

A REPORT ON

# FDP on Fundamentals of Cloud Computing and Architecting with AWS

Date: 10<sup>th</sup> – 17<sup>th</sup> April, 2023

Venue: BL-6, B-Block, Silver Oak University

## Fundamentals of Cloud Computing & Architecting with AWS



**Dr. Jay Dave**

Associate Professor,  
Dept. of Computer Engineering, SOCET  
AWS Certified Cloud Practitioner



**Dr. Ravirajsinh Vaghela**

Assistant Professor,  
Dept. of Computer Engineering, SOCET



**Mr. Nilesh Vaghela**

Founder, Electomech Corporation  
AWS Community Hero

## Introduction:

Cloud Computing has emerged as a game-changer in the world of Information Technology, providing an array of benefits to organizations worldwide. With the rapid advancements in cloud technology, it has become imperative for professionals to stay updated with the latest trends and skills in this domain. To cater to this need, Silver Oak University IEEE Student Branch in association with Silver Oak University; Department of Computer Engineering, SOCET; AWS User Groups, Silver Oak University and Silver Oak College of Engineering & Technology organized a 7-day program on the "**Fundamentals of Cloud Computing and Architecting with AWS.**"

## About the Speakers:

The program was led by expert speakers, *Mr. Nilesh Vaghela*, Founder of ElectroMech Corporation, an **AWS** Community Hero; *Dr. Jay Dave*, Associate Professor, Department of Computer Engineering, SOCET and *Dr. Ravirajsinh Vaghela*, Assistant Professor, Department of Computer Engineering, SOCET who guided the faculties through the latest industry trends, hands-on experiences, and best practices to build and manage cloud solutions.

## About the Session:

**Date:** 10<sup>th</sup> – 17<sup>th</sup> April, 2023

**Time:** 11:30 AM to 04:30 PM

**Venue:** BL-6, B-Block, Silver Oak University

**Attendees:** 45

## Day 1:

The proceedings of the Faculty Development Program commenced with a warm welcome and felicitations extended by the esteemed Dr. Jay Dave to all the attendees. The focal point of the program was the dynamic domain of Cloud Computing, its salient features, and its pivotal role in the contemporary era.

The session on the introduction of Cloud Computing by Dr. Jay Dave was highly engrossing and interactive. The distinguished faculties shared their valuable insights and views regarding their utilization and experience with different cloud-based activities and applications. The exchange of ideas and perspectives was truly enlightening.

The second session was conducted by the erudite Dr. Ravirajsinh Vaghela, who elucidated the Fundamentals of Amazon Web Services (AWS) with consummate ease. He deftly introduced the various AWS services that are extensively used in the market for diverse real-time applications. Furthermore, he offered a comprehensive overview of the AWS Global Infrastructure. The faculties were proficiently guided to perform hands-on activities on the AWS Educate portal.

## Day 2:

The day commenced with a gracious welcome extended to the esteemed speaker, Mr. Nilesh Vaghela. Dr. Satvik Khara, in a gesture of profound respect, presented him with a delightful bouquet as a gesture of warm gratitude.

Mr. Nilesh Vaghela began the session with his insightful discourse on AWS services, a comprehensive introduction that left the attendees spellbound. He touched upon vital topics such as Identity Access Manager and AWS Network Layer, highlighting their significance in the domain of cloud computing.

AWS Identity and Access Management (IAM), as elucidated by Mr. Nilesh Vaghela, is a powerful tool that empowers users to regulate and control access to services and resources within the AWS network. By offering centralized control over permissions, IAM enables fine-grained management of access, allowing organizations to scrutinize access and streamline permission assignments across the AWS infrastructure.

The subsequent session delved into the practical implementation of Virtual Private Networks (VPNs) and subnets in the AWS Cloud. Mr. Nilesh Vaghela provided an in-depth understanding of the permissions that can be granted or denied to various user groups, highlighting the flexibility and robustness of the AWS Cloud infrastructure.

## Day 3:

On the third day of the educational program, esteemed speaker Mr. Nilesh Vaghela graced the attendees with his expertise in the field of Virtual Private Cloud (VPC) security. Through a comprehensive demonstration, he exemplified the art of implementing security protocols and regulations on diverse user groups and roles.

Through the program, the faculties were granted the opportunity to receive accreditation and enroll in the **"AWS Academy Cloud Foundations"** course, which encompasses the fundamentals of AWS infrastructure, security, authentication, networking, storage, compute, scaling, and monitoring. Hands-on training sessions were conducted to augment the participants' practical experience and understanding of the course material.

The subsequent session of the day focused on AWS Databases, wherein Mr. Nilesh Vaghela elaborated on the array of databases offered by AWS, such as AWS Aurora, Redshift, RDS, and DynamoDB. He also provided insightful use cases that employed these database services. Participants were able to apply their newfound knowledge and hone their skills through the lab sessions provided in the enrolled course.

#### **Day 4:**

On the fourth day of the training program, Mr. Nilesh Vaghela expertly delved into the fascinating world of Compute feature of AWS Services. He adeptly discussed the various innovative applications of Compute, along with the highly pertinent topics of IAM, MFA (Multi factor Authentication), and S3 buckets.

The following session was equally informative and engaging, as the attendees were introduced to the cutting-edge concepts of Containers and Kubernetes, Docker, Lambda feature, and AWS Elastic Beanstalk. The skilled instructor conducted hands-on sessions on S3 bucket creations and instance creation, allowing the participants to gain valuable experience and hone their skills.

As the sessions progressed, the atmosphere was highly interactive and engaging, with the facilitators posing thought-provoking quiz questions to assess the participants' knowledge and encourage active participation. Overall, the day proved to be an enriching and enlightening experience for all involved.

#### **Day 5:**

On the fifth day of the program, the esteemed Dr. Ravirajsinh Vaghela spearheaded a series of engaging sessions that were tailored to enhance the faculties' proficiency on various AWS services. Throughout the course of the sessions, the faculties were presented with a range of tasks that required them to demonstrate their mastery of the enrolled course.

During the second session, Dr. Ravirajsinh Vaghela delivered a highly informative and comprehensive lecture that delved into the intricacies of AWS Cloud Architecture, IAM policy, DynamoDB, Root user, EC2 service, and S3 services. With great eloquence and expertise, he expounded on the key features of each service, providing the faculties with a deeper understanding of their functionalities and applications.

In addition, the faculties were given the opportunity to participate in a series of engaging lab sessions, which were carefully designed to enhance their practical skills and knowledge of the enrolled course. Through these hands-on exercises, the faculties were able to gain valuable insights and experiences that will undoubtedly serve them well in their future endeavors. Overall, the fifth day was a highly productive and enriching experience for all those in attendance.

#### **Day 6:**

On the sixth day of the AWS Course Account session, the esteemed Mr. Nilesh Vaghela assumed the role of guide, offering his extensive expertise on the topic of utilizing the Sandbox Environment. He imparted valuable insights to the participating faculties, detailing the process of hosting a static website in the S3 Bucket, as well as providing guidance on the use of the MobaXterm software to connect to SSH and activate the instance via command line interface.

With this newfound knowledge at their disposal, the faculties eagerly set about performing a myriad of experiments within the Sandbox Environment, skillfully applying the techniques discussed over the preceding five days. Inquisitive and determined, they posed a variety of queries, all of which were adeptly resolved by Mr. Nilesh Vaghela.

#### **Day 7:**

On the auspicious day of 17<sup>th</sup> April 2023, the Faculty Development Program (FDP) on the **"Fundamentals of Cloud Computing and Architecting with AWS"** was concluded with a remarkable valedictory function, presided over by the distinguished Dr. Satvik Khara. The event's resounding success was attributed to the active participation of *45 esteemed attendees, three exceptional experts*, and an intensive *course teaching spanning of 24 hours*.

The art of admiration is a key element of any successful event, and the university takes pride in its ability to honor its speakers. Thus, the eminent speaker, Mr. Nilesh Vaghela, was adorned with a prestigious memento by Dr. Satvik Khara, as a token of appreciation and gratitude for his insightful contributions.

The Vote of Thanks was given by the erudite A/Prof. Digant Parmar, who eloquently expressed gratitude towards Dr. Satvik Khara, the management of Silver Oak University, and the esteemed Dr. Saurin Shah, the Provost of Silver Oak University, for their constant support and encouragement towards the success of the FDP.

#### **Conclusion:**

The sessions covered a variety of topics ranging from pedagogy and curriculum development to technology integration and research methodologies. The program also provided opportunities for participants to engage in hands-on activities and discussions, which helped to enhance their understanding of the topics covered. The inclusion of guest speakers and expert facilitators further enriched the program and provided diverse perspectives on the subject matter.

Overall, the program was successful in meeting its objectives of enhancing the professional development of the faculty members and equipping them with the necessary skills and knowledge to improve their teaching practices. The participants' feedback was positive, indicating that the program was well-received and beneficial to their teaching and research endeavors.



**Some glimpses of the event:**



***Dr. Satvik Khara giving token of appreciation to Mr. Nilesh Vaghela***



***Dr. Jay Dave Delivering the session on introduction to Cloud Computing***



***Dr. Raviraj Vaghela Delivering the session on AWS Global Infrastructure***



***Mr. Nilesh Vaghela Delivering the session and faculties doing hands-on Practice***



***A group photo of FDP Attendees with Dr. Satvik Khara and the Experts***