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PGPCC | Project

Deploying a web application to ECS

Deploy a Java web application on AWS Elastic Container Service. The web application needs to be bundled as a Docker image running on Apache Tomcat.

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Project Scenario

In the last 2 decades, small and large enterprises have invested heavily in developing bespoke applications. Since these applications have been built and enhanced over a period of time, they are complex and any form of reengineering to convert it to smaller modularized independently hosted services is difficult.

With the advent of cloud and containerization, these organizations are looking to take advantage of the predictable packaging of these applications and leverage the managed container services from the cloud.

The objective of this project is to experience such a scenario and move a classical (simplified) web application to the cloud.

Project Outcomes

- Hands on knowledge of Docker Containers.
- Hands on knowledge of AWS ECS to have a managed environment to run containers with custom application.
- A web application deployed on a public cloud using AWS ECS, Docker and Docker Hub.

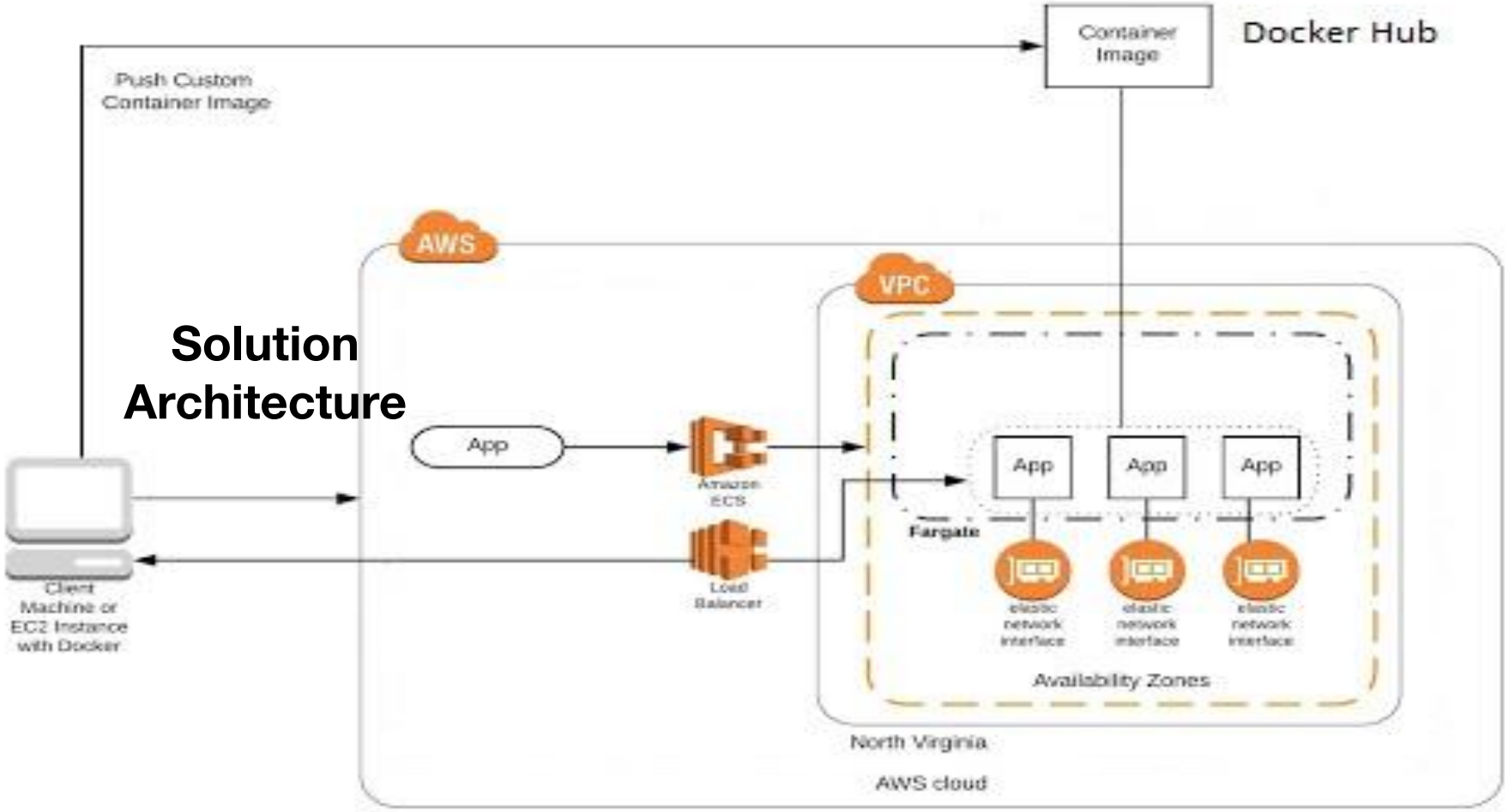
The Solution

The solution will be developed completely on the AWS public cloud using managed container services using a prebuilt custom Java web app.

- Download the WAR file from https://storage.googleapis.com/skl-training/aws-codelabs/aws-intro/HelloWorld.war
- Web application needs to be packaged as a Docker image running on Tomcat having JRE8 - you will have to write a Dockerfile
- Once the image is created, run and verify image by accessing web application using ec2 instance public-ip
- Sign up for docker hub and create public repository.
- Tag the image appropriately and push to Docker Hub Repository.
- Using ECS Fargate create a cluster, task and service(s)

Note - At the time of creating the cluster ensure you are using T2 micro instances only (max)

Solution Architecture



What should you do?

We have already provided you with the solution architecture. You need to deploy the project solution based on this architecture on AWS cloud platform.

Grading Policy & Tasks

You will receive points for completing each task as listed below:

Task 1 (10 points)
Local Docker Setup, Docker Image, Dockerfile and Push the image to cloud.

Task 2 (15 points)
Setup Fargate ECS and run the Docker Image.

Task 3 (5 points)
Solution Documentation. Incomplete documentation will not receive all the 5 points. Incomplete solution document will be graded based on its completeness.

Resource Cleanup

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 upto you to find and delete them.

Submission Guidelines

- The solution document should strictly follow the sequence of steps listed in “The Solution” slide.
- Each screenshot needs to be qualified with a brief description of what is it about.
- Please submit your solution in the form of :

  · PDF document with screenshot and brief description of the screenshots. **Account userid should be visible in all screenshots**.

  · OR a link to the recorded demo video (make sure the link is given appropriate access permissions).
- Participants should explicitly write comments and remarks if they wish to notify the evaluator of specific points.
- It is mandatory to share “Lessons & Observations” at the end of the solution document.
- DO NOT WAIT UNTIL THE LAST MINUTE. The program office will not extend the project submission deadline under any circumstances.

How to submit your solution?

1. Navigate to the “PROJECTS” course in Olympus.

1. Name your solution document appropriately in the format of: BATCH_FIRSTNAME_LASTNAME_PROJECT3;
    - e.g. PGPCCMARCH18_VIJAY_DWIVEDI_PROJECT3.pdf
    - e.g pgpccmarch18_vijay_dwivedi_projec3.pdf

1. Upload your solution document and hit submit.

1. Upload any associated files, if you wish to substantiate your solution.

***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.*