



AWS DevOps Certification Accelerator

Developer - Associate

[Register here](#)

Overview

The AWS DevOps Certification Accelerator consists of online video courses, instructor-led office hours, hands-on learning activities, and personal check-ins from the Talent Learning Programs Team. The Accelerated Learning Path will cover containers, serverless fundamentals, Microservices, Logging and Monitoring, and other important DevOps concepts. Upon completing this learning path, you will be ready to take the Developer - Associate certification exam, and will be ready to take on a new job focusing on AWS DevOps.

You will need to create an account on AWS Partner Network with your Toptal email to take the courses for this program. There is no charge for this, and it only takes a few seconds. To register, please use this link: <https://partnercentral.awspartner.com/APNSelfRegister>

Estimated Time

2 Months at 2-5 hours per week

**Note: you may skip sections that do not apply to you to shorten the time duration.*

Prerequisites

- A basic level of experience in any programming language
- A basic level of understanding of networking
- A basic level of understanding of Linux or Windows

Curriculum

1. Learning Pathway on AWS

The main part of the Accelerator program is the thoughtfully designed AWS-based learning pathway with handpicked courses from AWS experts. This pathway will prepare you to take the certification exam and find a new job with this skillset.

2. Office Hours

Office hours are instructor-led guided sessions and are held once every week. They are facilitated by industry experts who have real time experience in AWS.

[\[Click here\]](#) for office hours schedule.

3. Hands-On Learning Activities

In addition to the AWS courses and Office Hours, you will be able to participate in hands-on learning activities sponsored by AWS experts. These activities will be scheduled and shared after the program begins.

4. Certification Exam

At the end of the Accelerator program, you will take the AWS Certified Developer - Associate exam. Toptal will reimburse you for the exam fee once you submit proof that you have passed.

Additional Resources

1. AWS Documentation - <https://docs.aws.amazon.com/index.html>
2. Exam Guide - [AWS-Certified-Developer-Associate_Exam-Guide.pdf \(awsstatic.com\)](#)

Week 1: AWS Fundamentals

Estimated Time: 3 hours 40 minutes

Lesson	Time	Topics Covered	Link
Week 1 Office Hours: Introduction to Office Hours by Toptal			
Introduction to AWS Elastic Beanstalk	10 minutes	AWS Elastic Beanstalk provides you with a platform enabling you to quickly deploy your applications in the cloud. This course will briefly discuss the different components of the AWS Elastic Beanstalk solution, and perform a demonstration of the service.	Click here
Getting Started with .NET on AWS	90 minutes	In this course, you will: <ul style="list-style-type: none">• Understand which AWS services you can use to deploy, manage, and secure your .NET applications• Become familiar with AWS developer tools that support your .NET development in the AWS Cloud• Deploy a sample .NET application to the AWS Cloud using Microsoft Visual Studio	Click here
Accelerating Messaging Modernization with Amazon MQ	30 minutes	In this course, you will learn to: <ul style="list-style-type: none">• Understand industry messaging use cases• Understand multiple migration paths to messaging modernization• Understand benefits of Amazon MQ	Click here

Week 2: Containers

Estimated Time: 3 hours 5 minutes

Lesson	Time	Topics Covered	Link
Week 2 Office Hours: Working with Containers EKS Tips and Tricks			
Introduction to Containers	15 minutes	In this course, you will learn how to: <ul style="list-style-type: none"> Describe the history, technology and terminology behind containers Differentiate containers from other forms of virtualization Recognize the drivers for using container-based workloads today 	Click here
Introduction to AWS Fargate	10 minutes	This is an introductory course to AWS Fargate, a new AWS service for deploying and managing containers. In this course, we cover how AWS Fargate makes it easier for you to run applications using containers and we walk through an example architecture of AWS Fargate and Amazon ECS so you can better understand how the service works.	Click here
Deep Dive on AWS Fargate: Building Serverless Containers at Scale	40 minutes	Containers allow you to craft sophisticated cloud-native applications, but how do you manage scale? In this course you will learn how to better launch and manage your large-scale containerized workloads with AWS Fargate. Dmitriy Novikov will walk through the essentials of AWS Fargate to get the most out of your container deployment and management strategy.	Click here
Deep Dive on Container Security	30 minutes	Security should be the first concern for any project – maintaining the confidentiality, integrity and availability of your architecture. Containers present a unique middle ground between full instance management and pure services. Bertram Dorn, AWS Security Specialist will help you learn how to achieve segregation, control access, organize namespaces, manage memory, secure communications as well as how to create the corresponding risk assessment.	Click here
Amazon Elastic Container Service (ECS) Primer	30 minutes	In this course, you will learn how to: <ul style="list-style-type: none"> Describe the challenges of scaling microservices architectures to the enterprise level Define ECS concepts, such as cluster, task, 	Click here

		task definition, and services <ul style="list-style-type: none"> • Describe the importance of scheduling to container-based workloads • Differentiate between the Fargate and EC2 Launch types • Select appropriate task placement strategies • Describe integration patterns with common container-based workloads on AWS • Describe how to enforce security on ECS tasks 	
Amazon Elastic Kubernetes Service (EKS) Primer	60 minutes	In this course, you will learn to: <ul style="list-style-type: none"> • Explain the challenges of scaling microservice architectures at the enterprise level • Describe the basic concepts and terminology of Kubernetes • Configure EKS to manage the Kubernetes management infrastructure • Differentiate between AWS Fargate and EKS Managed Node Groups • Describe different scheduling options in EKS • Describe how pods communicate with each other and interact with hosts in EKS • Access a Kubernetes cluster for monitoring and management • Describe how to enforce security on EKS • Explain how upgrades are handled in EKS 	Click here

Week 3: Serverless Fundamentals

Estimated Time: 4 hours 25 minutes

Lesson	Time	Topics Covered	Link
Week 3 Office Hours: Serverless Functions in EKS Using the Serverless Framework			

Introduction to Serverless Development	25 minutes	This course will orient you to key serverless concepts to help you start developing serverless applications. You will learn how development best practices you already use in server-based development apply to serverless development, and how to adjust your development processes for serverless application development.	Click here
Getting into a Serverless Mindset	30 minutes	This course will orient you to key serverless concepts to help you plan serverless architectures and applications. You will learn how serverless computing and its event-driven orientation influence your approach to application development, parallelization of tasks, and environment management.	Click here
AWS Lambda Foundations	60 minutes	This course introduces AWS Lambda and teaches you the basics of how you configure it to connect to other AWS services. You will also learn about the factors that impact function performance and how serverless development and deployment practices differ from those in traditional deployment environments.	Click here
Amazon API Gateway for Serverless Applications	75 minutes	This course introduces Amazon API Gateway and teaches you the basics of how to create and deploy APIs. You will learn about options for managing and metering access to your APIs and integrating them with AWS Lambda.	Click here

Week 4: Serverless Fundamentals Continued

Estimated Time: 5 hours

Lesson	Time	Topics Covered	Link
Week 4 Office Hours: Building and API Using Lambda and API Gateway Triggering Lambda from SNS/SQS			
Amazon DynamoDB for Serverless Architectures	120 minutes	In this course, you will learn how to: <ul style="list-style-type: none"> • Build Serverless Architecture using DynamoDB and other AWS services • Use DynamoDB features to provide serverless solutions • Setup and access Amazon DynamoDB 	Click here

		<ul style="list-style-type: none"> • Design and architect a serverless application • Differentiate SQL from NoSQL database systems • Migrate from existing RDMS to Amazon DynamoDB • Monitor its performance using CloudWatch, CloudTrail, CloudWatch Logs, etc. 	
Architecting Serverless Solutions	180 minutes	<p>In this course, you will learn to:</p> <ul style="list-style-type: none"> • Create an event-driven proof of concept serverless architecture that uses managed services that are appropriate for your expected data flow and scaling requirements • Define methods for failure management, performance testing, and application auditing within your serverless architecture • Deploy an update to your serverless application without downtime 	Click here

Week 5: Microservices

Estimated Time: 4 hours 10 minutes

Lesson	Time	Topics Covered	Link
<p>Week 5 Office Hours: Lambda Functions with Terraform Authentication in Lambda Using Authenticators</p>			
Lambda @ Edge	35 minutes	In this course, you will get an introduction to Lambda@Edge and understand its use cases, deep dive into how it works under the hood, learn how you can write functions and finally pick up some best practices from our experience with serverless customers.	Click here
Lambda Security	20 minutes	In this course, we will demonstrate the challenges of securing your AWS resources from rogue AWS Lambda code as well as showcasing Lambda security tools from PureSec that can help you mitigate those threats.	Click here
Build and	45	Building an API engine, managing a CI/CD	Click here

Deploy APIs with a Serverless CI/CD	minutes	pipeline: achieving these DevOps goals historically took managing a number of instances with all the associated operational overhead. Atul Bargaje and Rahul Sareen, AWS IoT Architects, guide you through the process of simplifying your DevOps processes using serverless methods. You'll start by understanding how APIs are currently managed with traditional methods, then learn the real-world, best practices of how serverless application methods (SAM) can streamline your operations.	
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Week 6: Getting started with DevOps

Estimated Time: 3 hours 15 minutes

Lesson	Time	Topics Covered	Link
Week 6 Office Hours: CI, CD and Branching Workflows CI/CD Using Github Actions			
Getting Started with DevOps on AWS	60 minutes	In this course, you will learn to: <ul style="list-style-type: none"> Describe the DevOps methodologies of culture, practices, and tools Explain why adopting a mindset that supports a DevOps culture is essential to implementing DevOps Categorize and describe key AWS DevOps services that support the application lifecycle Identify the AWS services used to automate the continuous integration and continuous delivery (CI/CD) process Describe how to create and control a CI/CD pipeline 	Click here
Build and Deploy APIs with a Serverless CI/CD	45 minutes	Building an API engine, managing a CI/CD pipeline: achieving these DevOps goals historically took managing a number of instances with all the associated operational overhead. Atul Bargaje and Rahul Sareen, AWS IoT Architects, guide you through the process of simplifying your DevOps processes using serverless methods. You'll start by	Click here

		understanding how APIs are currently managed with traditional methods, then learn the real-world, best practices of how serverless application methods (SAM) can streamline your operations.	
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Week 7: Logging and Monitoring

Estimated Time: 2 hours 55 minutes

Lesson	Time	Topics Covered	Link
Week 7 Office Hours: Prometheus: Monitoring Beyond AWS Grafana: Unifying Metrics from Cloudwatch and Other Sources			
Introduction to Amazon CloudWatch Logs	10 minutes	This is an introductory course on Amazon CloudWatch Logs – a service that helps you monitor, store, and access your log files from Amazon Elastic Compute Cloud (Amazon EC2) instances, AWS CloudTrail, Amazon Route 53, and other sources. We give an overview of the service, discuss common use cases, and demonstrate the service.	Click here
Configuration, Compliance, and Auditing with AWS Config and AWS CloudTrail	20 minutes	In this course, you will learn to: <ul style="list-style-type: none"> • Understand AWS Config features and capabilities • Understand AWS Config use cases and best strategies for implementation • Understand how to implement AWS Config Rules • Understand CloudTrail features and capabilities • Identify best practices for CloudTrail 	Click here
AWS PartnerCast – Monitoring with CloudWatch Downloads (Performance Efficiency)	75 minutes	We will demonstrate a number of examples of how you could use the AWS Console and Command Line Interface (CLI) for responding to a security incident. It is a best practice to be prepared for an incident, and have appropriate detective controls enabled.	Click here
EventBridge	30	In this course, you will learn how to:	Click here

Overview	minutes	<ul style="list-style-type: none"> • Set up a CloudWatch Events rule, and create an EventBridge bus • Use the EventBridge bus with a partner SaaS application • Learn about scenarios in which EventBridge can integrate with other AWS services 	
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Week 8: Prepare for the Certification Exam

Estimated Time: 2 hours

Lesson	Time	Topics Covered	Link
Week 8 Office Hours: Review and Exam Prep			
Exam Readiness: AWS Certified Developer – Associate	120 minutes	This course teaches you how to: <ul style="list-style-type: none"> • Understand the exam structure and question types • Identify questions that relate to AWS development concepts • Interpret the concepts being tested by an exam question 	Click here

Frequently Asked Questions

Do I have to watch every assigned video? Can I skip some if I feel ready?

If you are familiar with some parts of the classwork, you may skip the videos covering any topics you're already familiar with.

How do I get reimbursed for the certification exam?

You will need to successfully pass the exam, and then fill out [this form](#). You will be asked to provide proof of payment and a screenshot of the certification page.

Where can I find practice exam questions?

The best place to find sample exam questions are the [sample questions provided by AWS](#). There are other websites that provide sample exam questions, but they are not always accurate questions or answers.

Do I need to attend all the office hours?

The office hours are one of the most important components of this Accelerator, so you should plan to attend each one. If you are unable to join one of the office hours, it will be recorded and you can watch the recording afterwards.

How do I sign up for the Accelerator?

Please complete this form to register: <https://toptalcommunity.typeform.com/to/at8oTxRG>