



# Google Cloud Big Data and Machine Learning Fundamentals

## Overview

This course introduces the Google Cloud big data and machine learning products and services that support the data-to-AI lifecycle. It explores the processes, challenges, and benefits of building a big data pipeline and machine learning models with Vertex AI on Google Cloud.

When you complete this course, you can earn the badge displayed here! View all the badges you have earned by visiting your profile page. Boost your cloud career by showing the world the skills you have developed!

## Objectives

- Identify the data-to-AI lifecycle on Google Cloud and the major products of big data and machine learning.
- Design streaming pipelines with Dataflow and Pub/Sub.
- Analyze big data at scale with BigQuery.
- Identify different options to build machine learning solutions on Google Cloud.
- Describe a machine learning workflow and the key steps with Vertex AI.
- Build a machine learning pipeline using AutoML.

## Prerequisites

- None

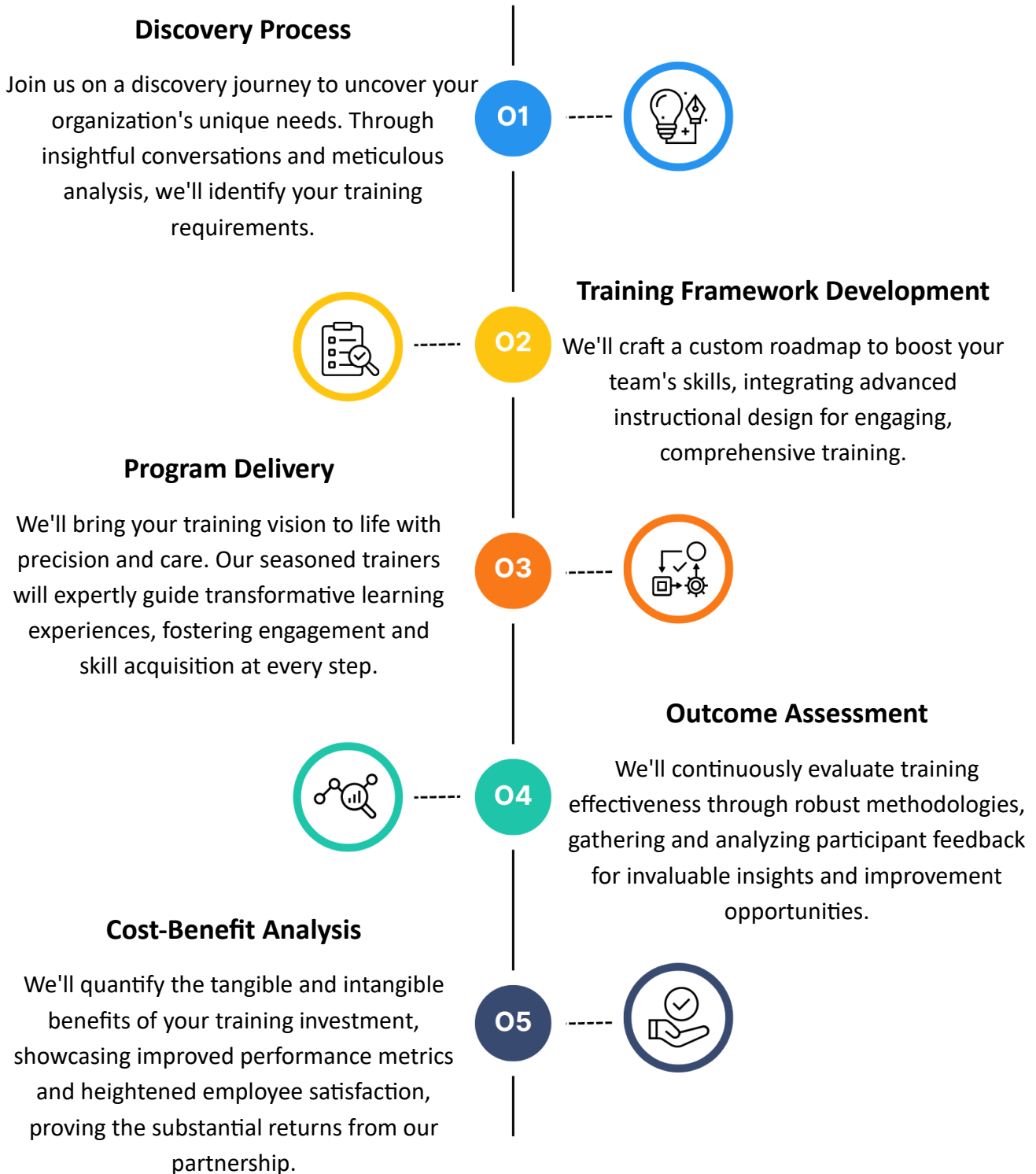
## Course Duration

- 1 Day – 8 Hours

## Career Role

- All Technical Professionals

# Creating Tailor - Made Training Programs to Meet Your **Specific Goals**



## Course Outline

The "Google Cloud Big Data and Machine Learning Fundamentals" course is designed to introduce participants to the powerful tools and services offered by Google Cloud for big data and machine learning applications. This course provides a comprehensive foundation in key concepts and practical skills needed to effectively leverage Google Cloud's robust platform for data-driven decision-making and advanced analytics.

### Module 1: Big Data and Machine Learning on Google Cloud

- Lesson: Introduction
- Lesson: Google Clouds infrastructure
- Lesson: Compute
- Lesson: Storage
- Lesson: The history of big data and machine learning products
- Lesson: Big data and ML product categories
- Lesson: Customer example: Gojek
- **Lab:** Exploring a BigQuery Public Dataset

### Module 2: Data Engineering for Streaming Data

- Lesson: Introduction
- Lesson: Big data challenges
- Lesson: Message-oriented architecture
- Lesson: Designing streaming pipelines with Apache Beam
- Lesson: Implementing streaming pipelines on Cloud Dataflow
- Lesson: Visualization with Looker
- Lesson: Visualization with Looker Studio
- **Lab:** Creating a Streaming Data Pipeline for a RealTime Dashboard with Dataflow

### Module 3: Big Data with BigQuery

- Lesson: Introduction
- Lesson: Storage and analytics
- Lesson: Introduction to BigQuery ML
- Lesson: Using BigQuery ML to predict customer lifetime value
- Lesson: BigQuery ML project phases
- Lesson: BigQuery ML Key commands
- Lesson: Build a custom machine learning model with BigQuery ML
- **Lab:** Predicting Visitor Purchases Using BigQuery ML

**Module 4: Machine Learning Options on Google Cloud**

- Lesson: Introduction
- Lesson: Options to build ML models
- Lesson: Pre-built APIs
- Lesson: AutoML
- Lesson: Custom Training
- Lesson: Vertex AI
- Lesson: AI solutions

**Module 5: The Machine Learning Workflow with Vertex AI**

- Lesson: Introduction
- Lesson: Data preparation
- Lesson: Model Training
- Lesson: Model Evaluation
- Lesson: Model deployment and monitoring
- **Lab:** Vertex AI Predicting Loan Risk with AutoML

# Indus Tech Services

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## 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](mailto:info@industechservices.com) or call us at +91 - 99961 61170.