received on your phone.

Verify Code

**Having trouble?** Sometimes it takes up to 10 minutes to receive a verification code. If it's been longer than that, [return to the previous page](#) and enter your number again.



Your identity has been verified successfully.

Continue

9. Support plan: AWS support offers a selection of plans to meet your business needs. Select your suitable plan then click continue.

## Select a Support Plan

AWS offers a selection of support plans to meet your needs. Choose the support plan that best aligns with your AWS usage. [Learn more](#)



### Basic Plan

Free

- Included with all accounts
- 24x7 self-service access to AWS resources
- For account and billing issues only
- Access to Personal Health Dashboard & Trusted Advisor



### Developer Plan

From \$29/month

- For early adoption, testing and development
- Email access to AWS Support during business hours
- 1 primary contact can open an unlimited number of support cases
- 12-hour response time for nonproduction systems



### Business Plan

From \$100/month

- For production workloads & business-critical dependencies
- 24/7 chat, phone, and email access to AWS Support
- Unlimited contacts can open an unlimited number of support cases
- 1-hour response time for production systems

### Need Enterprise level support?

Contact your account manager for additional information on running business and mission critical-workloads on AWS (starting at \$15,000/month). [Learn more](#)


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Note: All customers receive free basic support.

10.Registration Confirmation page.

Once you completed all the above steps and processes. You'll get the confirmation page as below. Now your account will be processed for activation. It may take somewhere between 30 minutes to 1 hour for you to receive an email confirmation that your Amazon Cloud Services account has been activated.



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## Welcome to Amazon Web Services

Thank you for creating an Amazon Web Services Account. We are activating your account, which should only take a few minutes. You will receive an email when this is complete.

[Sign In to the Console](#)

[Check your tax details for accurate invoicing >>](#)

[Contact Sales](#)