VIGNESHVAR A S

Developer / DevOps Tech Lead

PROFILE

A cloud enthusiast with a rich experience of 10.4 years. I have been given an equal exposure as a developer and also a devOps cloud Engineer so far. Love and passion for coding, led me make several contributions to the open source world. Have been an effective team player and a quick learner, who continuously seek opportunities to master new domains and technologies.

03/05/1989
MARRIED
VISA (USA B1)

SAHAKARNAGAR, BANGALORE

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LINKEDIN.COM/IN/VIGNESHVARSUBRAMANIAN

EDUCATION

MeenakshiCollege of Engineering,
B.E in ECE, 74%, 2010

Karthigeyan mat. hr. sec. school
HSC, 86.9%, 2006

Karthigeyan mat. hr. sec. school
SSC, 80.9%, 2004

MAJOR TOOLS

KUBERNETES
DOCKER
JENKINS
TERRAFORM
REDIS
CONSUL

EXPERTISE

KUBERNETES (CKA CERTIFIED)
CI/CD
NOSQL DATABASE DESIGN
RELEASE AND DEPLOYMENTS
SCRUM MASTER
PYTHON/GOLANG DEVELOPER

OTHER TOOLS/TECHNOLOGIES WORKED

- OPENSTACK
- EUCALYPTUS
- CLOUDSTACK
- GCP
- VIRTUALIZATION
- XEN/XEN SERVER/KVM
- VMWARE VCLOUD / VSPHERE / ESXI
- CFN / HEAT TEMPLATES
- VIRTUAL NETWORKING
- HADOOP
- STORM
- MYSQL / POSTGRESQL
- CASSANDRA
- SALTSTACK
- PUPPET
- GIT
- DRBD
- C, C++, PYTHON, GOLANG, JAVA
- SHELL SCRIPTING

ACHIEVEMENTS / CERTIFICATION

- CKA CERTIFIED (CKA-1900-004513-0100)
- SALTSTACK CERTIFIED SSCE2 (Certification Id : 0x9DC93FB5)
- Recognized by Openstack cloud community as one of the contributors
- Sponsored by Openstack to participate in design summits happening across the World.
  - Openstack Summit in Paris, France
  - Openstack Summit in Vancouver BC, Canada
- Key presenter on various workshops on cloud and big data.

NON CORE RESPONSIBILITIES

- Handled as a Scrum Master
- Mentoring junior team members and interns
- Core member of innovation lab and have proposed/built new ideas for POC
- Conducted training sessions, meetups and TechTalks
- Core representative of Rapid API community
- Open source contributor
- Supported for taking interviews

WORK EXPERIENCE

DEVOPS TECH LEAD

RAKUTEN
BANGALORE INDIA
AUG 2018 - NOW

- Lead a small team of 20 members and also guided on the technical design / queries
- Took ownership of some of the products maintained from Tokyo office
- Reverse engineered and understood the code (In C++). Made fixes / features / documented the code
- Automated most day to day operations
- Supported tenants and maintained regular releases

APPLICATION ANALYST

FIRSTDATA
CHENNAI INDIA
NOV 2016 - AUG 2018

- Lead a team which built a cloud dashboard using asynchronous work flows
- Prepared design, architecture and involved in design discussions with US counterpart
- Took multiple roles - Database design, Python developer, Scrum master
- Contributed towards CI/CD for all the components built
- Deployed Openstack with DVR mode of networking

SENIOR CONSULTANT

VIRTUSA
CHENNAI INDIA
APR 2015 - NOV 2016

- Worked on client location (Atlanta, USA) for a short period
- Handled client communications mostly on the agreement of architecture from stakeholders
- Worked as a Python Developer and a Scrum master
- Contributed for new project proposals and POCs

DEPUTY MANAGER

RELIANCE JIO
BANGALORE INDIA
APR 2014 - MAR 2015

- Assisted the manager and lead the team
- Openstack upstream code contributor
- participated on Openstack International conferences and make company's contribution on design decisions.
- Contributed for other in-house python development, automation scripts and heat templates

PROJECT ENGINEER

CDAC
CHENNAI INDIA
AUG 2010 - MAR 2014

- Fixed bugs and created Windows OS support for Eucalyptus cloud management tool
- Feature development - autoscaling support, high availability for VMs
- Hadoop setup and interfacing with nautilus (GNU explorer)
- Cloud trainer and speaker

EXTENDED PROFILE

This Section can be quite long and it explains the rich experience gained & roles played on individual projects.
If you are looking for major profile details, the above two pages would be sufficient

PROJECT DETAILS

PROJECT:
RAKUTEN IMAGE CONVERTER

COMPANY:
RAKUTEN INDIA

TECHNOLOGY:
C++
DOCKER
NGINX
MESOS
NFS

This is an inhouse tool built using C++, which dynamically converts images to various resolutions without having to reupload the image.

Roles and Responsibilities

- Reverse engineer the existing code to enhance and fix bugs
- Redeign the architecture to support caching of images from remote storage
- Tune Dockerfiles and rebuild based on architectural changes
- Prepare unit tests
- Stress Test and deploy to production

PROJECT:
MESOS CLUSTER

COMPANY:
RAKUTEN INDIA

TECHNOLOGY:
DOCKER
NGINX
MESOS
NFS
JENKINS
GRAYLOG
GRAFANA
CONSUL

This is an inhouse MESOS cluster with other combination of tools wrapped around it for running production grade containers

Roles and Responsibilities

- Support tenant applications deployed in this environment
- Support for onboarding new applications and migration of applications from different environments
- Create Jenkins declarative pipelines for CI/CD
- Maintenance of supporting tools like Jenkins, consul, nginx, etc
- Trouble handling in case of failures
- Resource allocation and planning

PROJECT:
EXALOGIC / SHIBUYA

COMPANY:
RAKUTEN INDIA

TECHNOLOGY:
ORACLE EXALOGIC (X3 & X6)
TRAFFIC DIRECTOR
WEBLOGIC
COHERENCE
X8 DATABASE

This project involves Oracle Exalogic Rack with OTD, which hosts a lot of critical applications.

Roles and Responsibilities

- Supporting during sale period.
- Support for load test of applications
- Support tenant applications deployed in this environment
- Support for migration of applications from Exalogic to different environments
- Jenkins standalone jobs for operations
- Maintenance of Exalogic servers
- Manage SR tickets with Oracle support team
- Production and Staging release management
- Creating new automation scripts for repeated / emergency operations
- Optimising release manuals to reduce time.
- Have been a primary Support member for SHIBUYA - an internal load testing tool
- Contributed one feature for SHIBUYA load testing tool (veu js)

PROJECT:
Catalog services / Redis-aaS

COMPANY:
RAKUTEN INDIA

TECHNOLOGY:
KUBERNETES
HELM
GOLANG / REACT / REDUX
KUSTOMIZE
CLONE

Catalog Service is a package manager for internal container environment. This involves open source tool - Kubeapps and helm charts

Roles and Responsibilities

- Integrating Kubeapps to internal cloud environment
- UI development (React + Redux) for the portal
- SSO integration for Kubeapps
- Helm chart and helm repo maintenance
- Repackaging helm charts with internal standards
- Maintaining / enhancing (golang code) for Redis operator and Redis cluster charts
- Use of Kustomize and Clone tools where ever necessary
- Design architecture and build Redis as a Service

PROJECT:
IaaC

COMPANY:
RAKUTEN INDIA

TECHNOLOGY:
KUBERNETES
TERRAFORM / API
GOLANG

Infrastructure as a Code , as the name suggests, it helps in deploying the entire infrastructure as a code that can be reused and rebuilt.

Roles and Responsibilities

- Install and configure terraform
- Build terraform plugin for internal cloud (goLang)
- Build SDK for the internal cloud api
- Use of MXGraph editor for drag drop POC on UI

PROJECT:
JUPITER

COMPANY:
FIRST DATA DEVELOPMENT AND VIRTUSA

TECHNOLOGY:
OPENSTACK
KVM
VMWARE
PYTHON
SALTSTACK
FLASK
RABBITMQ
JENKINS
CASSANDRA

This project is developed from scratch to provide end to end cloud automation which helps in provisioning a fully ready virtual servers on multi cloud environments for any application. This project involves development of several components which gear together to provide an extremely rapid infrastructure delivery system.

Roles and Responsibilities

- Scrum Master
- Prepared Initial Design for the application.
- Part of design discussions and reviewed design drafts
- Contributed towards Development (Python), DevOps activities, Database Schema Design and towards Support & maintenance activities.
- Designed and Deployed CI/CD pipelines for end to end automation
- Part of the team designing overlay networks for openstack cloud.
- Deployed Openstack cloud with DVR mode of networking
- Prepared SPEC files for RPM packaging
- Daily task involves spending some time on code reviews
- Requirement gathering and gap analysis
- Part of staging and production roll out team
- Supported during Change Requests and Incidents

PROJECT:
HORIZONTALLY SCALABLE SCHEDULER

COMPANY:
RELIANCE JIO

TECHNOLOGY:
OPENSTACK
ZEROMQ
PYTHON

The solution makes use of the messaging layer for scheduling. The outcome is to decentralise scheduling of compute resources to individual compute nodes. The decision making step is scaled out horizontally by the compute infrastructure, and overall complexity is reduced.

Roles and Responsibilities

- Code contribution towards the upstream blueprint.
- Following up meetings on blueprint with the community
- Unit and Functional testing for the modules were developed.
- Managing the team and making technical decisions on the blue print.

PROJECT:
OPENSTACK UPSTREAM BUGFIXES / REVIEWS
COMPANY:
RELIANCE JIO
TECHNOLOGY:
OPENSTACK
ZEROMQ
PYTHON
OPEN CONTRAIL
CEPH

There were number of open bugs in Openstack. Goal here is to fix/review these problems in the upstream, there by the issue is automatically resolved in the production environment downstream as the system follows continuous integration and deployment.

Roles and Responsibilities

- Regularly scan through open bugs in Openstack
- Reviewing available fixes for bugs
- Fix bugs and submit to Gerrit review system.
- Follow up discussions to merge fixes.
- To participate on openstack conferences to be part of design decisions

PROJECT:
OPENSTACK IRONIC / TRIPLE-O
COMPANY:
RELIANCE JIO
TECHNOLOGY:
OPENSTACK
ZEROMQ
PYTHON

Ironic is one of the openstack components, which allows openstack to manage baremetal nodes. TripleO (Openstack on openstack) makes use of ironic and various other openstack components to manage and deploy openstack using/on openstack.

Roles and Responsibilities

- Feasibility study on using ironic (stable version) in production.
- Manually installing and configuring ironic.
- Identifying and fixing bugs.
- Back porting patches to stable versions.
- Documenting the activity.

PROJECT:
AUTO SCALING
COMPANY:
RELIANCE JIO
TECHNOLOGY:
OPENSTACK
ZEROMQ
PYTHON

Openstack has the capability to auto scale instances. This requires configuring various openstack components and creating appropriate templates to autoscale.

Roles and Responsibilities

- Installing and Configuring Openstack Heat
- Installing and Configuring Openstack Ceilometers
- Writing heat templates for autoscaling.
- Identifying and fixing bugs
- Back porting patches to stable versions.
- Documenting the activity.

PROJECT:
CI/CD FOR OPENSTACK
COMPANY:
RELIANCE JIO
TECHNOLOGY:
OPENSTACK
ZEROMQ
PYTHON
JENKINS
PUPPET
CONSUL
OPEN CONTRAIL

Openstack is an opensource project and it is continuously evolved by the community. To have upto-date features and critical bug fixes in the system, there is a need for continuous integration and continuous deployment of the change to the production. The project involves designing the flow and automating the system.

Roles and Responsibilities

- Installing and Configuring Jenkins.
- Writing advanced heat templates – using structured config and structured deployment.
- Writing Jenkins job.
- Install, manage and update key-value pairs in Consul
- Working on apt-mirror and continuous snapshots
- Creating debian packages from upstream code
- Writing basic puppet/hiera scripts involved in automation.

PROJECT:
ZABBIX / CEPH MONITORING

COMPANY:
RELIANCE JIO

TECHNOLOGY:
OPENSTACK
ZEROMQ
PYTHON

Ceph is a unified, distributed storage system designed for excellent performance, reliability and scalability. The project involves configuring monitoring system (zabbix) to monitor ceph.

Roles and Responsibilities

- Installing and configuring ceph-zabbix plug-in
- Defining metrics and alarms
- Documenting the activity.

PROJECT:
MEGHDOOT

COMPANY:
CDAC

TECHNOLOGY:
EUCALYPTUS
XEN
POSTGRESQL
C, JAVA, PERL

This project includes development and integration of few open source cloud software into a single stack bundled along with a Linux OS (BOSS). Meghdoot is a easy to go tool for installing and configuring a cloud software.

Roles and Responsibilities

- Integration of auto scaling module for cloud middleware
- Integration of a GUI based standalone cloud configuration tool which makes the core of Meghdoot
- Modified virtualization tool (xen) to support vertical scaling (REMUS)
- Made some key enhancements on cloud software - Eucalyptus
- Deployment and support for Meghdoot in Data Centers
- Documentation and unit test case preparation

PROJECT:
CLOUD CONFIGURATION TOOL FOR MEGHDOOT

COMPANY:
CDAC

TECHNOLOGY:
PYTHON (GLADE)

This is a GUI based standalone cloud configuration tool which is an add-on to Meghdoot. This tool makes easy the configuration of cloud software (Eucalyptus) in step by step fashion.

Roles and Responsibilities

- Designed and developed the GUI using python-wxglade
- Designed and developed the backend logic for the tool
- Handled cloud interactions with the tool
- Exception handling across the tool and cloud software
- Documentation and unit test case preparation

PROJECT:
AUTO SCALING

COMPANY:
CDAC

TECHNOLOGY:
EUCALYPTUS
PYTHON
HAPROXY

This is a module which gives cloud its major property of scalability. Whenever the load on the virtual machines bearing the applications exceed beyond certain upper and lower threshold, VMs are either created or destroyed depending on the need.

Roles and Responsibilities

- Designed and developed the server component for scalability
- Designed and developed the agent component for virtual machines
- Integration with Load Balancer Logic for weight handling for load balancing
- Documentation and unit test case preparation

PROJECT:
HIGH AVAILABILITY

COMPANY:
CDAC

TECHNOLOGY:
EUCALYPTUS
XEN
C

This is module which provides High availability for virtual machines and the nodes. This module interacts with the underlying virtualisation technology and the cloud middleware. The complete monitoring, heart beat and ACTIVE/PASSIVE triggers are maintained in this module.

Roles and Responsibilities

- Enhancements on virtualization tool – XEN, to support certain features in the high availability module.
- Modifying and appending high availability code on open source cloud software.
- Documentation and unit test case preparation

PROJECT:
IMAGE COMPRESSION

TYPE:
PERSONAL PROJECT

TECHNOLOGY:
VISUAL BASIC

Multilayer compression technique

- First phase involves, comparison with neighbours
- Second phase involves, binary conversion and similarity elemination

Roles and Responsibilities

- Self driven project based on interest on image processing
- Had good results for images with less color variations
- More the phases, slower the process was

PROJECT:
TYPING DNA

TYPE:
PERSONAL PROJECT

TECHNOLOGY:
PYTHON ML

This project was about using Machine learning (Neural networks) to learn the typing behavioural pattern of different people. This was tested against an open password which could not authorise any one else except the original user's typing dynamics

Roles and Responsibilities

- Self driven project based on interest on machine learning
- Could have been improved much with advanced techniques

PROJECT:
VOICE BASED IT SUPPORT

TYPE:
PERSONAL PROJECT

TECHNOLOGY:
PYTHON ML
ALEXA FROM AWS
AWS LAMBDA

This project used the power of ALEXA voice recognition and AWS Lambda. The intent of this project is to answer user queries (voice) based on FAQs fed to the machine learning modal

Roles and Responsibilities

- Self driven project based on interest on machine learning
- Could have been improved much with advanced techniques

PROJECT:
CELL

TYPE:
PERSONAL PROJECT

TECHNOLOGY:
PYTHON ML

This project is just a simulation of Human cell, with some limited basic functionalities. Used Machine learning to inherit characteristics after mitosis.This project is still a WIP

Roles and Responsibilities

- Built the backend logic
- Inspired from Convey's Game of Life
- Introduced environmental conditions and reactions
- Trying to build the visualization of the same

PROJECT:
ISOLATION OF INFECTED MANGOS USING GEOMETRIC INVARIANT TECHNIQUE

TYPE:
INTERNSHIP

TECHNOLOGY:
VC++

This project involves imaging from a real time soft XRAY machine. The Image produced is then processed using various image processing techniques. Geometric Invariance is applied on this processed image, to isolate uninfected mangos via a conveyer belt.

Roles and Responsibilities

- Built from scratch using VC++
- Fetch images from Soft Xray machine directly from the memory.
- Process Images and send signal to the flip switch