greatlearning
Learning for Life

Lab Brief

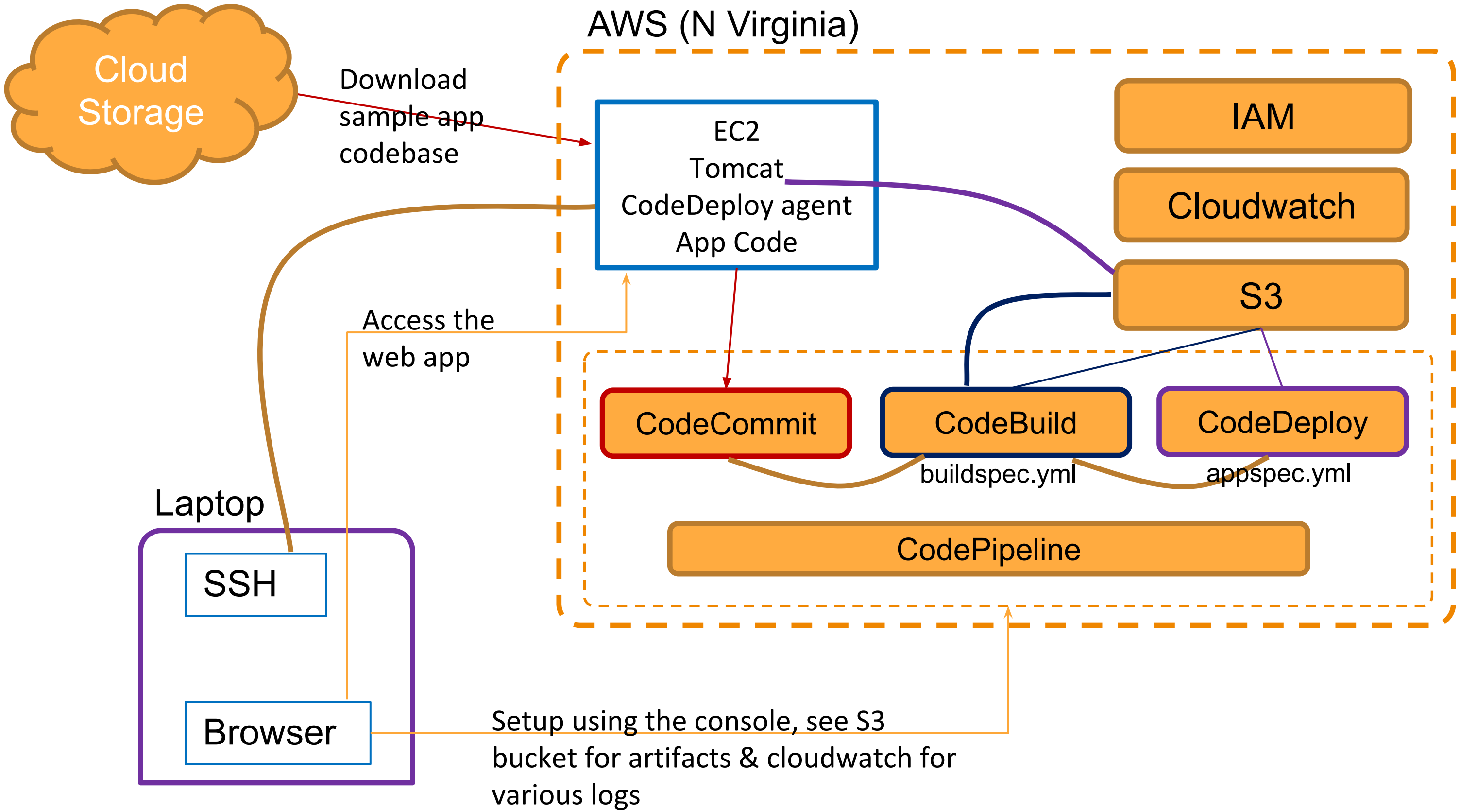
Course: DevOps on AWS

CI/CD | Code Pipeline
(Setup a Git repository, checkin a sample codebase, specify build and deployment rules, automate the whole process using pipeline)

Learning Outcomes

1. Working knowledge of EC2 instances with Ubuntu
2. Setting up the build process using a sample Java application
3. Familiarity with installing agents

Final Goal


Cloud Storage
Download sample app codebase
AWS (N Virginia)
EC2
Tomcat
CodeDeploy agent
App Code
IAM
Cloudwatch
S3
Access the web app
CodeCommit
CodeBuild
CodeDeploy
buildspec.yml
appspec.yml
CodePipeline
Laptop
SSH
Browser
Setup using the console, see S3 bucket for artifacts & cloudwatch for various logs

What is needed?

1. AWS Account Credentials

2. EC2 Instances (Linux)

3. Terminal window for SSH

4. Full access to EC2, S3, IAM, CodeCommit, CodeBuild, CodeDeploy, CodePipeline, CloudWatch

Important Information

When can you access the lab environment?

Please refer Lab release announcement to get details on Lab access duration

When do you get lab support?

Please refer Lab release announcement to know details of lab support session

Which region should you use on AWS Cloud?

North Virginia, unless any other AWS region is required. This will always be mentioned in the **Final Goal slide**.

How to do it?

- Please refer to the session video for exact details
- Setup the EC2 instance based on the "SKL codelabs" image
- Setup the code repository in CodeCommit
- Make the necessary changes in the buildspec.yml
- Create the build process in CodeBuild
  - Manually execute
  - Observe the S3 bucket for the build artifacts
- Setup CodeDeploy
  - Setup the codedeploy agent on the EC2 instance
  - Ensure Tomcat is running
  - Trigger the code deploy manually and see the app getting deployed
- Setup CodePipeline
  - Stitch together commit, build and deploy
  - Make a change to the code and commit
  - Observe the complete pipeline execute and the new version getting deployed to the Tomcat server

Mandatory Step: Resource Clean-Up

1. Cloud is always **pay per use model** and all resources/services that we consume are chargeable. Cleaning up when you’ve completed your lab or project is always necessary. This is true whether you’re doing a lab or implementing a project at your workplace.

2. **After completing with the lab, make sure to delete each resource created in the reverse chronological order.**

3. Check resources in each cloud region that you have worked on before logging off.

4. Since the dashboard doesn’t show cross-region resources, it is up to you to find and delete them.

***Note:** If you fail to clean up your lab account, your submitted lab work or project will not be evaluated and treated as incomplete work.*

What is expected in your Solution Doc?

1. Your solution document must be in PDF format.

2. You solution document MUST contain screenshots of all the main steps that you implemented from “How to do it?” section. Each of these screenshots should display expected details.

3. It should also include Clean-up steps screenshots. If you fail to include these screenshots your submission will not be evaluated and treated as incomplete.

4. Make sure your AWS user id is visible in all of the screenshots.

Note*: You DO NOT NEED to include screenshot of each elementary step. For example, please do not take a screenshot of each of the 7 steps that you need to create an EC2 instance, and so on...*

How to submit your solution?

1. Navigate to the relevant course in Olympus. You can also access the submission link through “Ongoing Activities” section on your dashboard.

2. Create your lab solution document based on the guidelines in the previous slide.

3. Name your solution document appropriately in the format of: <BATCH>_<FIRSTNAME>_<LASTNAME>_<LabName>
   - ○ e.g. PGPCCJUL18_VIJAY_DWIVEDI_ Lab_01_DevOps.pdf
   - ○ e.g. pgpccjul18_vijay_dwivedi_ Lab_01_DevOps.pdf

4. Upload your solution document and hit submit.

5. Try to submit your solution at least 2 hours before the deadline to avoid any last minute anomalies.

***Note**: If you wish to make modifications to your submitted solution, you can resubmit your solution document “within the submission window” and mark your comments accordingly.*