

# AWS Data Engineering Job Oriented Program

Become a Multi-Skilled AWS Data Professional  
and Land High Paying Jobs at Top Companies



Partners



Microsoft  
Partner

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# About K21Academy

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K21 Academy Founded by Mr. Atul Kumar, an experienced Multi-Cloud & DevOps expert, and author, we have partnered with industry leaders like Oracle (Training Partner) and Microsoft (Silver Partner).

We offer online courses on AWS, Azure, Oracle, Google, DevOps, and Kubernetes with top-notch study material.

Our study materials are comprehensive and up-to-date, covering everything you need to know about Cloud and DevOps technologies.

With over 12,000 individuals already benefiting from our training and securing higher-paying jobs, our community of over 150,000 social media followers trusts us to guide them in their careers.

Our team consists of highly skilled Azure/AWS/Google/Oracle Cloud Engineers, DevOps & Kubernetes Experts, Python & Data on Cloud Architects, and Apps DBAs/DBAs Architects who possess extensive knowledge and expertise in Cloud & DevOps technologies.

Curious to know more about us? Visit our website today [www.k21academy.com](http://www.k21academy.com)





# Meet your Mentor



You will be mentored by Atul Kumar, the founder of K21 Academy, and his team of MultiCloud experts. Atul has over 20 years of experience in the IT industry.

He began his IT career in 2000 as an Oracle DBA/Apps DBA. The first few years were tough for him, with very little growth. However, in 2005, he transitioned to Oracle Security & IAM, and his career took off. He had a great run for the next 5-6 years, with a lot of growth and opportunity.

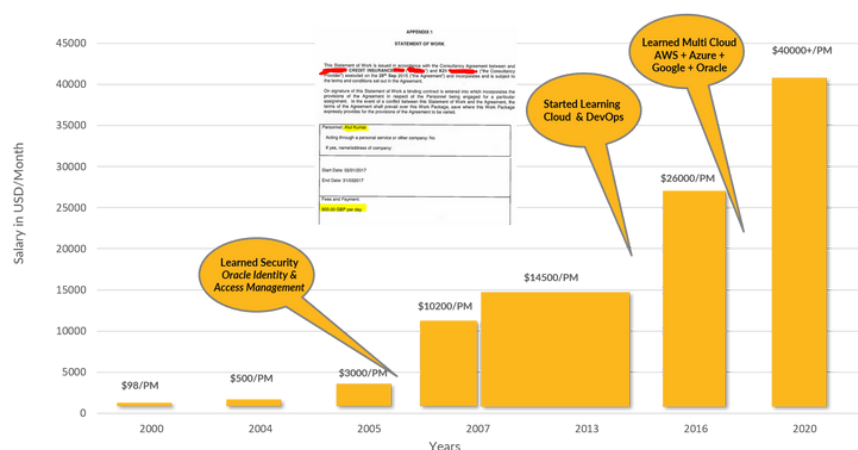
However, around 2012-13, he started to feel stuck. He wasn't learning anything new,

wasn't growing, and wasn't being challenged. At that time, the Cloud was gaining popularity, and Containers (Docker) were emerging, offering many higher-paying job opportunities in those fields.

So, he decided to make a change in his career path and transitioned from working on On-premises (Security, Infrastructure & Databases) to focusing on Cloud & DevOps. Over the next 2 years, he learned about important Cloud platforms like AWS, Azure & Oracle, as well as DevOps. He kept up with the new Cloud-based tools & technologies such as Google Cloud, Docker, Kubernetes, Terraform, Ansible, CI/CD, Jenkins, etc.

Learning Cloud & DevOps gave him the opportunity to work with some of the world's biggest and most prestigious clients such as Toyota, Royal Bank of Scotland, Worldpay, Scottish Government, NHS (United Kingdom), Saudi Railways, datAvail, Tuscan Electric (USA), Oracle, and more.

## Atul's Mid-Career Crisis





# About the Program

The AWS Data Job Oriented Program is a comprehensive training program that will teach you the skills you need for a variety of AWS Data roles. This program is designed to help you prepare for your dream job in the AWS Data industry.

We will cover the most in-demand industry projects and hands-on labs, and we will help you with your CV, LinkedIn, and job interview preparation.

You will have the opportunity to gain hands-on experience with AWS technologies by working on projects under the one-on-one guidance of experienced AWS experts.

In this comprehensive program, you will acquire the skills required for various AWS Cloud roles, including AWS Architect/Engineer, DevOps Engineer, Developer, Administrator, and more. This program will prepare you for all AWS Cloud roles in one go.

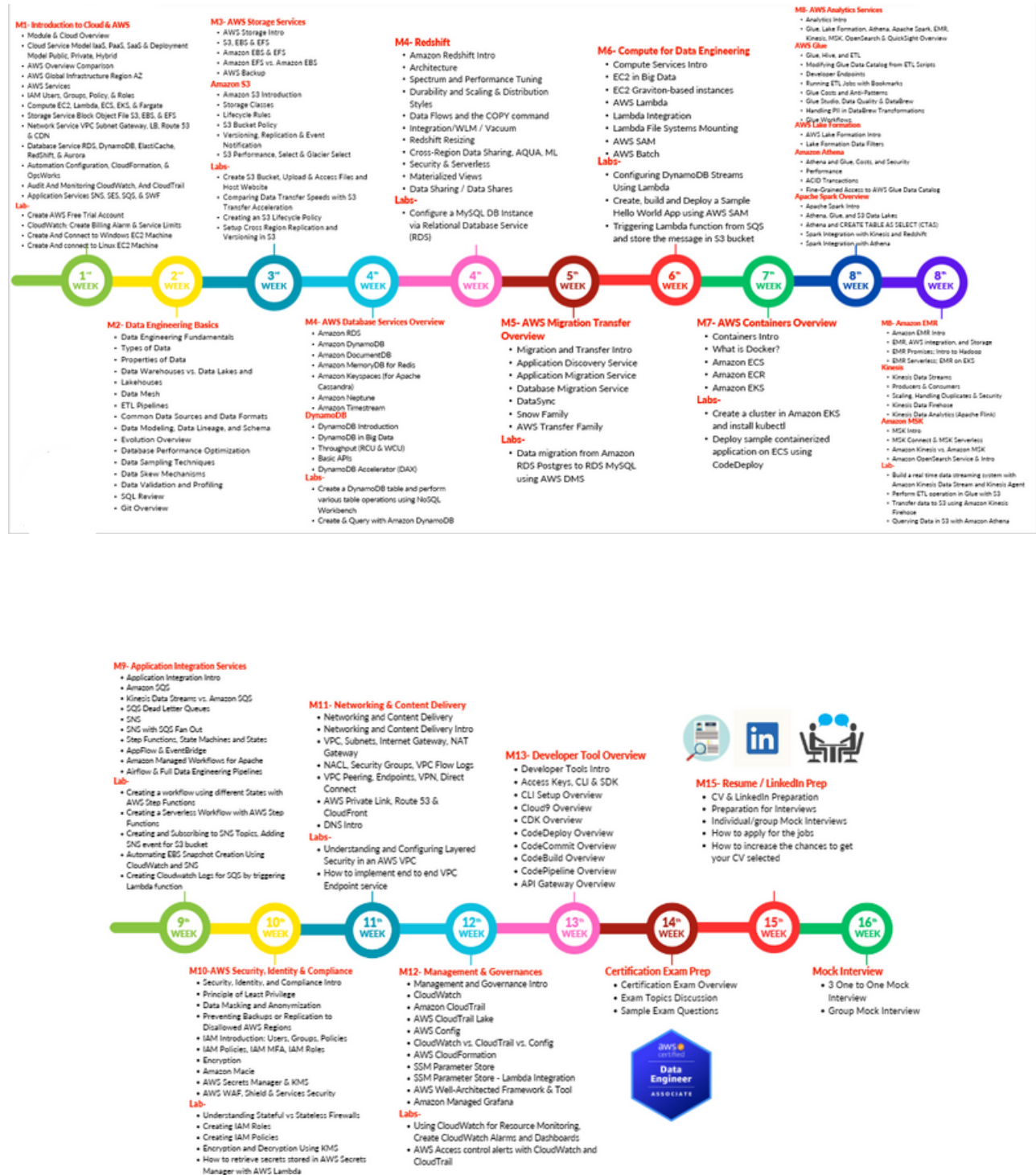
Also, you can choose any one certification from our list, and we will provide you with the necessary study materials and exam preparation kit so you can pass it. This will give you a significant advantage when you start applying for jobs.

Our team of AWS Data experts will be there to support you every step of the way, helping you to master the skills you need for your dream job. We are here to help you succeed, and we will do everything we can to make sure you get your dream higher-paying job.

To learn more about the AWS Data Job Oriented Program and to enrol, schedule a free call today.



# Course Curriculum (Learning Path)



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# AWS Data Engineering Job Oriented Program Outline

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## MODULE

1

### Introduction to Cloud & AWS

- Module & Cloud Overview
- Cloud Service Model IaaS, PaaS, SaaS & Deployment Model  
Public, Private, Hybrid
- AWS Overview Comparison
- AWS Global Infrastructure Region AZ
- AWS Services
- IAM Users, Groups, Policy, & Roles
- Compute EC2, Lambda, ECS, EKS, & Fargate
- Storage Service Block Object File S3, EBS, & EFS
- Network Service VPC Subnet Gateway, LB, Route 53 & CDN
- Database Service RDS, DynamoDB, ElastiCache, RedShift, & Aurora
- Automation Configuration, CloudFormation, & OpsWorks
- Audit And Monitoring CloudWatch, And CloudTrail
- Application Services SNS, SES, SQS, & SWF
- DevOps Tools, CodeCommit, CodeBuild, CodeDeploy, & CodePipeline
- AWS Architecture Overview
- Ways to Access AWS

### Hands-on-Lab

- Create AWS Free Trial Account
- CloudWatch: Create Billing Alarm & Service Limits
- Create And Connect to Windows EC2 Machine

2

### Data Engineering Basics

- Data Engineering Fundamentals
- Types of Data
- Properties of Data
- Data Warehouses vs. Data Lakes and Lakehouses
- Data Mesh



- ETL Pipelines
- Common Data Sources and Data Formats
- Data Modeling, Data Lineage, and Schema
- Evolution Overview
- Database Performance Optimization
- Data Sampling Techniques
- Data Skew Mechanisms
- Data Validation and Profiling
- SQL Review
- Git Overview

## 3

### AWS Storage Services

- AWS Storage Intro
- S3, EBS & EFS
- Amazon EBS
- Amazon EFS
- Amazon EFS vs. Amazon EBS
- AWS Backup

### Amazon S3

- Amazon S3 Introduction
- Storage Classes
- Lifecycle Rules
- S3 Bucket Policy
- Versioning
- Replication
- Event Notifications
- S3 Performance
- S3 Select & Glacier Select
- Encryption
- DSSE-KMS
- Access Points
- Object Lambda

### Hands-on-Lab

- Create S3 Bucket, Upload & Access Files and Host Website
- Comparing Data Transfer Speeds with S3 Transfer Acceleration
- Creating an S3 Lifecycle Policy
- Setup Cross Region Replication and Versioning in S3

4

## AWS Database Services Overview

- Amazon RDS
- Amazon DynamoDB
- Amazon DocumentDB
- Amazon MemoryDB for Redis
- Amazon Keyspaces (for Apache Cassandra)
- Amazon Neptune
- Amazon Timestream

### DynamoDB

- DynamoDB Introduction
- DynamoDB in Big Data
- Throughput (RCU & WCU)
- Basic APIs
- DynamoDB Accelerator (DAX)

### Redshift

- Amazon Redshift Intro
- Architecture
- Spectrum and Performance Tuning
- Durability and Scaling & Distribution Styles
- Data Flows and the COPY command
- Integration/WLM / Vacuum
- Redshift Resizing
- Cross-Region Data Sharing, AQUA, ML
- Security & Serverless
- Materialized Views
- Data Sharing / Data Shares

### Hands-on-Lab

- Create a DynamoDB table and perform various table operations using NoSQL Workbench
- Create & Query with Amazon DynamoDB
- Configure a MySQL DB Instance via Relational Database Service (RDS)

5

## AWS Migration Transfer Overview

- Migration and Transfer Intro
- Application Discovery Service
- Application Migration Service
- Database Migration Service
- DataSync

- Snow Family
- AWS Transfer Family

## Hands-on-Lab

- Data migration from Amazon RDS Postgres to RDS MySQL using AWS DMS

6

## Compute for Data Engineering

- Compute Services Intro
- EC2 in Big Data
- EC2 Graviton-based instances
- AWS Lambda
- Lambda Integration
- Lambda File Systems Mounting
- AWS SAM
- AWS Batch

## Hands-on-Lab

- Configuring DynamoDB Streams Using Lambda
- Create, build and Deploy a Sample Hello World App using AWS SAM
- Triggering Lambda function from SQS and store the message in S3 bucket

7

## AWS Containers Overview

- Containers Intro
- What is Docker?
- Amazon ECS
- Amazon ECR
- Amazon EKS

## Hands-on-Lab

- Create a cluster in Amazon EKS and install kubectl
- Deploy sample containerized application on ECS using CodeDeploy

8

## AWS Analytics Services

- Analytics Intro
- Glue, Lake Formation, Athena, Apache Spark, EMR, Kinesis, MSK, OpenSearch & QuickSight Overview



## AWS Glue

- Glue, Hive, and ETL
- Modifying Glue Data Catalog from ETL Scripts
- Developer Endpoints
- Running ETL Jobs with Bookmarks
- Glue Costs and Anti-Patterns
- Glue Studio
- Glue Data Quality
- Glue DataBrew
- Handling PII in DataBrew Transformations
- Glue Workflows

## AWS Lake Formation

- AWS Lake Formation Intro
- Lake Formation Data Filters

## Amazon Athena

- Athena and Glue, Costs, and Security
- Performance
- ACID Transactions
- Fine-Grained Access to AWS Glue Data Catalog

## Apache Spark Overview

- Apache Spark Intro
- Athena, Glue, and S3 Data Lakes
- Athena and CREATE TABLE AS SELECT (CTAS)
- Spark Integration with Kinesis and Redshift
- Spark Integration with Athena

## Amazon EMR

- Amazon EMR Intro
- EMR, AWS integration, and Storage
- EMR Promises; Intro to Hadoop
- EMR Serverless; EMR on EKS

## Kinesis

- Kinesis Data Streams
- Producers & Consumers
- Enhanced Fan Out
- Scaling, Handling Duplicates & Security
- Kinesis Data Firehose
- Troubleshooting and Performance Tuning
- Kinesis Data Analytics (Apache Flink)

## Amazon MSK

- MSK Intro
- MSK Connect & MSK Serverless
- Amazon Kinesis vs. Amazon MSK
- Amazon OpenSearch Service
- OpenSearch Service Intro

## Amazon QuickSight

- Amazon QuickSight Intro
- QuickSight Pricing & Dashboards; ML Insights

## Hands-on-Lab

- Build a real time data streaming system with Amazon Kinesis Data Stream and Kinesis Agent
- Perform ETL operation in Glue with S3
- Transfer data to S3 using Amazon Kinesis Firehose
- Querying Data in S3 with Amazon Athena

## Application Integration Services

- Application Integration Intro
- Amazon SQS
- Kinesis Data Streams vs. Amazon SQS
- SQS Dead Letter Queues
- SNS
- SNS with SQS Fan Out
- Step Functions
- Step Functions: State Machines and States
- AppFlow
- EventBridge
- Amazon Managed Workflows for Apache
- Airflow
- Full Data Engineering Pipelines

## Hands-on-Lab

- Creating a workflow using different States with AWS Step Functions
- Creating a Serverless Workflow with AWS Step Functions
- Creating and Subscribing to SNS Topics, Adding SNS event for S3 bucket
- Automating EBS Snapshot Creation Using CloudWatch and SNS
- Creating Cloudwatch Logs for SQS by triggering Lambda function

10

## AWS Security, Identity & Compliance

- Security, Identity, and Compliance Intro
- Principle of Least Privilege
- Data Masking and Anonymization
- Preventing Backups or Replication to Disallowed AWS Regions
- IAM Introduction: Users, Groups, Policies
- IAM Policies, IAM MFA, IAM Roles
- Encryption
- AWS KMS
- Amazon Macie
- AWS Secrets Manager
- AWS WAF
- AWS Shield
- AWS Services Security

### Hands-on-Lab

- Understanding Stateful vs Stateless Firewalls
- Creating IAM Roles
- Creating IAM Policies
- Encryption and Decryption Using KMS
- How to retrieve secrets stored in AWS Secrets Manager with AWS Lambda

11

## Networking & Content Delivery

- Networking and Content Delivery
- Networking and Content Delivery Intro
- VPC, Subnets, Internet Gateway, NAT Gateway
- NACL, Security Groups, VPC Flow Logs
- VPC Peering, Endpoints, VPN, Direct Connect
- AWS Private Link
- DNS Intro
- Amazon Route 53
- Amazon CloudFront

### Hands-on-Lab

- Understanding and Configuring Layered Security in an AWS VPC
- How to implement end to end VPC Endpoint service



## 12

### Management & Governances

- Management and Governance Intro
- CloudWatch
- Amazon CloudTrail
- AWS CloudTrail Lake
- AWS Config
- CloudWatch vs. CloudTrail vs. Config
- AWS CloudFormation
- SSM Parameter Store
- SSM Parameter Store - Lambda Integration
- AWS Well-Architected Framework & Tool
- Amazon Managed Grafana

### Hands-on-Lab

- Using CloudWatch for Resource Monitoring, Create CloudWatch Alarms and Dashboards
- AWS Access control alerts with CloudWatch and CloudTrail

## 13

### Developer Tool Overview

- Developer Tools Intro
- Access Keys, CLI & SDK
- CLI Setup Overview
- Cloud9 Overview
- CDK Overview
- CodeDeploy Overview
- CodeCommit Overview
- CodeBuild Overview
- CodePipeline Overview
- API Gateway Overview

# Curated Projects (AWS Data)



1

## Initial Data Handling and ETL Configuration with AWS Glue

In this project, you will learn the basics of setting up AWS Glue for your data handling needs. We will cover how to configure AWS Glue to perform ETL (Extract, Transform, Load) tasks, starting with data discovery, cataloging, and preparation. By the end of this project, you will have a foundational understanding of AWS Glue, enabling you to efficiently prepare and transform data for analytical or operational purposes.

2

## Complex Data Processing and Enhanced Analysis Techniques with AWS Glue

This project delves into advanced data processing and analysis techniques using AWS Glue. We will explore complex ETL operations, optimizing job performance, and integrating AWS Glue with other analytics services for enhanced data analysis. Achieving mastery over these advanced techniques will allow you to handle large-scale data processing tasks and derive deeper insights from your data.

3

## Real-Time Data Analysis with ACID-Compliant Transactions in Amazon Athena

Focusing on Amazon Athena, this project introduces the concept of performing real-time data analysis while maintaining ACID-compliant transactions. We will cover how to query and analyze data stored in Amazon S3, ensuring data integrity and consistency with ACID transactions. By the end of this project, you will be able to implement robust, real-time analytical solutions that support transactional data operations.

4

## Setting Up and Executing Your First Amazon EMR Data Processing Workflow

In this project, we will guide you through the process of setting up your first Amazon EMR cluster and executing a data processing workflow. From selecting the right hardware and software configurations to running and monitoring your first jobs, you will learn the essentials of leveraging Amazon EMR for scalable data processing. This project will equip you with the skills to harness the power of Amazon EMR for big data analytics.

5

## Migrate from MySQL to Amazon RDS with AWS DMS

In this project, we will guide you through the process of setting up your first Amazon EMR cluster and executing a data processing workflow. From selecting the right hardware and software configurations to running and monitoring your first jobs, you will learn the essentials of leveraging Amazon EMR for scalable data processing. This project will equip you with the skills to harness the power of Amazon EMR for big data analytics.

**Each project is designed to build upon your knowledge and skills in using AWS services for data processing, analysis, and management, empowering you to create efficient, scalable, and robust solutions in the cloud.**



# LinkedIn Profile Optimization

1. Professional Photo
2. Customized URL
3. Headline
4. Summary
5. Experience
6. Skills & Endorsements
7. Recommendations
8. Certifications
9. Projects
10. Education
11. Groups
12. Content Sharing
13. LinkedIn Learning



✚ **NEW:** Having an amazing LinkedIn profile is super important these days, and we want to help you make sure yours stands out.

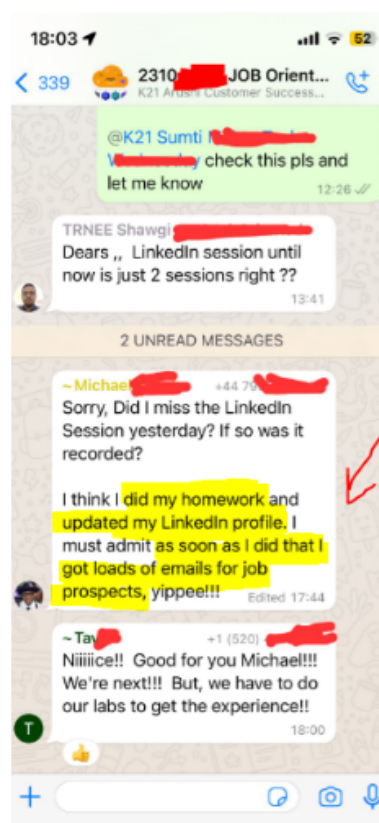
**Our team of experts will work with you to make sure your LinkedIn profile is optimized** and helps you showcase your skills and experience.

*Some quick tips for optimizing your LinkedIn profile:*

1. Use a cover photo that showcases your personality or work.
2. Highlight your top skills in your headline.
3. Use 'open to work' if you're open for new job opportunities.
4. Optimize your 'about' section with relevant keywords.



## Result



# Features and Perks



## Live Interactive Sessions from AWS Data Experts

Learn from the best in the industry with live sessions from AWS experts. They will share their expert tips and tricks, and answer all of your questions.



## Industry In-Demand Projects and Hands-on Labs

Get hands-on experience with industry in-demand projects and hands-on labs. This will give you the skills you need to succeed in the job market.



## 1 year unlimited retakes

You can rewatch the live sessions and retake the labs for up to 1 year after the program ends. This gives you plenty of time to learn and practice at your own pace.



## 6 months on-job support

Get help on your job work for 6 months after completing the program.



## WhatsApp support & ticketing system

Get help from our team of experts via WhatsApp or our ticketing system. We are always available to answer your questions.



## Mock Interviews

We'll also do **mock interviews** so you can practice.



## Master Your Chosen Certification: Study Materials and Exam Prep for Success

You can **choose any one certification from our list**, and we'll provide you with the necessary study materials & exam preparation kit with multiple sample exam question set (**100+** questions with explanation to answers) focused on that certification so you can pass it.

- [AWS Data Engineer](#)



## 60-day Money-back Guarantee

If you don't get a job offer after completing all of the activity labs and projects, you can get a full refund. To qualify for a refund, you must provide proof that you have applied to at least 50 jobs (we will help you with the job search & application) and have not received an offer from any of them.

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# Who is this Program for?

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## The AWS Data Engineer Job Oriented Program is for anyone who wants to:

- Get a higher paying job in the AWS Cloud area
- Get industry-leading guidance from top experts
- Perform industry-demanded projects and add them to their CV
- Gain hands-on experience in AWS Cloud technologies

## Specifically, the program is for:

- IT professionals working on-premise (Unix / Linux/ Windows, networks, storage, databases, VMware, testing, containers, Kubernetes, sysadmins, administrators, developers, support, operations, DevOps, architects, or technical managers)
- Those working on other Clouds like AWS, Azure, Google, Oracle, IBM, Alibaba, SAP, VMWare, OpenStack.
- Freshers or new to IT who want to build a career in high-paying IT Cloud jobs.
- Those who are feeling stuck in their IT career (not growing) or too busy (don't have enough time), or would like to stay on the latest in-demand technologies for higher-paid jobs.
- Those who understand that it takes investment to get to the next level.

# Testimonials

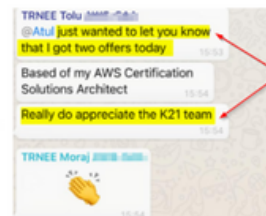
## No IT Background to 2 Job Offers

### Tolu Daramola



**Tolu Daramola** • 1st  
AWS Solutions Architect | Cloud Data...  
Courtice, ON  
1K followers

I was initially a bit hesitant to join K21Academy as I was moving to Cloud and desired to get new opportunities. I was new to Cloud & didn't even have any IT background. K21Team is commendable. I cleared the AWS certification and based on that I got 2 job offers. Thanks, Atul for the wonderful training.



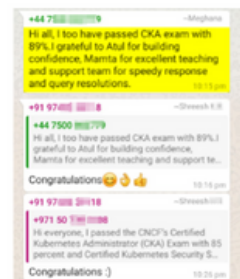
## Career Gap & Confused to working with BT

### Meghana Batchu



**Meghana Batchu** • 2nd  
Specialist Design Engineer at BT  
London Area, United Kingdom  
Experience: BT Group, Professional Training, and 4 more  
2 mutual connections

Took career break and confused about how can start my career again with the **latest technology**, I learned **DevOps & Multi-Cloud** that helped me to re-start my Career in IT after a Gap.  
I was able to learn all things step by step and as new things are coming, I am enjoying new learnings everyday.



## Not feeling confident

### Gargi Agrawal



**Gargi Agrawal** • 1st  
DevOps | SecOps | CKA | CKS  
Bengaluru  
Experience: Standard Chartered Bank, Dover Fueling Solutions, and 5 more

In the beginning, I was not confident whether I would be able to prepare myself, but the K21 team made it very easy. I enrolled myself in K21Academy training program for higher paid job. I passed certification on my first attempt, and I am very thankful to the team. The service provided from registration to training is very excellent and they helped me for the interviews too. After attending the session I got the job offer. Thanks, Atul for motivating me for my career.



## No Interviews to Highly Paid Job

### Joby Sam

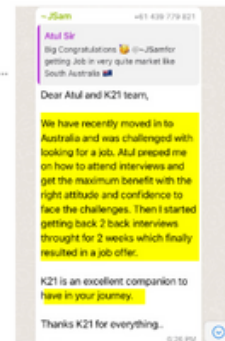


#### Joby Sam • 3rd+

A competent leader with over 16 years of experience in handling ...  
Adelaide, SA

Experience: G'day Group, Gulf Cryo, and 5 more

I move to Australia and was struggling to get Job. Atul prepared me on how to prepare resume & interviews with right attitude. I then started getting back 2 back interview. This resulted in Job offer with in 2 weeks



## Cleared Six Interviews

### Yashovardhan

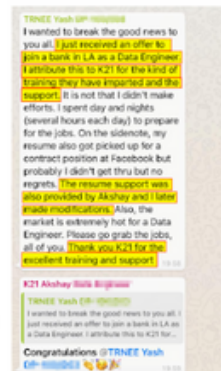


#### Yashovardhan Mopur • 2nd

Senior Data Engineer  
Burbank, CA

Experience: Birlasoft, IBM Global Services, and 6 more

Honestly, I was impressed by the presentation put forward by Atul and his team, and that made me confident and determined. The Hands-on Labs provided by K21Academy gave me more confidence and practice, and I must tell you that everything is perfectly covered in the labs. I could easily "Clear SIX Interviews" after I took this course. I love how systematically K21Academy works, and I would recommend it to everyone!



# Success Stories



## Warren

AWS Certified Solutions Architect Associate | SAA-C02

*I was working as a network engineer for a while that's when my interest in AWS started; while researching online, I came across a few platforms; that's when I discovered K21Academy, I watched a few videos before confirming my decision to take up [SAA-C02] AWS Certified Solutions Architect Associate. My experience with K21Academy was very positive; the trainers and the team members are very skilled. Having a tutelage of a skilled trainer helped me keep accountability and structure to the learning process.*



## Sanjay

AWS Certified Solutions Architect | SAA-C02

*Working as an IT professional, one always needs to be updated with the latest technological changes. After having a few years of experience, I decided to upgrade myself. My company manager suggested to me the K21Academy study for [SAA-C02] AWS Certified Solutions Architect Associate. I had a fantastic experience with K21Academy; the study material is perfectly curated, the trainers are skilled, and the support staff is quick to answer.*



## Rajiv

AWS- Solutions Architect Associate | AWS-SA

*I attended K21Academy's AWS-Solutions Architect Associate [AWS-SA] Masterclass to get a brief idea about their course curriculum. Well, I was astonished by the perks provided by K21Academy – Expertly curated lectures, Lifetime Access to the Portal, On-Job Support, and their 24\*7 WhatsApp group for all your doubts & queries. It impressed me, and then I enrolled for the AWS SA course and went through the videos.*



## Ellis Kofi Aloryi

AWS Certified Solutions Architect | SAA-C02

*I did not have any IT background, but I was looking for some platform to upskill myself, considering the time I had in hand due to lockdown. That's when I came across K21Academy's free MASTERCLASS for various Cloud programs, and I decided to sign up for the same. After attending the Masterclass, I was impressed with the perks provided by K21Academy and I immediately signed up with K21Academy for [SAA-C02] AWS Certified Solutions Architect Associate.*



## Ronald McCoy

Technical Support Analyst | Sec+, Net+, A+, CSIS, CIOS

*I was looking for the training so I can handle my client project. I was happy to attend the live session and from the instructor and with the help of the labs and team support, I was able to complete the project.*



## Khalid Ghumman

Database Architect | Aspiring Cloud Architect

*3 months ago when he was planning to join this program, even having lot of other certifications and experience in DBA he had no clear road map or objective for upcoming time. Now he said "Today not only I'm feeling focused but have a goal and moving towards that even with moderate speed but no issue".*

# Our Happy Customers



Witness the triumph of our esteemed customers as they embark on remarkable career journeys, securing coveted roles within renowned companies. Their success stories stand as a testament to the transformative power of our educational programs, providing the skills and knowledge needed to thrive in today's competitive job market. Join our community of achievers and unlock your path to professional excellence, paving the way for a future filled with boundless opportunities and personal growth.

# FEE STRUCTURE

## 4 Monthly Installments

Live Sessions + Support

**\$897 x 4 only**

Get Immediate Access to  
Training Material & Support

[ENROLL NOW](#)



## Single Payment

Live Sessions + Support

**\$2997 only**

Get Immediate Access to  
Training Material & Support

[ENROLL NOW](#)





#CREATEIMPACT

# THANK YOU

[www.k21academy.com](http://www.k21academy.com)

## Need more insights?

Speak with our Career Counsellor for a detailed overview of AWS Data Engineer Job Oriented Program.

[Schedule a Call](#) 