

# Which Cloud Should You Learn

# FOR DATA ENGINEERING?



VS





# Introduction

Thinking about a career in data engineering? Cloud skills are your ticket in. AWS, Azure, and GCP are the top platforms, but which should you learn first?

This quick guide breaks it down by demand, salary, tools, and ease of learning. Perfect for students, Freshers, or pros ready to upskill. Let's find your best cloud match!

# What is Cloud Computing?

Cloud computing is a method that enables data to be stored, processed, and analyzed through the internet. To data engineers, it means the data must be composed and stored in such a way that it can be used for large-scale processes and must be compatible with analytical tools.

## Why it matters:

- On-premise systems are costly and not easily scalable.
- Cloud enables one to manage big data in an efficient manner
- Offers tools for data pipelines, ETL, analytics, and machine learning

## Fun Fact:

Today, Netflix streams millions of programs to its users through AWS. That is the beauty of using the cloud!

# Cloud Platforms: AWS, Azure, and GCP

## AWS (Amazon Web Services)

- Launched in 2006
- Biggest market share (~33%)
- Specialization in data tools and services.

## Azure (Microsoft)

- Launched in 2010
- Tight integration with Microsoft tools (Office, Windows Server)
- Popular with enterprises

## GCP (Google Cloud Platform)

- Launched in 2008
- Famous for data analysis and machine learning
- Powers YouTube, Gmail, and Search

### Example:

Many companies are using GCP, such as Spotify, for its data pipelines and models based on machine learning.

# Job Demand & Market Share

## AWS

- Highest job demand globally
- Over 300+ data-related services

## Azure

- Huge demand in enterprise environments
- Preferred by companies already using Microsoft tools

## GCP

- More often used in startups and companies where a large amount of data is processed
- High demand in ML and data analytics roles

## Job Demand and Market Share Analysis:

- AWS: 60% of data engineering job listings
- Azure: 25%
- GCP: 15%

# Salary Comparisons

Cloud Platform	Average Salary (US)	Average Salary (India)
AWS	\$130,000/year	₹15-25 LPA
Azure	\$120,000/year	₹12-20 LPA
GCP	\$125,000/year	₹13-22 LPA

## Note:

Role, location, and experience affect salary amounts in cloud technology careers.

## Pro Tip:

Certification can increase your salary by 20 % or more.

# Getting Started: Which Cloud is Easiest to Learn?

Cloud Platform	Beginner Friendliness	Key Highlights
AWS	Moderate	<ul style="list-style-type: none"><li>Great documentation</li><li>Steeper learning curve</li></ul>
Azure	Easy (for Microsoft users)	<ul style="list-style-type: none"><li>Smooth UI and integration</li><li>Familiar for those using Microsoft tools</li></ul>
GCP	Very Easy	<ul style="list-style-type: none"><li>Simplest UI</li><li>Ideal for data &amp; ML beginners</li><li>BigQuery supports SQL for huge datasets</li></ul>

## Did you know?

Even for a beginner, BigQuery is a tool by Google that enables you to analyze terabytes of data simply in SQL

# Top Data Engineering Services

Cloud	Storage	ETL (Data Movement)	Data Warehouse	Big Data Processing
AWS	S3 – store files	Glue – move & clean data	Redshift – analyze data	EMR – handle big data
Azure	Data Lake – store data	Data Factory – move data	Synapse – analyze data	HDInsight – big data jobs
GCP	Cloud Storage – store files	Dataflow – move data	BigQuery – fast analysis	Dataproc – big data tools

# Community and Learning Resources

## AWS

- Huge global community
- AWS Skill Builder, YouTube, Udemy

## Azure

- Microsoft Learn, Pluralsight, LinkedIn Learning

## GCP

- Coursera (official), Qwiklabs, Google Cloud Skills Boost

## Example:

Google Cloud, one of the cloud computing platform providers, has free monthly credits and practice labs for learners.

# Certification Paths for Data Engineering



## AWS

- AWS Certified Data Analytics
- AWS Certified Solutions Architect

## Azure

- Azure Data Engineer Associate

## GCP

- Google Cloud Professional Data Engineer

## Tip:

GCP's certification is widely acknowledged as one of the best-paying cloud certifications across the world.

# Real-World Use Cases

## AWS – Netflix

- Streams content to millions globally
- It relies on AWS for the smart recommendation engine
- Scales easily during peak hours

## Azure- Adobe

- Runs cloud-based tools like Adobe Experience Cloud
- Integrates with all AI and analytics services offered by Microsoft Azure
- Ideal for enterprise-level marketing solutions

## GCP

- Analyzes extremely large sets of music data
- Powers its music recommendation engine with ML
- Facilitates performance, portability, and stability for users across the world

Real companies use different clouds based on their needs and tech stack.

# Which One Should You Learn First?

## AWS

If you wish to work in a large field and have opportunities in various industries throughout your career.

## Azure

If you are comfortable with Microsoft products such as Office Excel, Power BI or Windows server, since Azure interacts with these products.

## GCP

If you are into data and ML, or are a complete beginner and don't want a complicated interface.

But honestly, **you can't go wrong with any**. Start with one, and you'll pick up the others faster.

# Learning Roadmap (Beginner to Pro)

1. Learn basic cloud concepts
2. Pick one platform (AWS/GCP/Azure)
3. Learn key data tools (S3, BigQuery, etc.)
4. Create ETL, dashboard, pipeline tiny applications
5. Practice with real datasets
6. Get certified
7. Search for internships or junior positions

# Mistakes to Avoid

- Jumping between platforms too early
- Only watching tutorials, not building
- Ignoring fundamentals (networking, storage, compute)
- Not using free hands-on labs

## Fun Tip:

Learn by developing a system that reveals your favourite Spotify music—learning + fun!

# Summary Table

Factor	AWS	Azure	GCP
Market Share	High	Medium	Growing
Salary Potential	High	Medium	High
Beginner Friendly	Medium	Medium	High
Best For	Versatility	Enterprise	Data & ML
Popular Services	S3, Redshift	Data Factory, Synapse	BigQuery, Dataflow

# Your First Challenge

Pick one of the following to build this week:

- Construct a system that imports CSV files and saves them to S3 or BigQuery database.
- Construct a basic weather dashboard by using available data sets.
- Set up a data processing operation through Cloud Functions or Lambda deployment.

Show your work progress by sharing it through GitHub and LinkedIn. Employers love seeing real work!. Employers love seeing real work!

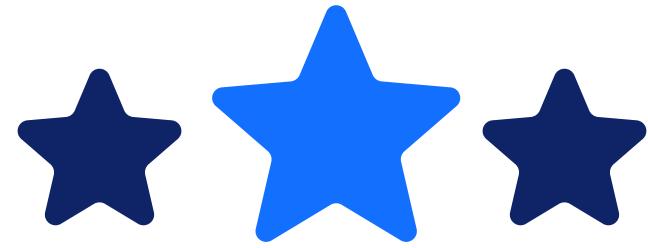
# Final Thoughts

But your first cloud will depend on your background and your goals. GCP can be simple and powerful if you are a beginner who wants to enter the field. If you're interested in the job demand and enterprise usage, then AWS or Azure is a good option.

However, know that once you learn one, the others become easier.

## Pro Tip:

Start with one cloud, get hands-on, and build projects. That's how you stand out.



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