Application Development with Cloud Run

Overview

This course introduces you to fundamentals, practices, capabilities and tools applicable to modern cloud-native application development using Google Cloud Run. Through a combination of lectures, hands-on labs, and supplemental materials, you will learn how to on Google Cloud using Cloud Run.design, implement, deploy, secure, manage, and scale applications.

Objectives

- Gain detailed understanding of Cloud Run, a fully managed compute platform for deploying and scaling containerized applications.
- Understand how to write and migrate code your way using your favorite languages (Go, Python, Java, Ruby, Node.js, and more).
- Understand how to use secure service-to-service communication based on service identities and grant applications only the permissions they need.
- Recall how to connect to, and persist data in the managed database offerings on Google Cloud.

Prerequisites

Familiarity with Linux commands and command line interface Basic understanding of Google Cloud. Basic understanding of networking Basic understanding of one or more programming languages like Go, Python, Java, Ruby, or Node.js Basic understanding of shell scripts, YAML, JSON, HTTP, and TLS.

Course Duration

- 3 Days – 24 Hours

Career Role

- Cloud Developer

Creating Tailor - Made Training Programs to Meet Your Specific Goals

Discovery Process

Join us on a discovery journey to uncover your organization's unique needs. Through insightful conversations and meticulous analysis, we'll identify your training requirements.

O1

Training Framework Development

O2

We'll craft a custom roadmap to boost your team's skills, integrating advanced instructional design for engaging, comprehensive training.

Program Delivery

We'll bring your training vision to life with precision and care. Our seasoned trainers will expertly guide transformative learning experiences, fostering engagement and skill acquisition at every step.

O3

Outcome Assessment

O4

We'll continuously evaluate training effectiveness through robust methodologies, gathering and analyzing participant feedback for invaluable insights and improvement opportunities.

Cost-Benefit Analysis

We'll quantify the tangible and intangible benefits of your training investment, showcasing improved performance metrics and heightened employee satisfaction, proving the substantial returns from our partnership.

O5

Course Outline

Welcome to the "Application Development with Cloud Run" course! This course is designed to provide you with the skills and knowledge needed to develop, deploy, and manage containerized applications using Google Cloud's Cloud Run. Whether you're a developer, DevOps engineer, or IT professional, this course will help you harness the power of serverless computing to build scalable and efficient applications.

Module 1: Introduction to Cloud Run
- Lesson: Introduction
- Lesson: What is Cloud Run
- Lesson: Typical use cases
- Lesson: High availability
- Lesson: Concerns about serverless
- Lesson: Positioning on Google Cloud

Module 2: Understanding Cloud Run
- Lesson: Introduction
- Lesson: Introduction to containers
- Lesson: Running your application on Cloud Run
- Lesson: Autoscaling and on-demand containers
- **Lab:** Hello Cloud Run
- **Lab:** Hello Cloud Run

Module 3: Building Container Images
- Lesson: Introduction
- Lesson: Deep dive into a container image
- Lesson: Building images with Docker
- Lesson: Building images with Buildpacks
- **Lab:** Configuring Application Containers using Cloud Buildpacks
- **Lab:** Creating Application Containers with Google Cloud Buildpacks [APPRUN]

Module 4: Diving Deeper into Cloud Run
- Lesson: Introduction
- Lesson: Container lifecycle
- Lesson: Starting a container
- Lesson: Serving Requests
- Lesson: Handling shutdown
- Lesson: Request queuing
- Lesson: Deployments
- **Lab:** Traffic Management with Cloud Run
- **Lab:** Traffic Management with Cloud Run [APPRUN]

Module 5: Service Identity & Authentication
- Lesson: Introduction
- Lesson: Introduction to IAM
- Lesson: IAM Policy
- Lesson: Service identity
- Lesson: Resource hierarchy
- Lesson: Least privilege
- **Lab:** IAM Policy Bindings for Cloud Run
- **Lab:** Implementing Least Privilege IAM Policy Bindings in Cloud Run [APPRUN]

Module 6: Serving Requests
- Lesson: Introduction
- Lesson: Global HTTPS Load Balancer
- Lesson: Cloud CDN
- Lesson: Multi-regional applications
- Lesson: Host and path-based routing
- **Lab:** Using Global Load Balancer with Cloud Run
- **Lab:** Using a Global Load Balancer with Cloud Run [APPRUN]

Module 7: Controlling Inbound & Outbound Requests
- Lesson: Introduction
- Lesson: Google Cloud Armor
- Lesson: Ingress settings
- Lesson: IAM
- Lesson: Serverless VPC Access
- **Lab:** Configuring Egress from a Static Outbound IP Address
- **Lab:** Configuring Egress from a Static Outbound IP Address [APPRUN]

Module 8: Persisting Data
- Lesson: Introduction
- Lesson: Connecting to Cloud SQL
- Lesson: Connecting to Memorystore
- Lesson: Cloud Storage, Cloud Spanner, Firestore
- Lesson: Multi-region data persistence
- **Lab:** Cloud SQL with Cloud Run
- **Lab:** Cloud SQL with Cloud Run [APPRUN]

Module 9: Service-to-Service Communication
- Lesson: Introduction
- Lesson: Request/response
- Lesson: Pub/Sub
- Lesson: Handling retries
- Lesson: Receiving events
- Lesson: Background tasks
- **Lab:** Using Cloud Pub/Sub with Cloud Run
- **Lab:** Using Cloud PubSub with Cloud Run [APPRUN]

Module 9: Building Serverless Workflows
- Lesson: Introduction
- Lesson: Example workflows
- Lesson: Workflow development
- Lesson: Calls and return
- Lesson: Expressions
- Lesson: Using retries
- Lesson: Switch and raise
- Lesson: Demonstration

Indus Tech Services

Who We Are....

Indus Tech Services is an IT company that specializes in providing comprehensive training, consulting & implementation services for software solutions designed to address the diverse business challenges faced by organizations today. With a passion for technology and a deep understanding of business processes, Indus Tech is committed to empowering businesses to optimize their operations, boost productivity, and drive sustainable growth.

Indus Tech Services and Google Cloud Partnership

At **Indus Tech Services, our partnership with Google Cloud (GCP)** provides unparalleled consulting and training services to help you harness the full potential of cloud technology. Our collaboration aims to deliver the following benefits to your organization.

- **Customized Training and Workshops:** We offer tailored training programs and workshops designed to empower your IT team and end users. Our expert-led sessions ensure your team gains the skills and knowledge needed to maximize the benefits of Google Cloud solutions.

- **Expert Consulting Services:** Our team of certified Google Cloud professionals provides strategic consulting to align your cloud initiatives with your business goals. From cloud strategy development to architectural design, we offer expert guidance to help you navigate the complexities of cloud adoption and optimization.

- **Seamless Implementation and Integration:** We specialize in the seamless implementation and integration of Google Cloud services into your existing infrastructure. Our proven methodologies and best practices ensure a smooth transition to the cloud, minimizing disruption and maximizing efficiency.

Why Choose Us...

From time to time, life serves up a profound nudge, urging us to step beyond our routines and make a difference in the world. Indus Tech Services emerged from one such compelling wake-up call. We are not just a company; we are a dedicated force with a belief in providing solutions to organizations, regardless of their size, and we infuse a human touch into everything we do.

Our Expertise

With over 25 years of collective experience navigating the intricacies of daily business transactions, irrespective of geographical, cultural, time zone, or language barriers, our team has honed their expertise to meet any challenge head-on. This wealth of experience has armed our resources with an unparalleled understanding and skill set to tackle a broad spectrum of obstacles.

Training

With two decades of unwavering commitment and a global footprint, our company is a true pioneer in the fields of linguistic, transactional, technical, and behavioural training for some of the world's largest corporate entities. Our unparalleled expertise has been refined through years of dedication and innovation, making us the go-to choice for businesses seeking transformative training solutions.

Consulting

Our company has been at the forefront of providing world-class IT consulting services to organizations spanning the globe. With an extensive and proven track record, we have honed our expertise to meet the ever-evolving technological needs and challenges faced by businesses, regardless of their scale or industry.

Implementation

Our experience covers a broad spectrum of IT implementation services, including system integration, software deployment, network architecture, cloud migration, and infrastructure setup. We understand that the successful execution of IT projects is pivotal to an organization's growth and efficiency. Therefore, we bring a depth of knowledge and a commitment to delivering results that set us apart.

To know more contact us at info@industechservices.com or call us at +91 - 99961 61170.