DEVOPS ENGINEER
MASTER'S PROGRAM

Contents

Program Overview

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.

Program Features

188 hours of instructor-led training

228 hours of in-depth Blended Learning

20+ in-demand tools and skills

40 hours of self-paced learning

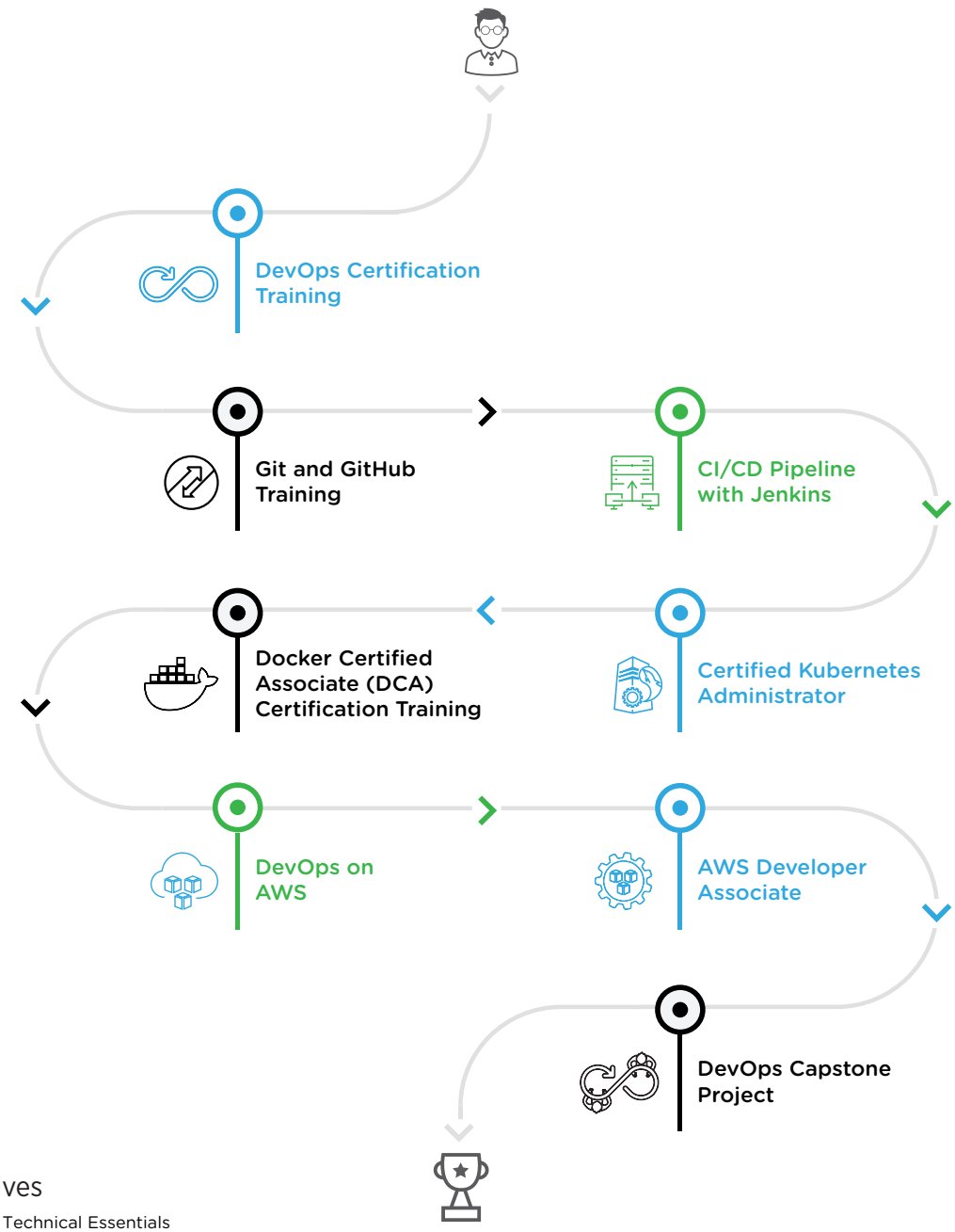
Job-assist program (India only)

Capstone and 100+ hands-on practice projects

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 - DevOps Engineer



Electives

- AWS Technical Essentials
- Puppet Training
- Agile Scrum Master
- Ansible
- Linux Training
- Microsoft Azure Fundamentals

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

Target Audience

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

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 Outcomes

By the end of this course 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 0 - 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

Git and GitHub Training

Simplilearn's Git and GitHub training program will help you understand software version control and its hosting services. This course is designed to provide expertise in Git tools and help you comprehend the difference between Git and Github. You will learn how these tools are used in software development operations, including essential concepts such as remote repositories, branching, merging, using Git in IDE, and Git workflows.

Key Learning Outcomes

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

- Create and fork repositories in GitHub
- Apply branching and merging concepts in your projects
- Implement different Git workflow strategies in real-time scenarios
- Deploy branching, merging, and rebasing in Git
- Work on Git with BitBucket using cloud
- Understand Git operation in Eclipse ID

Course curriculum

Self Paced Curriculum

- Lesson 01 - Course Introduction

Live Virtual Class Curriculum

- Lesson 01 - Course Introduction
- Lesson 02 - Git Basic
- Lesson 03 - Getting started with Git
- Lesson 04 - Remote Repositories
- Lesson 05 - Branching, Merging, and Rebasing in Git
- Lesson 06 - BitBucket and GitLab
- Lesson 07 - GitPlugin with IDE

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.

Key Learning Outcomes

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

- Build a continuous integration/continuous deployment (CI/CD) pipeline
- Design an automated deployment pipeline
- Build jobs and configurations in Jenkins
- Configure and run builds in Jenkins from GitHub
- Perform integration testing with Jenkins
- Configure and build tools and plugins using Github

Course curriculum

Self Paced Curriculum

- Lesson 01 - Course Introduction
- Lesson 02 - Continuous Integration & Continuous Delivery With Jenkins
- Lesson 03 - Getting Started With Jenkins
- Lesson 04 - CI & CD Pipeline With Jenkins, Gradle & Artifactory
- Lesson 05 - CI & CD Pipeline With Jenkins & Maven
- Lesson 06 - Manage Relational Database Schema With Jenkins And Sqitch
- Lesson 07 - Operational Considerations For Jenkins

Live Virtual Class Curriculum

- Lesson 01 - Course Introduction
- Lesson 02 - Introduction to CI/CD
- Lesson 03 - Getting Started with Jenkins
- Lesson 04 - Build Jobs and Configurations
- Lesson 05 - Configuring Build Pipelines
- Lesson 06 - Automated Testing In Jenkins
- Lesson 07 - Code Quality Improvement Using Jenkins
- Lesson 08 - Automated Deployment and Continuous Delivery
- Lesson 09 - Distributed System in Jenkins

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

Live Virtual Class Curriculum

- Lesson 1 - Course Introduction
- Lesson 2 - Introduction to Docker
- Lesson 3 - Image Creation, Management, and Registry
- Lesson 4 - Orchestration
- Lesson 5 - Networking
- Lesson 6 - Installation and Configuration of Docker Enterprise
- Lesson 7 - Security

Certified Kubernetes Administrator

Kubernetes is one of the most popular container orchestration tools available. The Kubernetes Administrator certification course, founded by the Cloud Native Computing Foundation (CNCF), will enhance your Kubernetes skills and give you credibility in the field while preparing you for the CKA exam.

Key Learning Objectives

By the end of this course you will 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 02 - Kubernetes Overview
- Lesson 03 - Setup Kubernetes
- Lesson 04 - Kubernetes Concepts
- Lesson 05 - YAML Introduction
- Lesson 06 - Kubernetes Concepts - PODs, ReplicaSets, Deployments
- Lesson 07 - Networking in Kubernetes
- Lesson 08 - Services
- Lesson 09 - Microservices Architecture
- Lesson 10 - Conclusion

Live Virtual Class Curriculum

- Lesson 01 - Core Concepts
- Lesson 02 - Scheduling Pods
- Lesson 03 - Logging and Monitoring
- Lesson 04 - Application Lifecycle Management
- Lesson 05 - Cluster Maintenance
- Lesson 06 - Security and Authentication
- Lesson 07 - Storage and Volumes
- Lesson 08 - DNS Networking, CoreDNS, and CNI
- Lesson 09 - Troubleshooting: Application Failures, Control Panel Failures, and Network Failures

DevOps on AWS

Simplilearn's DevOps on AWS course is structured to build your understanding of both technologies using the advanced skills on CodeBuild, CodeDeploy, and CodePipeline to automate continuous delivery and continuous integration for your application.

Key Learning Objectives

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

- Set up the DevOps infrastructure on the cloud
- Work and set up IDE on Cloud9
- Deploy projects on AWS using CodeBuild, CodeDeploy, and CodePipeline
- Work on AWS CodeStar with complete deployment

Course curriculum

- Lesson 01 - Getting Started with DevOps on AWS Cloud
- Lesson 02 - Spinning Up an IDE in AWS Cloud with Cloud9
- Lesson 03 - Building Applications with AWS CodeBuild
- Lesson 04 - Deploying Applications with AWS CodeDeploy
- Lesson 05 - Automating Deployment with AWS CodePipeline
- Lesson 06 - DevOps with AWS CodeStar

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.

Key Learning Objectives

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

- Plan, design, develop, and deploy scalable and elastic cloud solutions using AWS
- Write code that optimizes performance of AWS services
- Recognize and implement code-level application security (IAM roles, credentials, encryption)
- Identify and implement the appropriate architecture for development, testing, and staging environments
- Identify and deploy secure procedures for optimal cloud deployment and maintenance
- Develop and maintain applications written for S3, DynamoDB, SQS, SNS, SWS, AWS Elastic Beanstalk, and AWS CloudFormation
- Identify and implement cloud security best practices

Course curriculum

- Lesson 01 - Introduction
    1. AWS Overview
    2. AWS Services

DevOps Capstone Project

This DevOps capstone project will give you an opportunity to implement the skills you learned throughout this program. Through dedicated mentoring sessions, you'll learn how to solve a real-world, industry-aligned problem. This project is the final step in the learning path and will enable you to showcase your expertise in DevOps to future employers.

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

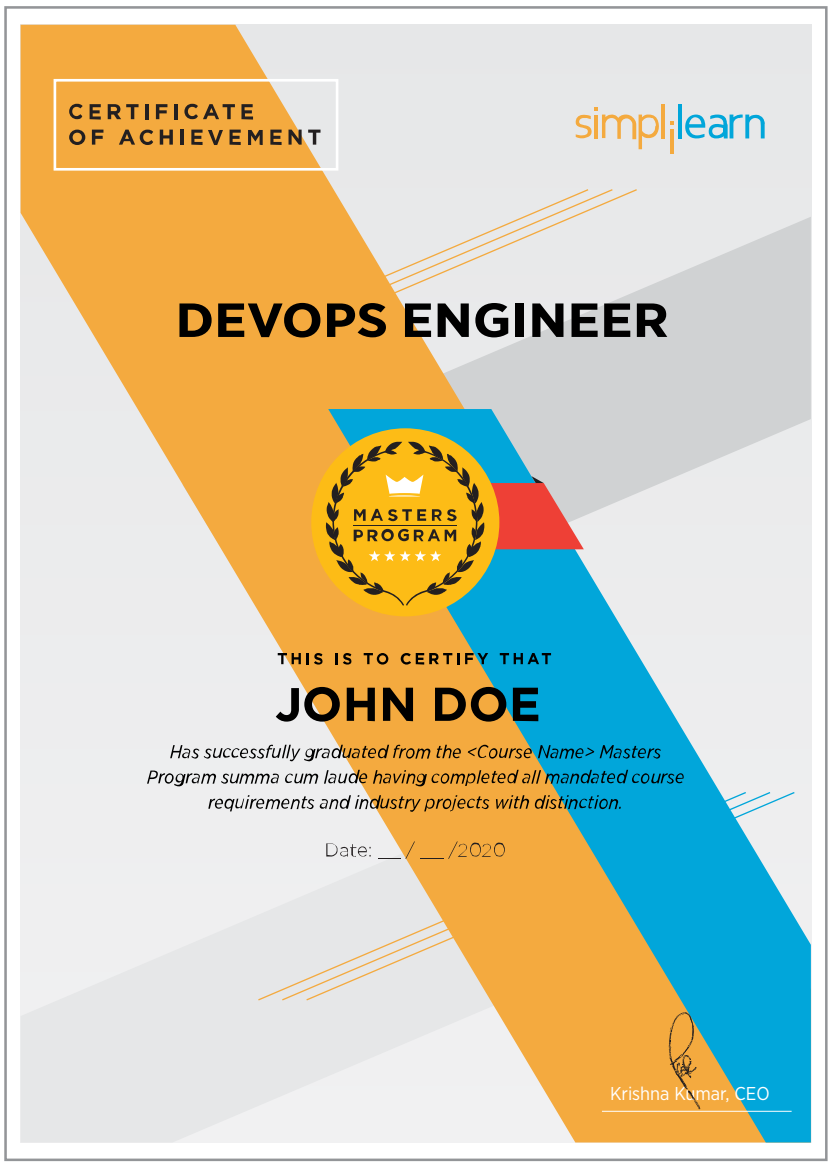
As a Kubernetes developer, demonstrate the packaging of your web application in a Docker container image. Use the container image on Google Kubernetes Engine cluster as a load-balanced set of replicas that can scale to the needs of your users. Scale a deployed application in Google Kubernetes Engine 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



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.

About Us

Simplilearn is a leader in digital skills training, focused on the emerging technologies that are transforming our world. Our unique Blended Learning approach drives learner engagement and is backed by the industry's highest completion rates. Partnering with professionals and companies, we identify their unique needs and provide outcome-centric solutions to help them achieve their professional goals.

simplilearn

USA

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

INDIA

Simplilearn Solutions Pvt Ltd.
53/1 C, Manoj Arcade, 24th Main, Harlkunte
2nd Sector, HSR Layout
Bangalore - 560102
Call us at: 1800-212-7688

www.simplilearn.com