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SKILLS

- Solutions deployment
- Cloud computing
- Infrastructure deployment
- Networking, routing, switching
- Linux
- Amazon Web Services, Microsoft Azure, Google Cloud Platform
- Amazon EC2, autoscaling, AWS Lambda, Elastic load balancing
- Amazon S3, CloudFront, EFS, EBS, AWS storage gateway
- Amazon RDS, Amazon DynamoDB, Amazon Redshift
- Docker, Containers, Amazon ECR, Amazon ECS
- Amazon API gateway
- IAM, WAF
- Amazon SNS, SQS
- AWS CloudFormation, Terraform
- Amazon VPC, route 53
- Big Data Analytics
- Hadoop, Kafka, flume, hive, pig, spark, databricks
- Elastic MapReduce
- Python, JSON
- Microsoft Azure, VM, Vnet, Azure storage, Azure SQL database
- Google cloud platform

- Analytical Tools: Tableau, Excel, Weka
- IoT skills: 6LoWPAN stack, RPL, Zolertia Z1, Contiki OS

- Research paper writing, filing copyrights

- Training and presentation skills
- Leadership and Team management
- LaTex Documentaion
- Draw.io, Excel dashboards

- Conducted Labs on AWS
- Conducted workshops on CCNA routing, switching and server configuration for engineering students.
- Conducted workshops on Linux for engineering students.

Shubhangi Kharche

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https://github.com/Shubhangi-Kharche |
https://eportfolio.mygreatlearning.com/dr--shubhangi-kharche

SUMMARY

Cloud Enthusiast seeking to advance in the ever-growing field of Information Technology having more than a year hands-on experience in state-of-the-art cloud computing project implementation and several years of experience in computer networking, mobile communication and Internet of Things technologies.

EXPERIENCE

- June 2005 - Current

Associate Professor, SIES Graduate School of Technology | Nerul

- Previous 1999-2005-Assistant Professor in three different engineering colleges: MIT, Bulandshahr, GCoE, Jalgaon and BNCOE, Pusad

PROJECTS

Capstone Project:

Containerizing Lambda deployments using OCI container images | Fanout Event Notifications with SNS & SQS

- Containerised Amazon Lambda using OCI Images. Deployed lambda function from container image and accessed it using API Gateway.
  - Skills and Tools: Amazon EC2, ECR, IAM, Lambda, IAM role, API Gateway, Python
- Sent Fan out messages using Amazon SNS and Amazon SQS: With and without SNS message filtering
  - Used SNS to send identical messages to various endpoints viz; Amazon SQS, Amazon lambda, Amazon kinesis data firehose, email/email JSON, HTTP/HTTPs, mobile SMS. Used SNS message filtering capability: i) filtering based on topics and ii) JSON scripts. Estimated monthly costs for 1000 users.
  - Skills and Tools: SNS, SQS, Lambda, CloudWatch, IAM role, JSON script.

Other Projects:

Deploying web app using ECS.
In the last 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 re-engineering to convert it to smaller, modular and independently hosted services is difficult. Managed Container Services from cloud providers allows predictable and reproducible packaging of such apps. This project moved & deployed a classical web app to AWS ECS containers.
Tools used - Docker, ECS, LoadBalancer, Fargate

Create and Manage a Nonrelational Database using AWS DynamoDB

DynamoDB is a NoSQL database, allowing for flexible schema design that can evolve with your application. It provides low-latency performance with near-infinite scaling, so you do not need to worry about performance bottlenecks as your application grows. Create DynamoDB tables with required secondary keys and perform CRUD operations. Use Python and Boto 3, AWS SDK for Python, for interacting with the DynamoDB APIs.
Skills and Tools: DynamoDB, NoSQL, Python, Boto3, EC2

Building an Automated Business Process using Managed Services on a Public Cloud In the connected world, it is imperative that the organizations be interlinked with the customers and vendors. This process has been very sluggish, manual, batch-based and prone to failures. Such Integration design has lead to impaired decision-making and delays in the detection of fraudulent actions. This project created an automated, event-based real-time process using managed cloud services that do not have these limitations.
Skills and Tools: AWS S3, AWS SNS, AWS RDS, Python, Boto3

Awards:
Best Paper Award:

- S. Kharche and S. Pawar, "Node level energy consumption analysis in 6LoWPAN network using real and emulated Zolertia Z1 motes," 2016 IEEE International Conference on Advanced Networks and Telecommunications Systems (ANTS), IISc Bangalore, India, 2016, pp. 1-5 **(Best Paper Award)**
- Shubhangi Kharche, Dr. Alka Mahajan, "Performance of IPv4 and IPv6 in Client Server Environment" proceedings of the conference NCRTWWC-2013, 15-16 March, SIES GST, Nerul, Navi Mumbai. **(Best Paper Award)**
- International Scientists Awards on Engineering Science, **Women Researcher award**, 10 and 11 September 2021, VDGOOD Technology Factory, Coimbatore.

- Secured Top 2% position at national level in NPTEL certification on computer networks and Internet protocol, IIT Kharagpur, 2018.
- Secured Elite Silver certificate at national level in NPTEL course on learning analytics, IIT Mumbai, 2019.
- Guided several projects on Internet of Things, Wireless sensor Networks, and Embedded systems
- Published several research papers at national & International levels and filed patent and copyrights

TECHNICAL KNOWLEDGE

Detailed knowledge of cloud infra provisioning, Wireless Networks: protocols and Architectures, Wireless network routing, Internet of Things : architecture, operating systems, protocols, routing, applications. 3G UMTS Architecture, 4G LTE, 5G communication technologies, 6G communication technologies.

Team Communication Solution
Implementing a Team Communication Solution using Mattermost and AWS. This is a scalable solution that can be hosted on a on-premises data center or on a public cloud, with its servers, storage etc. completely managed and controlled by your IT team in accordance with a company's governance and security requirements.
Skills and Tools: EC2, VPC, Security Group, NAT Gateway / NAT Instance

Building an Automated Business Process using Managed Services on a Public Cloud
In the connected world, it is imperative that the organizations be interlinked with the customers and vendors. This process has been very sluggish, manual, batch-based and prone to failures. Such Integration design has led to impaired decision making and delays in the detection of fraudulent actions. This project created an automated, event-based real-time process using managed cloud services that do not have these limitations.
Skills and Tools: Azure VM, Python, Blob Storage, Azure SQL, Azure SDK for Python.
Cloud based file share and sync solution

Implemented a cloud-based scalable and secure file share and sync solution using Azure services. The solution can be easily scaled up to run in your data center or on a public cloud, with its servers, storage etc. completely managed and controlled by your IT team in accordance with a company's governance and security requirements.
Skills and Tools: Virtual Machines, Virtual Networks, Network Security Group, MySQ

CERTIFICATIONS

- AWS Cloud Solutions Architect Associate
- Cisco Certified Network Associate (CCNA)
- Iron Lady Leadership Essentials Program

EDUCATION

Post Graduate Program in Cloud Computing | Cloud Computing Great Lakes Executive Learning
2022

Doctor of Philosophy | Electronics and Communication
Performance Analysis of IPv6 Over Low Power Wireless Personal Area Networks
SNDT Women's University, Mumbai
2020

Master of Engineering | Electronics | 67%
Jawaharlal Nehru College of Engineering, Aurangabad, Dr. B.A.M.U
2004

Bachelor of Engineering | Electronics and Communication | 65.2%
Government College of Engineering, Aurangabad, Dr. B.A.M.U
1999