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LocalStack Training: Testing AWS Without the Cloud Using Terraform

2 days (14 hours)

Overview

LocalStack is an open-source solution that allows you to simulate an AWS environment locally. It enables you to test cloud infrastructures without relying on a remote environment, while reducing costs and deployment times.

Our LocalStack training will teach you how to replicate AWS services locally and automate their deployment with Terraform.

You'll learn how to create reliable test environments, integrate your workflows into CI/CD pipelines, and improve the quality of your deployments.

With LocalStack, you'll be able to develop and test your cloud infrastructures quickly and securely, without consuming actual resources on AWS.

By the end of the course, you will know how to configure LocalStack, write Terraform scripts, and automate your deployment processes.

Like all our training courses, this one will introduce you to **the latest stable version** of the technology and its new features.

Objectives

- Understand how LocalStack works.
- Deploy simulated AWS environments locally.
- Master Terraform and Infrastructure as Code.
- Test and automate cloud deployments.
- Integrate LocalStack into a CI/CD pipeline.

Target Audience

- DevOps engineers
- Cloud engineers
- Backend developers
- Infrastructure engineers

Prerequisites

- Basic knowledge of AWS

LocalStack Training Program

[Day 1 - Morning]

Introduction to the AWS Cloud and Local Environments with LocalStack

- Understanding the fundamentals of the AWS cloud
- Limitations of traditional cloud environments (cost, latency, dependency)
- Overview of LocalStack and its use cases
- Architecture and operation of a simulated local cloud
- Positioning LocalStack within a DevOps workflow
- Hands-on workshop: installing and exploring LocalStack.

[Day 1 - Afternoon]

Installation and configuration of LocalStack

- Prerequisites: Docker and local environment
- Installing LocalStack locally
- Configuring simulated AWS services
- Managing environment variables and endpoints
- Verifying and testing services
- Hands-on workshop: deploying a local AWS environment.

Introduction to Terraform for Infrastructure as Code

- Infrastructure as Code concepts
- Introduction to Terraform
- Syntax and structure of Terraform files
- Managing providers and resources
- Lifecycle (init, plan, apply)

- Hands-on workshop: Building a simple infrastructure.

[Day 2 - Morning]

Integrating Terraform with LocalStack

- Configuring Terraform for LocalStack
- Using local endpoints
- Deploying simulated AWS resources
- Managing states and environments
- Best practices for integration
- Hands-on workshop: full deployment with Terraform + LocalStack.

[Day 2 - Afternoon]

Testing, automation, and CI/CD

- Infrastructure Testing Strategies
- Integration into a CI/CD pipeline
- Simulating AWS environments locally
- Non-regression testing
- Deployment automation
- Hands-on workshop: Integration into a CI/CD pipeline.

Best practices and industrialization

- Optimizing local environments
- Error handling and debugging
- Organizing Terraform projects
- Security and environment isolation
- Enterprise use cases
- Hands-on workshop: comprehensive DevOps simulation.

Target Audience

This training is designed for both individuals and companies—large or small—seeking to train their teams in new advanced IT technologies or to acquire specific industry knowledge or modern methodologies.

Assessment upon enrollment

The pre-training assessment complies with Qualiopi quality standards. Upon final registration, the learner receives a self-assessment questionnaire that allows us to evaluate their estimated proficiency in various types of technologies, as well as their expectations and personal goals for the upcoming training, within the limits imposed by the selected format. This

This questionnaire also allows us to anticipate certain connection or internal security issues within the company (intra-company or virtual classroom) that could hinder the monitoring and smooth running of the training session.

Teaching Methods

Practical Course: 60% Practical, 40% Theory. Training materials distributed in digital format to all participants.

Organization

The course alternates between theoretical input from the trainer, supported by examples and reflection sessions, and group work.

Assessment

At the end of the session, a multiple-choice questionnaire is used to verify that the skills have been properly acquired.

Certification

A certificate will be issued to each trainee who has completed the entire training program.