✅ DAY 1 – AWS Zero to Hero: Solutions Recap

🧠 Task 1: AWS Pricing Models – Explained Simply

💸 1. AWS Free Tier

- Perfect for beginners and learners trying out AWS services.
- Valid for 12 months on selected services like:
  - 750 hrs/month of EC2 (t2.micro/t3.micro)
  - 5 GB of S3 Storage
  - 750 hrs/month of RDS (db.t2.micro)
- Also includes Always Free offerings:
  - 1 million Lambda requests/month
  - 1 GB/month outbound data transfer

💸 2. Pay-as-You-Go

- No upfront cost, only pay for actual usage.
- Ideal for short-term or varying workloads.
- Flexible, scalable, and cost-effective.

💸 3. Reserved Instances

- Commit for 1 or 3 years to save up to 75%.
- Best for consistent, predictable workloads.
- Lower cost, but less flexibility.

💸 4. Volume-Based Discounts

- Automatically applied as usage increases.
- Services like S3, Data Transfer, CloudFront offer progressive discounts.
- Helps businesses scale while optimizing cost.

🌐 Task 2: On-Premises vs Cloud vs Hybrid Cloud

Model	Best Suited For	Key Advantage	Cost Model
On-Premises	Sensitive data, compliance-heavy orgs	Full infrastructure control	CAPEX
Public Cloud	Startups, fast-scaling apps	Agility & Pay-as-you-go	OPEX
Hybrid Cloud	Enterprises in transition	Balance of control & scalability	Mixed

🖥️ On-Premises

- Fully in-house infrastructure.
- High upfront costs & maintenance.
- Full control; best for legacy or secure environments.

☁️ Public Cloud (AWS, Azure, GCP)

- Rent infrastructure on demand.
- Rapid deployment & scalability.
- Great for DevOps pipelines & innovation.

🔚 Hybrid Cloud

- Mix of on-prem & cloud environments.
- Useful for gradual migration & complex apps.
- Complex to manage but offers great flexibility.

📦 Task 3: IaaS vs PaaS vs SaaS – Simplified

Feature	IaaS (Infra as a Service)	PaaS (Platform as a Service)	SaaS (Software as a Service)
User Controls	Infra, OS, Runtime, App	App & Data only	Just usage & config
Flexibility	High	Medium	Low
Ideal For	Infra/DevOps engineers	Developers	End users
AWS Examples	EC2, S3, VPC	Elastic Beanstalk, Fargate	QuickSight

🛠️ IaaS

- Gives access to raw infrastructure (VMs, storage, etc).
- Full control, ideal for CI/CD pipelines.
- Examples: EC2, S3, VPC.

🛠️ PaaS

- Deploy and scale apps without managing servers.
- Focus on code; AWS handles infra.
- Examples: Elastic Beanstalk, AWS Fargate.

🛠️ SaaS

- Web-based apps, no installation needed.
- Fully managed software.
- Examples: QuickSight, GitHub, Slack.

📖 Task 4: AWS History – From Retail to Cloud Giant

🗓️ 2002 – AWS Internal Tools

- Started as internal tools to manage Amazon's infra.

🗓️ 2006 – Public Launch

- Released EC2 & S3, introducing the IaaS model.

🗓️ 2009 – Global Reach

- First European data center in Ireland.
- Launched CloudFront for CDN.

🗓️ 2011–2012 – Enterprise Features

- Added IAM, CloudFormation, GovCloud for US government.

🗓️ 2014 – Serverless Era Begins

- Launched AWS Lambda, enabling event-driven apps.
- Also released Aurora, CodeDeploy, Beanstalk.

🗓️ 2015–2016 – AI & ML Integration

- Rolled out SageMaker, Rekognition, Polly, Lex.

🗓️ 2017–2019 – Enterprise Adoption

- Launched Outposts, Security Hub, Fargate, Control Tower.

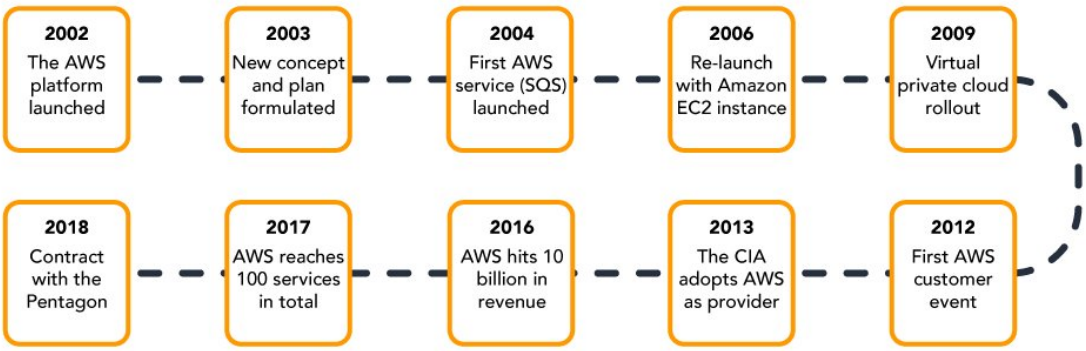
🗓️ 2020–2022 – Innovation Surge

- Introduced Graviton CPUs, EKS, green cloud & DevSecOps focus.

🗓️ 2023+ – AI & GenAI Age

- Launched Amazon Bedrock, Q Assistant, CodeWhisperer.
- GenAI tools revolutionized DevOps & development workflows.

aws History


2002
The AWS platform launched
2003
New concept and plan formulated
2004
First AWS service (SQS) launched
2006
Re-launch with Amazon EC2 instance
2009
Virtual private cloud rollout
2012
First AWS customer event
2013
The CIA adopts AWS as provider
2016
AWS hits 10 billion in revenue
2017
AWS reaches 100 services in total
2018
Contract with the Pentagon