



CLOUD DATA ENGINEERING



**MASTERCLASS || JOB ORIENTED ||
REAL-TIME PROJECT**

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Welcome to the Future of Data Management!



OUR SERVICES

- 01 Tailored Solutions, Every Time
- 02 Continuous Learning, Continuous Improvement
- 03 Hands-on Learning with Industry Tools
- 04 Real-world Project Simulations
- 05 Career Guidance and Networking Opportunities

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WHAT YOU CAN EXPECT

- 01 Cutting-edge Curriculum
- 02 Flexible Learning Options
- 03 Collaborative Learning Environment
- 04 Ongoing Career Assistance
- 05 Certification and Recognition

BOOK A SEAT

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Elevate Your Skills, Ignite Your Career

Are you ready to embark on a journey of knowledge and innovation? Welcome to our Cloud Data Engineering Educational Training Program, where learning meets limitless possibilities.



HAVE AN ENQUIRY? ↙

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About the Program

Cloud data engineering blends data management with cloud computing, teaching professionals how to optimize cloud platforms for handling diverse datasets.

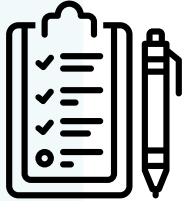
This program covers cloud architecture, storage, and data processing, emphasizing robust ETL pipeline design and data quality, security, and compliance.

Advanced topics like real-time processing and Apache Spark are explored, along with cloud-native tools for orchestration and monitoring.

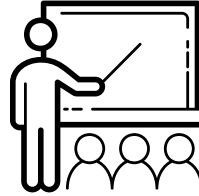
The program also delves into data governance, including metadata and versioning.

Graduates are primed to lead in organizations harnessing cloud-based data infrastructure for scalable, secure, and reliable solutions.

Key Features



Industry Relevant Curriculum



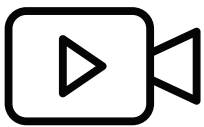
Limited class size for an optimal experience



Constantly Updated According to Industry Trends



50+ hands-on assignments and 2 capstone



Life-time Access to the recorded sessions



1:1 mock interview Sessions



Career Guidance & Placement Support



Tools Covered



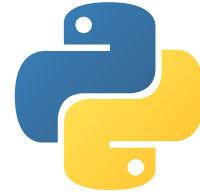
AWS



Azure



GCP



Azure
Blobstorage



AWS
Redshift



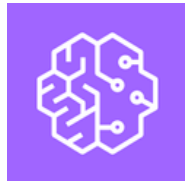
Google
BigQuery



Azure
CosmosDB



Azure
Synapse



Amazon
Sagemaker



AWS
EKS



Amazon
Dynamdb



Amazon
Quicksight

many more..



MODULE 1. INTRODUCTION TO CLOUD DATA ENGINEERING

1. Overview of Cloud Computing and Data Engineering: Understanding the fundamentals of cloud computing and how it revolutionizes data engineering.
2. Benefits of Cloud-Based Data Solutions: Exploring the advantages of using cloud platforms for data storage, processing, and analytics.
3. Comparison of AWS, Azure, and GCP: A detailed comparison of the leading cloud providers, highlighting their strengths and use cases in data engineering.

MODULE 2. SQL FUNDAMENTALS FOR DATA ENGINEERING

1. Mastering SQL Queries for Data Retrieval and Transformation
2. SELECT Statements and Data Retrieval
3. Filtering and Sorting Data
4. Aggregation and Grouping
5. Joins and Subqueries
6. Window Functions for Advanced Analysis
7. Creating and Modifying Tables

MODULE 3. PYTHON FOR DATA ENGINEERING

1. Python Essentials for Data Engineers
2. Data Types, Variables, and Operators
3. Control Structures (Loops, Conditional Statements)
4. Functions and Modules
5. File Handling in Python
6. Exception Handling
7. Data Structures (Lists, Dictionaries, etc.)

MODULE 4: CLOUD DATA STORAGE SOLUTIONS

AWS

- Amazon S3 (Simple Storage Service)
- Amazon RDS (Relational Database Service)
- Amazon Redshift
- AWS Glue Data Catalog

Azure

- Azure Blob Storage
- Azure SQL Database
- Azure Synapse Analytics
- Azure Data Lake Storage
- Azure Table Storage

GCP

- Google Cloud Storage
- BigQuery
- Cloud SQL
- Cloud Bigtable

MODULE 5: DATA PROCESSING AND ETL

AWS

- AWS Glue
- Amazon EMR (Elastic MapReduce)
- AWS Data Pipeline
- AWS Step Functions

Azure

- Azure Data Factory
- Azure Databricks
- Azure Stream Analytics
- Azure Functions (for ETL)

GCP

- Cloud Dataflow
- Dataflow SQL (Apache Beam)

MODULE 6: DATA ORCHESTRATION AND WORKFLOW AUTOMATION

AWS

- AWS Step Functions
- AWS Data Pipeline
- AWS Glue Workflows

Azure

- Azure Data Factory
- Azure Logic Apps
- Azure Functions (for workflow automation)

GCP

- Cloud Composer (Apache Airflow)
- Cloud Scheduler
- Cloud Functions

MODULE 7: REAL-TIME DATA PROCESSING AND STREAM ANALYTICS

AWS

- Amazon Kinesis
- AWS Lambda (for real-time processing)

Azure

- Azure Stream Analytics
- Azure Functions (for real-time processing)

GCP

- Cloud Pub/Sub
- Dataflow (for stream processing)

MODULE 8: DATA MONITORING AND LOGGING

1. Monitoring Tools (e.g., AWS CloudWatch, Azure Monitor, Google Cloud Operations Suite)
2. Logging Best Practices for Data Pipelines
3. Alerting and Anomaly Detection
4. Implementing Effective Data Monitoring Strategies
5. Setting up Monitoring Dashboards and Alerts
6. Log Collection and Aggregation
7. Anomaly Detection and Alerting
8. Performance Metrics and KPIs
9. Error and Exception Handling in Logs
10. Integrating with Monitoring Tools

MODULE 9: APACHE SPARK FOR CLOUD DATA ENGINEERING.

1. Introduction to Apache Spark for Cloud Data Processing
2. Setting Up Apache Spark on Cloud Platforms
3. Data Ingestion and ETL with Apache Spark on Cloud
4. Optimizing Data Pipelines with Apache Spark
5. Spark SQL: Querying and Analyzing Data on the Cloud
6. Real-time Stream Processing with Apache Spark
7. Machine Learning with Apache Spark on Cloud
8. Advanced Techniques for Scalable Data Engineering with Spark
9. Monitoring and Debugging Apache Spark Applications on the Cloud
10. Best Practices for Performance and Cost Optimization in Cloud-based Spark Deployments

MODULE 10 : DATABRICKS FOR DATA ENGINEERING

1. Getting Started with Databricks for Cloud Data Engineering
2. Setting Up a Databricks Workspace
3. Collaborative Data Processing in Databricks
4. Version Control and Collaboration Features
5. Databricks Notebooks and Jobs
6. Leveraging Databricks for Data Processing and Analysis
7. Clusters and Scalability in Databricks
8. Integrations with Cloud Data Storage Solutions

MODULE 11: SERVERLESS COMPUTING FOR DATA ENGINEERING

1. Serverless Architectures and Compute Services (e.g., AWS Lambda, Azure Functions)
2. Benefits and Considerations of Serverless Data Pipelines

MODULE 12: DISASTER RECOVERY AND HIGH AVAILABILITY

1. Designing for Disaster Recovery and Business Continuity in the Cloud
2. Implementing High Availability Solutions for Data Engineering Workloads

MODULE 13: COST OPTIMIZATION AND RESOURCE MANAGEMENT

1. Cloud Cost Management Strategies (e.g., AWS Cost Explorer, Azure Cost Management)
2. Resource Scaling and Optimization Techniques

MODULE 14: DATA SECURITY AND COMPLIANCE IN THE CLOUD

1. Security Best Practices for Cloud Data Engineering
2. Encryption and Key Management
3. Access Control and Role-based Permissions
4. Data Masking and Anonymization
5. Regulatory Compliance (GDPR, HIPAA, etc.)
6. Security Auditing and Monitoring
7. Incident Response and Data Breach Handling

CAPSTONE PROJECTS

Real-Time Analytics Platform

Data Ingestion: Set up data ingestion pipelines to collect streaming data from different sources.
Stream Processing: Process incoming data streams in real-time using frameworks like Apache Kafka and Spark Streaming.

Data Storage: Choose an appropriate data storage solution (e.g., NoSQL, Data Warehouse) for storing processed streaming data.
Dashboard and Visualization: Create a user-friendly dashboard for monitoring and visualizing real-time analytics.

CAPSTONE PROJECTS

Cloud-Native Data Warehouse

Data Ingestion: Set up data pipelines for ingesting data from various sources into the data warehouse.
ETL Processes: Implement ETL processes for cleaning, transforming, and loading data into the warehouse.

Data Modeling: Design a data model optimized for analytics and reporting.

Querying and Analytics: Write SQL queries and perform analytics on the data in the data warehouse.

CAPSTONE PROJECTS

Data Lake and Advanced Analytics Platform

Data Ingestion: Set up data pipelines for ingesting different types of data into the data lake (structured, semi-structured, unstructured).

Data Lake Architecture: Design a scalable and cost-effective data lake architecture using cloud storage solutions.

Data Catalog and Metadata Management: Implement a cataloging system to track and manage metadata for the stored data.

SELF LEARNING MODULES

1. Aws SAA Certified Course
2. Azure Administrator (Az-104) Certification Course
3. Gcp Admin Certification Course

FREE

**WORTH RUPEES
35000/- FREE**

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CERTIFICATIONS YOU CAN PURSUE AFTER COMPLETING THE COURSE

1. AWS SAA
2. Azure Administrator (Az-104)
3. GCP Administrator
4. AWS Data Analytics Speciality
5. Azure Data Engineer (Dp-203)
6. GCP Data Engineer

Eligibility Criteria



- Bachelor's degree in any field
- Familiarity with database concepts and SQL.
- Basic understanding of data processing.
- Working Professionals >1yrs
- Optional: Prior experience in data engineering or related fields.
- Basic computer literacy and operating system knowledge.
- Preferred: Familiarity with cloud platforms like AWS, Azure, or GCP.

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Certification



CERTIFICATE OF COMPLETION

This Certificate is proudly awarded to



For their successful completion of course _____
at LevelUp Cloud Solutions Pvt Ltd in the month of _____ year _____.

We are confident that he/her has acquired the skills and knowledge needed to succeed as
a _____. We wish him/her all the best in their future endeavours.

SATEESH PABBATHI
Founder

Industry Recognised Certification

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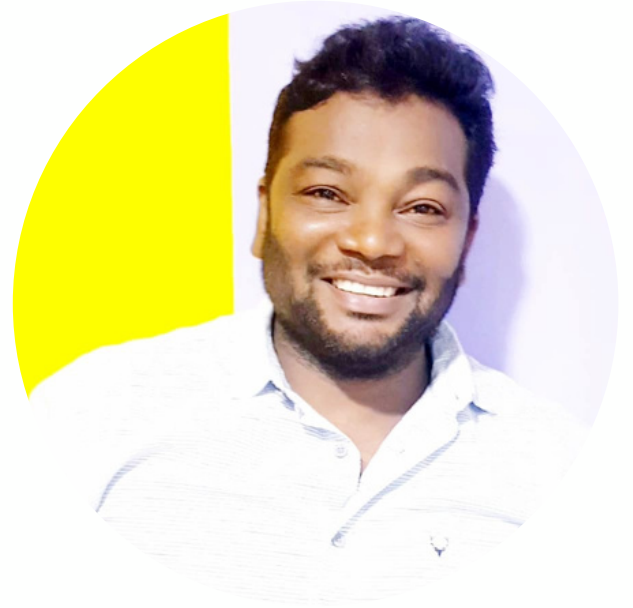
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Trainer Profile

Sateesh Pabbathi

Author & Cloud Expert

 LinkedIn Profile



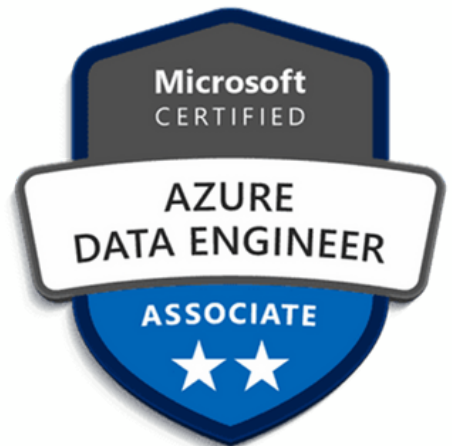
With over two decades of industry experience, he stands as a seasoned expert in the realm of cloud computing. Holding certifications as a Microsoft Certified Trainer, AWS Certified Data and DevOps Engineer, GCP Certified Architect, Kubernetes Certified Administrator and more, his expertise is both broad and deep.

Among his notable achievements is the curation and design of courses for prominent Ed-Tech platforms like Upgrad, Simplilearn and more. Through these endeavors, he has successfully trained a substantial cohort of over 4000 students in the dynamic domain of Cloud Computing, arming them with the skills and knowledge necessary for thriving in this rapidly evolving landscape.

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Trainer Profile - Certifications



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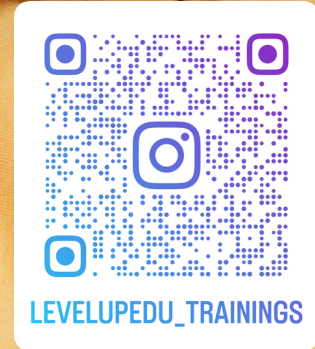
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