



simplilearn

# DEVOPS ENGINEER

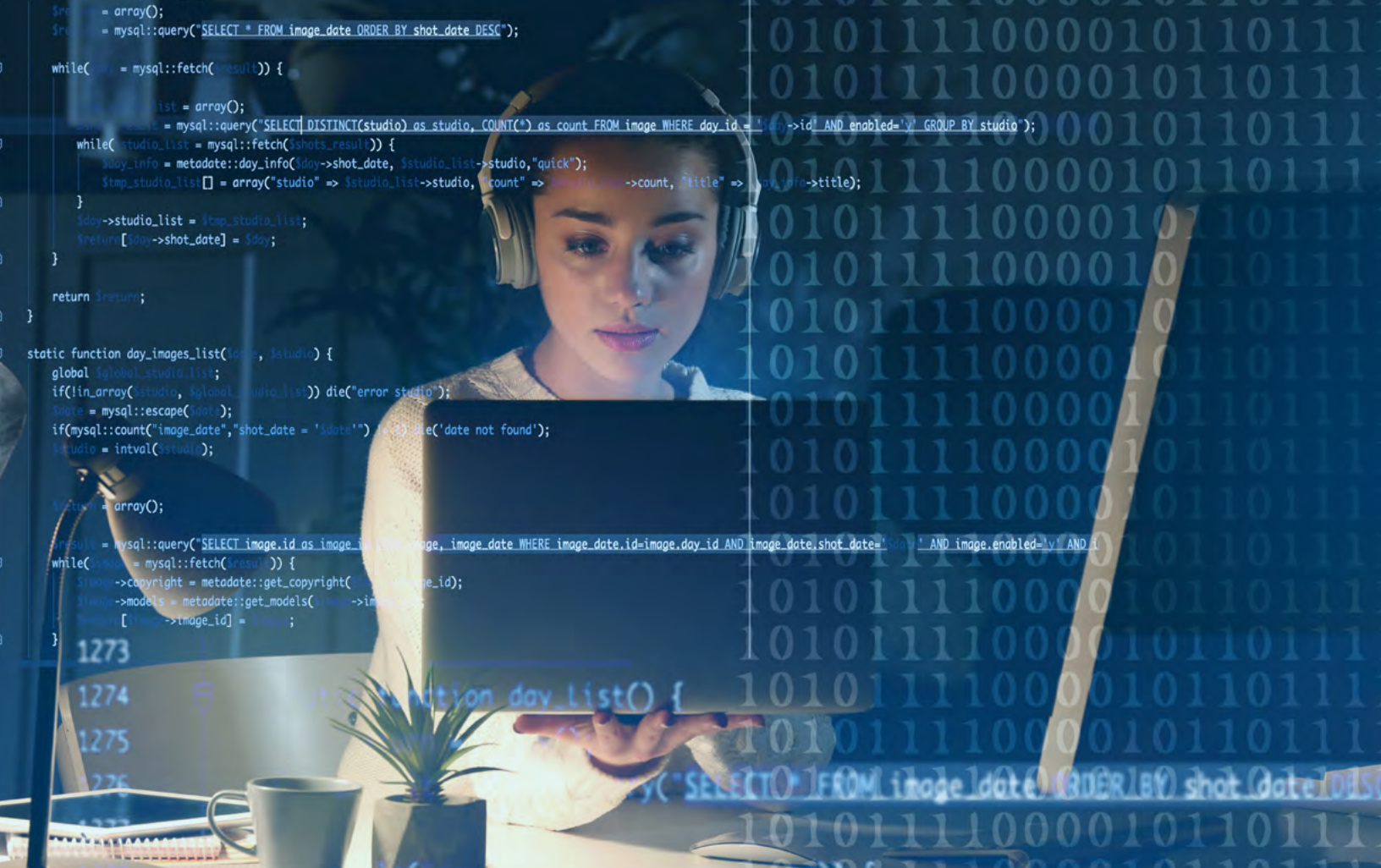
---

## Master's Program

# Table of Contents

---

About the Course	3
Key Features of the DevOps Engineer Master's Program	4
About Simplilearn	4
Partnerships and Certifications Alignment	5
Learning Path Visualization	6
Program Outcomes	7
Who Should Enroll	8
Courses	
<b>Step 1:</b> DevOps Certification Training	9
<b>Step 2:</b> Docker Certified Associate (DCA)	10
<b>Step 3:</b> Container Orchestration using Kubernetes	12
Elective	14
Program Projects	15
Tools and Services Covered	17
Certificate	18
Classroom-Level Immersion: Delivered Digitally	19
Customer Reviews	20
Corporate training	21



## About the Course

Simplilearn's DevOps Engineer Master's Program will help you achieve competency in all aspects of software development (Dev) and technology operations (Ops) by using principles of continuous deployment and continuous monitoring. You will learn how to implement tools such as Puppet, Nagios, Chef, Docker, Git, and Jenkins.

# Key Features

---



Capstone and 100+ hands-on practice projects



20+ in-demand tools and skills



Job-assist program (India only)



8X higher live interaction with live online classes by industry experts

## About Simplilearn

---

Simplilearn is the world's #1 online bootcamp provider that enables learners through rigorous and highly specialized training. We focus on emerging technologies and processes that are transforming the digital world, at a fraction of the cost and time as traditional approaches. Over one million professionals and 2000 corporate training organizations have harnessed our award-winning programs to achieve their career and business goals.





## Partnerships and Certifications Alignment

---

This DevOps Engineer Program is aligned to the curriculum of Amazon Web Services and we are the registered training provider for this program.

# Learning Path



## Electives

- ✓ CI/CD Pipeline with Jenkins
- ✓ AWS Developer Associate
- ✓ Agile Scrum Master
- ✓ Linux Training
- ✓ Microsoft Azure Fundamentals
- ✓ AWS Technical Essentials
- ✓ Git and Github Training
- ✓ Ansible 2.0 Training
- ✓ Puppet Training
- ✓ DevOps on AWS

# Program Outcomes

At the end of this DevOps Engineer Master's Program, you will:



Understand the fundamentals of DevOps engineering and be fully proficient with DevOps terminologies, concepts, benefits, and deployment options to meet your business requirements



Obtain complete knowledge of the “version control system” to effectively track changes augmented with Git and Github training



Have a detailed overview of continuous integration and container ecosystem by learning tools such as Jenkins and Docker



Be able to deliver change requests from customers rapidly and effectively by adding new (and updating existing) features



Develop a sound understanding of security and performance testing to safeguard releases from vulnerabilities



Successfully transition from a software engineer to a DevOps engineer



## Who Should Enroll in this Program?

This program caters to those who are hoping to enter the world of DevOps as it is designed and structured to accommodate various professional backgrounds. Although there are no prerequisites for taking up this training program, individuals in the following roles and disciplines are ideal for this course:

- ✓ Fresh graduates who intend to take the plunge into the DevOps job market
- ✓ Professionals with less than two years of experience who are working in either technical or non-technical job roles and wish to build successful careers in the cloud computing domain
- ✓ People working in the following roles will benefit the most from the DevOps

### Engineer Master's Program:

- › IT Team Leaders
- › Software Developers
- › Systems Administrators and IT Managers
- › Cloud Engineers
- › Developers
- › Engineers



## STEP

1

2

3

# DevOps Certification Training

Simplilearn's DevOps practitioner course is designed to prepare you for future successful software development projects. This training has been designed to follow best practices for software development and to make the most efficient use of software tools. The course follows the whole software development lifecycle from requirements analysis through coding to production support.

## Key Learning Objectives

By the end of this training you will be able to:

- ✓ Integrate and deploy tools like Jenkins, TeamCity, and Maven
- ✓ Configure management tools Puppet, Chef, Ansible, and Saltstack
- ✓ Understand DevOps tools on the cloud
- ✓ Build and deploy containerization using Docker
- ✓ Perform tuning and monitoring using Nagios

## Course curriculum

- ✓ Lesson 00 - Course Introduction
- ✓ Lesson 01 - Introduction to DevOps
- ✓ Lesson 02 - Version Control Systems
- ✓ Lesson 03 - Continuous Integration, Continuous Deployment, and Build Tools
- ✓ Lesson 04 - Software and Automation Testing Frameworks
- ✓ Lesson 05 - Configuration Management Tools
- ✓ Lesson 06 - Containerization with Docker
- ✓ Lesson 07 - Continuous Monitoring
- ✓ Lesson 08 - Need of Cloud in DevOps
- ✓ Lesson 09 - Practice Projects

## STEP

1

2

3

# Docker Certified Associate

This training course is aligned with the Docker Certified Associate (DCA) Certification body and covers the fundamentals of Docker. You will be able to comprehend Docker and its role in the DevOps lifecycle; create images, containers, swarms, volumes, and networks; define Docker security client bundles and clientserver authentication; and more.

## Key Learning Objectives

By the end of this course you will be able to::

- ✓ Understand the basics of Docker and its features
- ✓ Run a Docker container and image creation management
- ✓ Understand tools that support Docker to ease application deployment, continuous integration, service discovery, and orchestration
- ✓ Understand Docker networking models and use cases
- ✓ Install and uninstall Docker Enterprise
- ✓ Discuss Docker security in detail using Demons

## Course Curriculum

### Self Paced Curriculum

- |   |   |
|---|---|
| ✓ Lesson 01 - Introduction                | ✓ Lesson 08 - Orchestration DockerSwarm |
| ✓ Lesson 02 - Understanding Docker        | ✓ Lesson 09 - Universal Control Plane   |
| ✓ Lesson 03 - Docker CE on Linux Platform | ✓ Lesson 10 - Docker Trusted Registry   |
| ✓ Lesson 04 - Docker Networking           | ✓ Lesson 11 - Security                  |
| ✓ Lesson 05 - Docker Images               | ✓ Lesson 12 - The DCA Test              |
| ✓ Lesson 06 - Docker Storage and Volumes  |   |
| ✓ Lesson 07 - Docker Compose              |   |

## Live Virtual Class Curriculum

- ✓ Lesson 01 - Course Introduction
- ✓ Lesson 02 - Introduction to Docker
- ✓ Lesson 03 - Image Creation, Management, and Registry
- ✓ Lesson 04 - Orchestration
- ✓ Lesson 05 - Networking
- ✓ Lesson 06 - Installation and Configuration of Docker Enterprise
- ✓ Lesson 07 - Security

## STEP

1

2

3

# Container Orchestration using Kubernetes

Kubernetes is one of the most popular container orchestration tools available. The Container Orchestration with Kubernetes Certification course will help you grasp the key skills, technology, and concepts that a Kubernetes administrator needs to know.

## Key Learning Objectives

By the end of the course you'll be able to:

- ✓ Understand Kubernetes core concepts and terminologies
- ✓ Install and deploy Kubernetes cluster
- ✓ Understand pods and scheduling techniques
- ✓ Perform logging, monitoring, services, and volumes in Kubernetes
- ✓ Troubleshoot application and network failures
- ✓ Perform auditing and logging the cluster events

## Course Curriculum

### Self Paced Curriculum

- |                                   |  |
|-----------------------------------|--|
| ✓ Lesson 01 - Introduction        | ✓ Lesson 06 - Kubernetes Concepts - PODs, ReplicaSets, Deployments |
| ✓ Lesson 02 - Kubernetes Overview | ✓ Lesson 07 - Networking in Kubernetes                             |
| ✓ Lesson 03 - Setup Kubernetes    | ✓ Lesson 08 - Services   |
| ✓ Lesson 04 - Kubernetes Concepts | ✓ Lesson 09 - Microservices Architecture                           |
| ✓ Lesson 05 - YAML Introduction   | ✓ Lesson 10 - Conclusion   |



## Live Virtual Class Curriculum

- ✓ Lesson 01 - Course Introduction
- ✓ Lesson 02 - Core Concepts
- ✓ Lesson 03 - Kubernetes Cluster
- ✓ Lesson 04 - Workloads
- ✓ Lesson 05 - Scheduling
- ✓ Lesson 06 - Services, Load Balancing, and Networking
- ✓ Lesson 07 - Storage
- ✓ Lesson 08 - Azure Kubernetes Service
- ✓ Lesson 09 - Troubleshooting and Kubernetes Case Studies

# Elective

---

## CI/CD Pipeline with Jenkins

This CI/CD Pipelines with Jenkins Certification Training course will help you learn server automation, continuous integration, build pipelines and configuration tools, automated testing and code quality improvement, and distributed system in Jenkins through intensive, hands-on practice assignments.



## AWS Developer Associate

Simplilearn's AWS Developer Associate training builds upon the skills learned from the AWS Technical Essentials course. This course will teach you how to write code and design scalable applications, implement application security and testing, and develop expertise with key AWS components such as S3, DynamoDB, Elastic Beanstalk, and CloudFormation.



# Program Projects

---

## Project 1:

### Branching Development Model

Build a branching model to help your team understand the Git workflow for faster integration of work.

## Project 2:

### Architecting Jenkins Pipeline for Scale

Use Jenkins to set up a distributed pipeline that will compile and test a Maven project on two different slave nodes respectively.

## Project 3:

### Building a CI/CD Pipeline with Jenkins

Use Jenkins to set up a CI/CD pipeline that will compile and test a Maven project and deploy it to a Tomcat server.

## Project 4:

### Dockerizing Jenkins Pipeline

Demonstrate continuous integration and delivery by Dockerizing Jenkins Pipeline.

## Project 5:

### Deploy Angular Application in Docker Container

Deploy the Angular application in Docker. The Angular application should be built with the Angular CLI along with Docker Compose for development and production.

### Project 6:

## Containerizing an Application and Scanning Its Docker Image with DTR

In this project, you will create an image that can handle the spring boot application by using Dockerfile and pushing it to a private registry using DTR.

### Project 7:

## Social Media Underlying Infra Challenges

Resize the existing cluster size in order to meet infra requirements of an already running application in production and autoscale the application in terms of replica set and deployments.

### Project 8:

## IT Software Containerization

As a Kubernetes developer, demonstrate the packaging of your web application in a Docker container image. Use the container image on Google Kubernetes Engine cluster as a load-balanced set of replicas that can scale to the needs of your users. Scale a deployed application in Google Kubernetes Engine and then deploy a new version of your app with zero down time and finally deploy it to the cluster.

### Project 9:

## Hands on with Amazon DynamoDB Database

Create the Amazon DynamoDB table, add items to the table, query it, and delete the table.

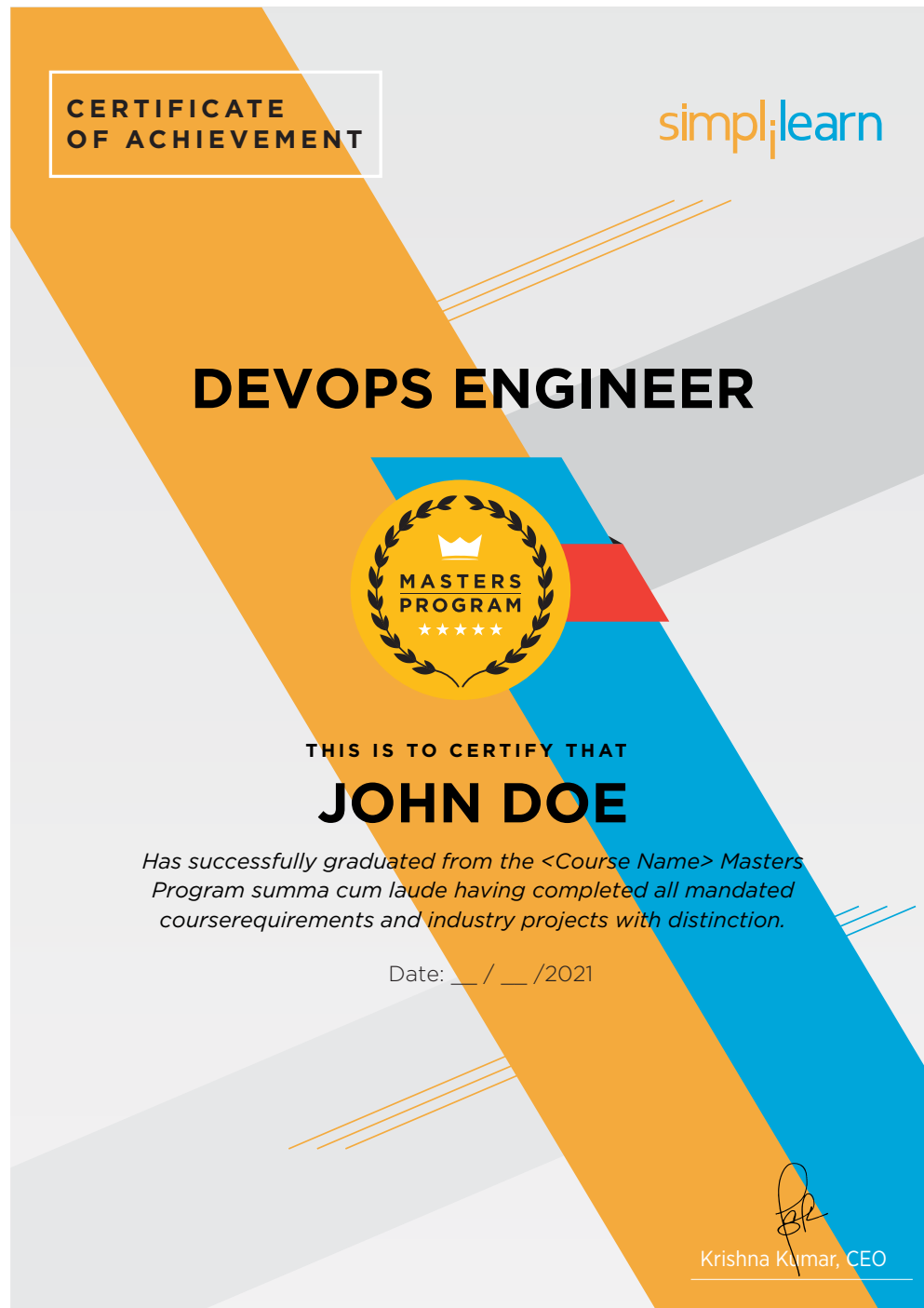


# Tools and Services Covered

---

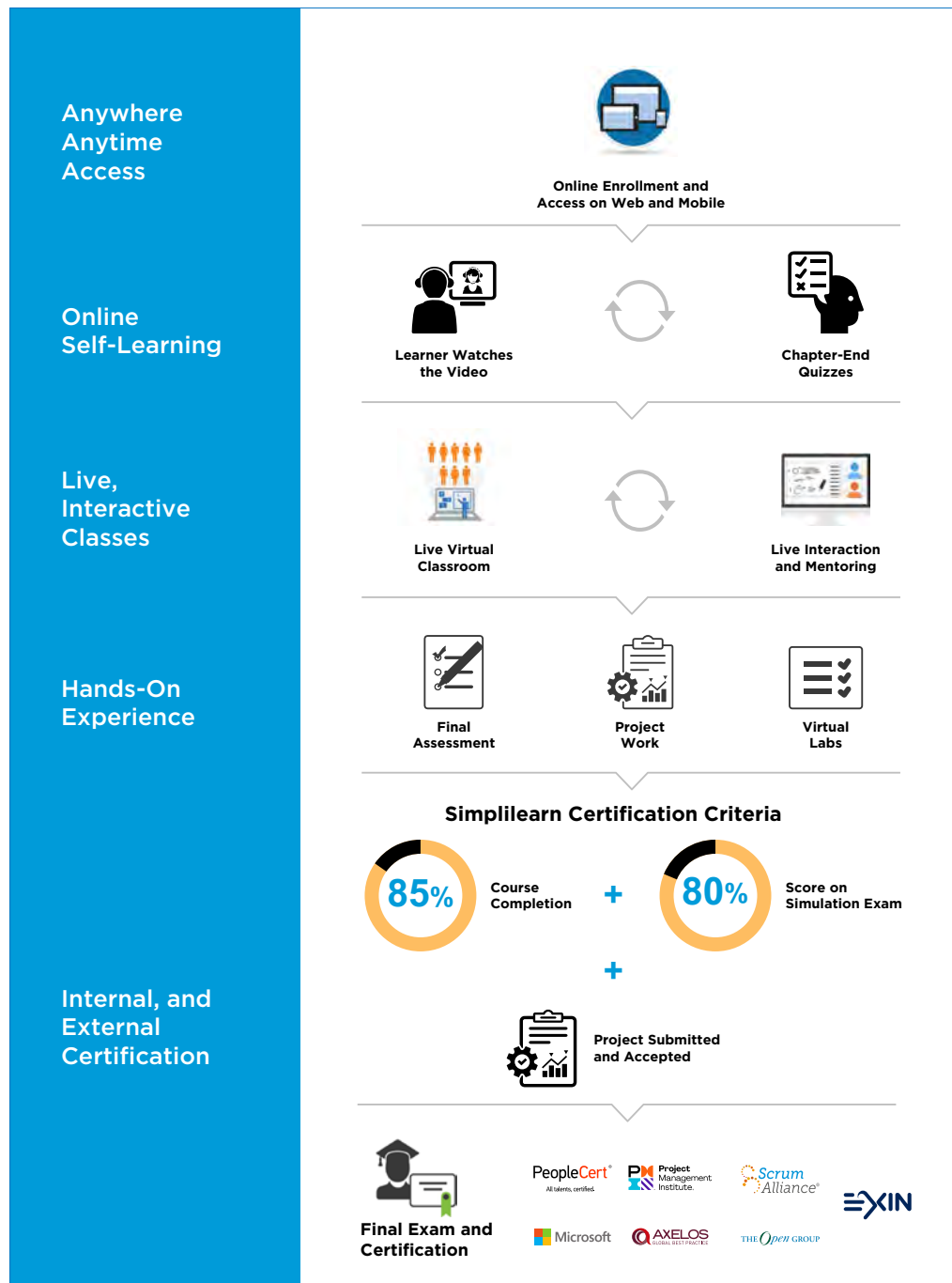


# Certificates



Upon completion of this Master's Program, you will also receive an industry-recognized Master's Certificate from Simplilearn.

# Classroom-Level Immersion: Delivered Digitally



# Customer Reviews

---

**Narmatha K**

Simplilearn is a great place to learn new technologies. Trainers are excellent at answering our technical questions and helping us learn about the latest technologies. The live sessions are more helpful and interactive. The latest portal looks excellent and provides enough information for self-learning. It helps me a lot in my career growth.

**Harikrishnan k**

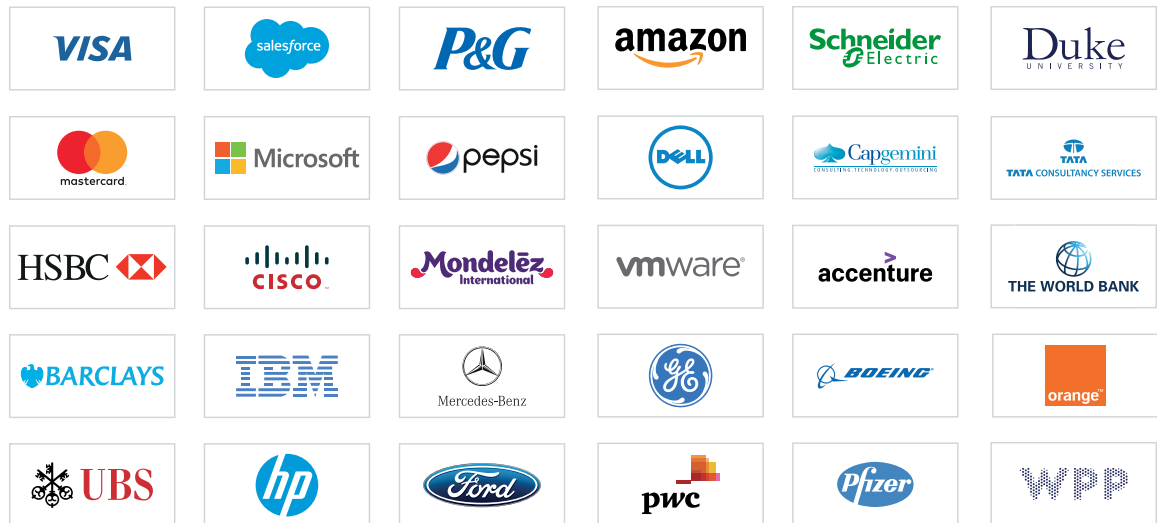
I have enrolled with AWS DevOps Architect in Simplilearn. The course content was detailed. I am really satisfied with the course. The certification helped me get a promotion at my present company. I would recommend this course to anyone who wants to get into DevOps.





# Corporate Training

## Top clients we work with:



## Features of Corporate Training:



Tailored learning solutions



Flexible pricing options



Enterprise-grade learning management system (LMS)



Enterprise dashboards for individuals and teams



24X7 learner assistance and support



## USA

Simplilearn Americas, Inc.  
201 Spear Street, Suite 1100, San  
Francisco, CA 94105  
United States  
Phone No: +1-844-532-7688

## Singapore

Simplilearn Singapore Pte Ltd  
#14-302, The Plaza,  
7500A Beach Rd,  
Singapore 199591.  
Call us at: 800-492-2295

## Saudi Arabia

Saudi Business Machines Ltd.  
Digital City, SBM Building (KB05)  
Prince Turki bin Abdulaziz  
Al-Awwal Road - Al-Nakhil  
P.O. Box-818,  
Riyadh 11421

---

[www.simplilearn.com](http://www.simplilearn.com)