

DevOps Certification Training
Certification Project – Finance Me
Banking and Finance Domain
Done by ganesh mudavath

FinanceMe is a Global leading Banking and Financial services provider based out of Germany. The company offers products and services like Banking, Funds Management, Loans, Debit Cards and Credits Cards, Investment Banking etc. Initially the company was using a Monolithic application architecture, As the company grown, It started facing difficulties in managing the application infrastructure and application deployments and Scaling of application when the traffic load increases. FinanceMe has decided to opt for microservice architecture for its applications and decided to go DevOps by implementing necessary automations using CICD. FinanceMe has decided to use AWS as primary cloud services provider to create servers, databases and application deployments. The company's goal is to deliver the product updates frequently to production automatically with High quality & Reliability. They also want to accelerate software delivery speed, quality and reducing feedback time between developers and testers. Currently, they are facing following problems, because of various technologies involved in the project. Building Complex Monolithic Application is difficult. Manual efforts to test various components/modules of the project Incremental builds are difficult to manage, test and deploy. It was not possible to scale up individual modules independently. Creation of infrastructure and configure it manually is very time consuming Continuous manual monitoring the application is quite challenging. In order to implement a POC, you are requested to develop a mavenized microservice using spring boot and in memory h2 database. 1. a microservice which exposes below mentioned endpoints as APIs and uses pre configured AWS RDS – mysql database to store the data. a. /createAccount (HTTP Method : POST) (Request Body : JSON) b. /updateAccount/{account no.} (HTTP Method : PUT) (Request Body : JSON) c. /viewPolicy/{account no.} (HTTP Method : GET) (No Request Body) d. /deletePolicy/{account no.} (HTTP Method : DELETE) (No Request Body) 2. Write necessary Junit testcase. 3. Generate HTML report using TestNG. 4. Push your code into your GitHub Repository. Note : Preload some data into the database. www.staragile.com

Later, you need to implement Continuous Integration & Continuous Deployment using following tools:

Git - For version control for tracking changes in the code files

Maven – For Continuous Build Jenkins - For continuous integration and continuous deployment

Docker - For deploying containerized applications

Ansible - Configuration management tools

Selenium - For automating tests on the deployed web application

Terraform - For creation of infrastructure. Prometheus and

Grafana – For Automated Monitoring and Report Visualization

This project will be about how to test the services and deploy code to dev/stage/prod etc,

just on a click of button. Business challenge/requirement As soon as the developer pushes the updated code on the GIT master branch, the code should be checked out, compiled, tested, packaged and containerized. A new test-server should be provisioned using terraform and should be automatically configured using Ansible with all the required software's and as soon as the server is available, the application must be deployed to the test-server automatically. The deployment should then be tested using a test automation tool, and if the build is Successful, Prod server must be configured with all the software it should be pushed to the prod server. All this should happen automatically and should be triggered from a push to the GitHub master branch.

Continuous monitoring server must be configured to monitor the test as well as prod server using Prometheus and Grafana should be configured to display a dashboard with following metrics.

1. CPU utilization
2. Disk Space Utilization
3. Total Available Memory

Note : To have a detailed information about running the application and exposed APIs, Input/Output format, Refer to the README.md in the GitHub repository.

Ganeshmunna / Star-agile-banking-finance

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Star-agile-banking-finance

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Star 0

master

1 branch

0 tags

Go to file

Add file

<> Code

About

niladrimondal Update Jenkinsfile

028eafe on Mar 25

7 commits

.mvn/wrapper	finance-me committed	9 months ago
src	adjusted for selenium implementation and updated testcases	7 months ago
.DS_Store	adjusted for selenium implementation and updated testcases	7 months ago
.gitignore	finance-me committed	9 months ago
Dockerfile	Dockerfile added	7 months ago
Jenkinsfile	Update Jenkinsfile	4 months ago
ansible-playbook.yml	Update ansible-playbook.yml	4 months ago
mvnw	finance-me committed	9 months ago
mvnw.cmd	finance-me committed	9 months ago
pom.xml	finance-me committed	9 months ago

No description, website, or topics provided.

Activity

0 stars

1 watching

0 forks

Releases

No releases published

Create a new release

Packages

No packages published

Publish your first package

instances | Educ Manage | Ganeshmunna | banking project Config | ganeshmunna/finance | mudivath ganesh | CbS

Not secure | 3.86.210.150:8080/job/banking%20project/configure

Dashboard > banking project > Configuration

Configure

General

Advanced Project Options

Pipeline


Pipeline script

Script ?

```
46 //jenkins ALL=(ALL) NOPASSWD:ALL
47 sh "${dockerCMD} build -t ganeshmunna/finance-me:${tagname} ."
48
49 }
50 catch(Exception e){
51   echo 'Exception Occur'
52   currentBuild.result = "FAILURE"
53   emailText body: "'Hello Staragile Devops
54
55   The Build Number ${BUILD_NUMBER} is Failed. Please look into that.
56
57   Thanks,'"', subject: 'The jenkins Job ${JOB_NAME} is Failed ', to: 'ganeshmudavath99@gmail.com'
58 }
59
60 }
61 stage ('containerize the application')
62 {
63   echo 'build the docker image'
64   sh "${dockerCMD} build -t ganeshmunna/finance-me:1.0 ."
65 }
66 stage ('push docker image to dockerhub')
67 echo 'pushing the docker image to Dockerhub'
68
69 withCredentials([string(credentialsId: 'docker-password', variable: 'DockerPassword')])
70 {
71   sh "${dockerCMD} login -u ganeshmunna -p ${DockerPassword}"
72   sh "${dockerCMD} push ganeshmunna/finance-me:1.0"
73 }
74 stage ('Configure and Deploy to the test-server'){
75   ansiblePlaybook become: true, credentialsId: 'ansiblekey', disableHostkeychecking: true, installation: 'MyAnsible', invent
76 }
77
78
79
80 }
```

Save Apply

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ganeshmunna

Repositories

finance-me

General

Using 0 of 1 private repositories. [Get more](#)

General


Tags

Builds

Collaborators


Webhooks

Settings


 Add a short description for this repository


The short description is used to index your content on Docker Hub and in search engines. It's visible to users in search results.

Update

 ganeshmunna / finance-me

Description

This repository does not have a description 

 Last pushed: 15 hours ago

Docker commands



Public View

To push a new tag to this repository,

`docker push ganeshmunna/finance-me:tagname`

Tags

This repository contains 1 tag(s).

Tag	OS	Type	Pulled	Pushed
 1.0		Image	9 hours ago	15 hours ago

[See all](#) [Go to Advanced Image Management](#)

Automated Builds

Manually pushing images to Hub? Connect your account to GitHub or Bitbucket to automatically build and tag new images whenever your code is updated, so you can focus your time on creating.

Available with Pro, Team and Business subscriptions. [Read more about automated builds](#)

Upgrade

Targets

All scrape pools All Unhealthy Collapse All Filter by endpoint or labels

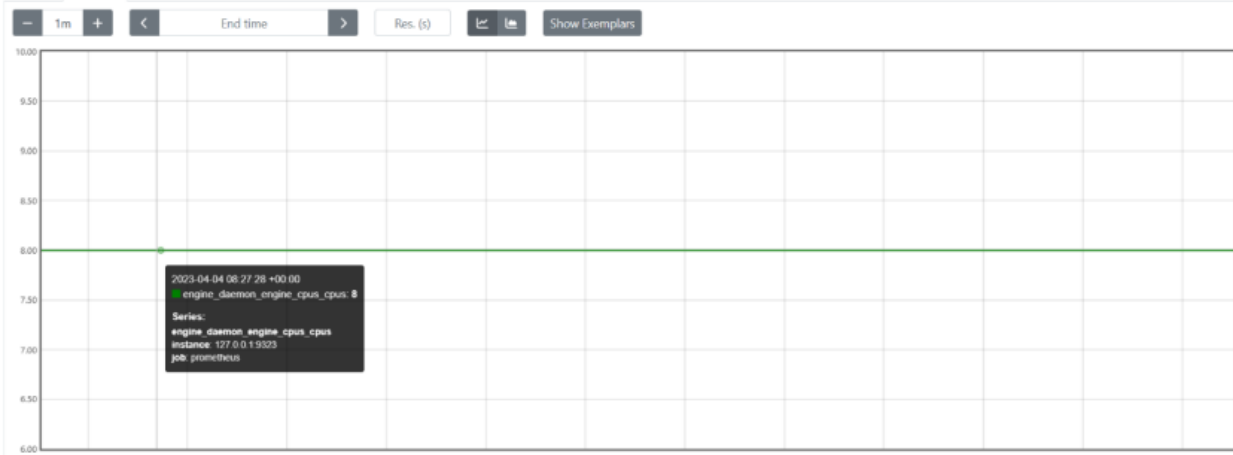
prometheus (2/2 up) show less

Endpoint	State	Labels	Last Scrape	Scrape Duration	Error
http://localhost:9090/metrics	UP	instance="localhost:9090" job="prometheus"	10.496s ago	6.833ms	
http://127.0.0.1:9323/metrics	UP	instance="127.0.0.1:9323" job="prometheus"	13.474s ago	26.495ms	

☐ Use local time ☐ Enable query history ☒ Enable autocomplete ☒ Enable highlighting ☒ Enable linter

engine_daemon_engine_cpus_cpus

Table Graph Load time: 132ms Resolution: 1s Result series





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