



🚀 AWS Cloud Practitioner (CLF-C02) – Master Roadmap

📅 1. Monthly Plan (4 Weeks)

⭐ WEEK 1 — Cloud Fundamentals & Global Infrastructure

🎯 Key Learning Goals

- What cloud computing is
- AWS global infrastructure
- Regions, Availability Zones, Edge Locations
- Cloud benefits (agility, elasticity, pay-as-you-go)
- Shared Responsibility Model
- Basic migration concepts
- High-level Well-Architected Framework overview

⚠️ High-Priority Topics

- Region vs AZ vs Edge (commonly misunderstood)
- Responsibility boundaries between customer & AWS
- Cloud value proposition

⭐ WEEK 2 — IAM, Security, Compliance (Most Tested Area)

🎯 Key Learning Goals

- IAM: Users, Groups, Roles, Policies
- Least Privilege
- MFA
- Access key rotation
- Encryption basics
- CloudTrail (API auditing)

- CloudWatch (monitoring)
- YT: https://youtube.com/@GetCertifiedwithSourav?sub_confirmation=1
- Governance & Compliance:
 - Organizations
 - SCP policies
 - Credential reports
 - Compliance documentation



⚠️ High-Priority Topics

- IAM roles vs access keys
- CloudTrail vs CloudWatch
- Where to obtain compliance and audit reports
- Access key rotation and auditing

⭐ WEEK 3 — Core AWS Services (Compute, Storage, Network, Databases)

This is the **largest exam domain** and has the highest concentration of scenario questions.

🎯 Compute

- EC2 basics
- Instance purchasing models:
 - On-Demand
 - Reserved
 - Spot
 - Savings Plans
- Auto Scaling
- Load Balancers (ALB vs NLB)

🌐 Networking

- VPC
 - Subnets
- YT: https://youtube.com/@GetCertifiedwithSourav?sub_confirmation=1
- Security Groups vs NACLs
 - NAT Gateway vs Internet Gateway
 - Route 53 basics
 - Content delivery & global acceleration



🎯 Storage

- S3 storage classes
- Versioning
- Object Lock / MFA Delete
- EBS
- EFS
- Lifecycle policies

🎯 Databases

- DynamoDB basics
- RDS vs DynamoDB
- Multi-AZ vs Read Replicas
- Redshift basics

⚠️ High-Priority Topics

These topics trip up the most learners:

- Auto Scaling behavior
- Load balancer behavior
- VPC routing flows
- NAT Gateway use cases
- SQS message flow & visibility timeout
- DynamoDB partitioning / backups

- EBS snapshot behavior

YT: https://youtube.com/@GetCertifiedwithSourav?sub_confirmation=1



★ WEEK 4 — Billing, Pricing, Cost Optimization & Final Prep

🎯 Key Learning Goals

- Cost Explorer
- AWS Budgets
- Cost & Usage Reports
- AWS Pricing Calculator
- Trusted Advisor checks
- Support plans
- Cost optimization best practices

⚠️ High-Priority Topics

- Choosing correct EC2 pricing option
- Alerts when spending exceeds thresholds
- Understanding support plans
- Using cost tools for projection & analysis

📅 2. Weekly Daily Breakdown

WEEK 1

Day Topic

- 1 Cloud concepts & Well-Architected overview
- 2 Regions, AZs, Edge
- 3 Shared Responsibility Model
- 4 Cloud value proposition
- 5 Migration basics

Day Topic

- 6 Light practice (20 questions)
 - 7 Review & rest
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WEEK 2

Day Topic

- 8 IAM Users/Groups/Policies
 - 9 IAM Roles, Least Privilege
 - 10 CloudTrail vs CloudWatch
 - 11 Encryption basics
 - 12 Governance & compliance
 - 13 Organizations & SCP
 - 14 Practice (20 questions)
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WEEK 3

Day Topic

- 15 EC2 types & pricing
 - 16 Auto Scaling & Load Balancing
 - 17 S3 deep dive
 - 18 EBS, EFS, lifecycle
 - 19 VPC & Subnets
 - 20 NAT vs IGW, Route 53
 - 21 DynamoDB, RDS, SQS, SNS
 - 22 Practice (30 questions)
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WEEK 4

Day Topic

- 23 Cost Explorer & Budgets
 - 24 Trusted Advisor & Support Plans
 - 25 Cost optimization
 - 26 Full practice test #1
 - 27 Full practice test #2
 - 28 Full practice test #3
 - 29 Review weak topics
 - 30 Light review + exam readiness
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🎯 3. Topic Priority Ranking (Based on Difficulty)

🔥 Highest Priority (Must Master)

- IAM roles, policies, and access control
- VPC core concepts (subnets, NAT, IGW)
- Auto Scaling (launch configs, health checks)
- Load Balancers (listener behavior, routing)
- S3 versioning, Object Lock, MFA Delete
- EC2 pricing model selection
- CloudTrail vs CloudWatch
- DynamoDB basics + use cases
- SQS visibility timeout

⚡ Medium Priority

- Route 53 policy types
- EBS volume types and snapshot behaviors

- RDS Multi-AZ vs Read Replicas
- Redshift basics
- EFS vs EBS vs S3 differences

😊 Fast Wins (Lower Difficulty)

- Cloud fundamentals
- Support plans
- Basic cost tools
- Well-Architected pillars
- Serverless overview (Lambda, API Gateway)

▣ 4. Final Exam Strategy

✓ Expect questions on:

- IAM roles vs access keys
- NAT Gateway vs IGW
- Cost control tools
- Best pricing option for a scenario
- RDS Multi-AZ behavior
- S3 deletion protection
- Which service to use (matching use-case scenarios)
- Application deployment options (Beanstalk, ECS, Lambda)

✓ Take at least 3 full practice exams

Focus on scenarios and multi-service interactions.

✓ Memorize common patterns

Some answers appear repeatedly:

- EC2 → S3: Always use an IAM role
- Dedicated line: Direct Connect
- Protect S3: Versioning + MFA Delete

- Visualize cost: Cost Explorer
 - Cost alerts: AWS Budgets
 - Firewall for subnets: Network Firewall
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LABS

★ WEEK 1 — Cloud Fundamentals & Global Infrastructure

Lab 1: Tour of the AWS Console & Global Infra

- Log in to the AWS console.
- Open **AWS Region selector** (top-right) → switch between a few Regions (e.g., N. Virginia, Ohio, Mumbai).
- Open **EC2 → Instances** and note AZ names (e.g., ap-south-1a, ap-south-1b).
- Open **CloudFront** and **Route 53** dashboards just to see where edge-related services live.

Lab 2: Shared Responsibility & Account Security Basics

- Enable **MFA** on the root account.
- Create an **IAM admin user** with a group and attach AdministratorAccess policy.
- Log out and log back in as the IAM user (stop using root for daily tasks).

Lab 3: Simple Migration Thought Exercise (No infra yet)

- Take one sample on-prem app (e.g., a simple web app).
 - Write down: “If this ran on AWS, which services might I use?” (EC2, RDS, S3, CloudFront, IAM).
 - This is more design than clicking, but it hard-wires migration thinking.
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★ WEEK 2 — IAM, Security, Compliance

Lab 4: IAM Users, Groups, Roles & Policies

- Create:

- 1 IAM **group** (e.g., Developers).
- 1 IAM **user** and add it to Developers.
- Attach a **managed policy** like AmazonS3ReadOnlyAccess to the group.
- Create an **IAM role for EC2** with AmazonS3ReadOnlyAccess.

Lab 5: EC2 → S3 Access via IAM Role

- (You'll reuse this in Week 3.)
- Launch a tiny **EC2** instance (free-tier eligible).
- Attach the IAM role you created.
- SSH into the instance and:
 - Install AWS CLI.
 - Run aws s3 ls to confirm the instance can see S3 buckets **without** access keys.

Lab 6: Logging & Auditing – CloudTrail + CloudWatch

- Enable (or inspect) **CloudTrail**:
 - Create a new trail that logs to a dedicated S3 bucket.
- Perform some actions (e.g., create an IAM user, change a policy).
- In CloudTrail:
 - Search events by your IAM username and see the API calls.
- In **CloudWatch**:
 - View “Metrics” for any service (e.g., EC2 or S3).
 - Create a simple **CloudWatch alarm** on a metric like CPUUtilization (even if it never triggers, that's fine).

Lab 7: Compliance & Credential Report

- In **IAM → Credential report**:
 - Download the report and inspect last used / rotation fields.
- In **AWS Artifact**:
 - Open and download any public compliance document (e.g., SOC, ISO overview) just to know where they are.

★ WEEK 3 — Core Services (Compute, Storage, Network, Databases)

■ Compute & Scaling

Lab 8: Launch & Connect to EC2

- Launch a **t2.micro / t3.micro** instance (Amazon Linux).
- Configure:
 - Key pair.
 - Security Group allowing SSH from your IP.
- SSH into the instance and:
 - Install a simple web server (httpd or nginx).
 - Open port 80 in the Security Group and confirm you can hit the web page from your browser.

Lab 9: Auto Scaling Group + Load Balancer

- Create an **Application Load Balancer (ALB)**:
 - Target group with your EC2 instance AMI or launch template.
- Create an **Auto Scaling Group**:
 - Min: 1, Desired: 1, Max: 2.
- Test:
 - Stop/terminate one instance and watch ASG create a new one.
 - Hit the ALB DNS name and see it route to healthy instances.

■ Storage

Lab 10: S3 Bucket with Versioning & MFA Delete (or Object Lock)

- Create an **S3 bucket**.
- Enable:
 - **Versioning**
 - (Optional) **Object Lock** in compliance mode if you created the bucket with that option.
- Upload a file, modify it, delete it.

- Show all versions and restore the deleted version.
- Optionally enable **MFA delete** and try deleting a version to see the prompt.

Lab 11: EBS Volume & Snapshot

- In EC2:
 - Create an additional **EBS volume** and attach it to your EC2 instance.
- On the instance:
 - Format and mount the volume, create a test file.
- In console:
 - Create an **EBS snapshot** of the volume.
- Note how snapshots are incremental even if you create a second one later.

Lab 12: EFS (Optional but nice)

- Create an **EFS** filesystem.
- Attach it to two EC2 instances in the same VPC.
- Mount it on both and confirm both see the same files (shared file system behavior).

Networking

Lab 13: Build a Simple VPC with Public & Private Subnets

- Create a **VPC** with:
 - 1 public subnet, 1 private subnet.
 - An **Internet Gateway** attached.
- In the public subnet:
 - Launch a bastion EC2 instance.
- In the private subnet:
 - Launch another EC2 instance with **no public IP**.
- Use SSH from your machine → bastion → private instance (proves isolation).

Lab 14: NAT Gateway vs Internet Gateway Behavior

- Add a **NAT Gateway** in the public subnet.
- Route the private subnet's default route (0.0.0.0/0) to the NAT Gateway.

- From the **private** instance:
 - ping amazon.com or yum update to verify **outbound** Internet via NAT, but still no inbound.

Databases & Messaging

Lab 15: DynamoDB Basic Table

- Create a **DynamoDB table** (e.g., Customers with CustomerId as partition key).
- Put a few items using the console.
- Use the “Explore table” and **Query/Scan** to read data.
- (Optional) Use AWS CLI or SDK to PutItem and GetItem.

Lab 16: RDS with Multi-AZ (Conceptual/Short Run)

- Create a small **RDS** instance (e.g., MySQL, free tier if possible) with **Multi-AZ** enabled.
- Connect using a local client or EC2 instance.
- Observe:
 - The endpoint is a single hostname even though there are two AZs under the hood.
- You can delete it soon after to avoid costs.

Lab 17: SQS Queue & Visibility Timeout Behavior

- Create a **Standard SQS Queue**.
- Send a few messages.
- Use the “Poll for messages” feature or CLI:
 - Receive a message but **do not delete** it.
 - Wait for the **visibility timeout** to expire and watch the message appear again.

★ WEEK 4 — Billing, Pricing & Final Prep

Lab 18: Use the Pricing Calculator for a Sample Architecture

- Open the **AWS Pricing Calculator**.
- Build a simple estimate:

- 2× EC2 instances
- 1× RDS instance
- Some S3 storage
- Play with:
 - On-Demand vs Reserved.
 - Different Regions.
- See how cost projections change.

Lab 19: Cost Explorer & AWS Budgets

- In the **Billing** dashboard:
 - Open **Cost Explorer** and view spending by service (even if it's very small).
- Create an **AWS Budget**:
 - Set a low threshold (e.g., \$5).
 - Configure email alerts.
- This aligns directly with “cost threshold alert” questions.

Lab 20: Trusted Advisor Checks

- Open **Trusted Advisor** (many core checks are free).
- View:
 - Cost optimization checks.
 - Security checks.
- Note any recommendations, especially idle resources.

Lab 21: Support Plans & Final Review

- In the billing/support area:
 - Review **support plan** descriptions.
- For yourself, write a quick table:
 - Dev vs Business vs Enterprise: when to choose each.

How to Blend Labs with Daily Plan

For each week:

- Do **1–2 labs on the days** matching the topic:
 - Week 2 IAM days → Labs 4–7
 - Week 3 compute & storage days → Labs 8–12
 - Week 3 networking days → Labs 13–14
 - Week 3 DB/messaging day → Labs 15–17
 - Week 4 billing days → Labs 18–21