AWS

aws certified

Cloud Practitioner

GUIDE

SUMMARY:

1. KEY POINTS TO KNOW
2. AWS SERVICES AND THEIR USES

Disclaimer : I'm just sharing what have worked for me.

1. AWS Global Infrastructure

Topic	Description
Regions and Availability Zones	• Understand what AWS Regions and Availability Zones are and their importance in designing resilient, fault-tolerant architectures.
Edge Locations	• Know the role of Edge Locations in delivering content through services like Amazon CloudFront.

2. Core AWS Services

Topic	Description
Compute	• Amazon EC2 (Elastic Compute Cloud), AWS Lambda (Serverless compute), Amazon ECS/EKS (Containers).
Storage	• Amazon S3 (Scalable object storage), Amazon EBS (Elastic Block Store), Amazon Glacier (Archival storage).
Database	• Amazon RDS (Relational Database Service), Amazon DynamoDB (NoSQL), Amazon Redshift (Data Warehousing).
Networking	• VPC (Virtual Private Cloud), Route 53 (DNS), AWS Direct Connect (Private Connectivity).

3. Security, Identity, and Compliance

Topic	Description
AWS IAM	• Managing users, roles, and permissions.
AWS Shield, AWS WAF	• Understanding DDoS protection and web application firewall services.
Shared Responsibility Model	• Know what AWS is responsible for versus what you, the customer, are responsible for.
Compliance Programs	• Awareness of AWS compliance certifications (e.g., HIPAA, GDPR). AWS best practices.

4. Billing and Pricing

Topic	Description
AWS Free Tier	• Familiarize yourself with what services and resources are available for free.
Pricing Models	• Understand different pricing models, such as Pay-As-You-Go, Reserved Instances, and Spot Instances.
Cost Management	• Tools like AWS Cost Explorer, AWS Budgets, and AWS Trusted Advisor.

Key Points :
Here's a list of the main points and concepts to focus on
for the AWS Cloud Practitioner exam:

5. Cloud Concepts

Topic	Description
On-Demand Delivery	• The ability to provision resources on-demand, without upfront commitment.
Scalability & Elasticity	• AWS services can automatically scale up or down based on demand.
High Availability & Fault Tolerance	• Design architectures that are resilient and can withstand failures.
Agility & Speed	• How cloud computing allows faster innovation and time-to-market.

6. Architecting on AWS

Topic	Description
Well-Architected Framework	• Five pillars: Operational Excellence, Security, Reliability, Performance Efficiency, and Cost Optimization.
Design Principles	• Design for failure, decouple components, implement elasticity, and automate wherever possible.

Key Points :
Here's a list of the main points and concepts to focus on
for the AWS Cloud Practitioner exam:

7. Cloud Deployment and Operation

Topic	Description
Infrastructure as Code (IaC)	• AWS CloudFormation and its role in automating infrastructure deployment.
Monitoring and Logging	• Tools like Amazon CloudWatch (monitoring and logging), AWS CloudTrail (logging API activity).

8. AWS Support Plans

Topic	Description
Basic, Developer, Business, Enterprise	• Understand the features and services offered by each plan.
Trusted Advisor	• How it provides real-time guidance to help provision resources following best practices.

9. Application Integration

Topic	Description
Amazon SQS & SNS	• Basics of decoupling microservices.
Amazon API Gateway	• For managing and deploying APIs.

10. AWS Cloud Adoption Framework (CAF)

Perspective	Description
Six Perspectives	• Business, People, Governance, Platform, Security, and Operations.

11. Migration and Transfer
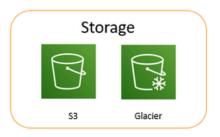
Topic	Description
AWS Migration Services	• Basic understanding of AWS Migration Hub, AWS Database Migration Service (DMS).
Data Transfer	• Services like AWS Snowball, AWS Direct Connect for data transfer and migration.

12. Basic Troubleshooting

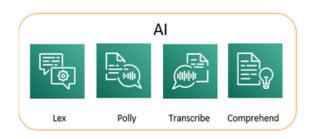| Topic	Description
Common Scenarios	• Understand common troubleshooting scenarios related to networking, security, and service limits.

Let's simplify AWS : One service at a time🚀

Development
- Lambda
- API Gateway
- Step Functions

Storage
- S3
- Glacier

Database
- RDS
- Dynamo
- Redshift

AI
- Lex
- Polly
- Transcribe
- Comprehend

Connect

Analytics
- Athena
- Kinesis
- Glue
- QuickSight

Messaging
- Pinpoint
- Simple Notification Service
- Simple Email Service

Security
- Identity and Access Management
- Directory Service

Management
- CloudWatch
- CloudFormation
- CloudTrail

Analytics Services :

Service	Description
Amazon Athena	• An interactive query service that allows you to analyze data stored in Amazon S3 using standard SQL, without requiring server setup.
AWS Data Exchange	• A service that makes it easy to subscribe to, use, and share third-party data from trusted data providers.
Amazon EMR	• A managed service for large-scale data processing using frameworks like Apache Hadoop, Spark, HBase, and Presto.
AWS Glue	• A data integration service that makes it easy to prepare data for analytics with automated ETL capabilities.
Amazon Kinesis	• A real-time data processing service for collecting, processing, and analyzing streaming data at scale.
Amazon Managed Streaming for Apache Kafka (Amazon MSK)	• A managed service for Apache Kafka that simplifies the creation and management of Kafka clusters.
Amazon OpenSearch Service	• A managed service for search and analytics of logs and unstructured data using Elasticsearch and Kibana.
Amazon QuickSight	• A business intelligence (BI) service that enables the creation of interactive visualizations and dashboards for data analysis.
Amazon Redshift	• A fully managed columnar data warehouse that allows for large-scale data analysis using SQL.

Application Integration:

Service	Description
Amazon EventBridge	• An event bus service that makes it easy to connect applications using events from AWS, SaaS applications, and your own applications.
Amazon Simple Notification Service (Amazon SNS)	• A messaging service that allows sending notifications from the cloud using topics and subscriptions.
Amazon Simple Queue Service (Amazon SQS)	• A fully managed message queuing service that enables communication between distributed software components.
AWS Step Functions	• An orchestration service that simplifies the coordination of AWS service components using visual workflows.

Business Applications

Service	Description
Amazon Connect	• A cloud-based omnichannel contact center service that allows the creation of call centers to enhance the customer experience.
Amazon Simple Email Service (Amazon SES)	• A reliable, cost-effective, and flexible email service for marketing, notification, and transactional communications.

Containers

Service	Description
Amazon Elastic Container Registry (Amazon ECR)	• A fully managed Docker container registry service that simplifies the storage, management, and deployment of container images.
Amazon Elastic Container Service (Amazon ECS)	• A highly scalable and fast container management service that supports Docker containers.
Amazon Elastic Kubernetes Service (Amazon EKS)	• A fully managed Kubernetes service for deploying, managing, and scaling containerized applications using Kubernetes.

Compute:

Service	Description
AWS Batch	• A fully managed batch computing service that allows you to run batch jobs at any scale.
Amazon EC2	• A cloud computing service that provides virtual instances to run applications.
AWS Elastic Beanstalk	• A service that simplifies the deployment and management of web applications and services with an automatically managed underlying infrastructure.
Amazon Lightsail	• A simplified cloud service for deploying and managing virtual servers, databases, storage, and networking. (Easy version of EC2).
AWS Local Zones	• Extensions of AWS Regions that place compute, storage, database, and other AWS services close to large populations for low latency.
AWS Outposts	• A service that brings AWS infrastructure and services on-premises for workloads requiring low latency or local data residency.
AWS Wavelength	• A service that integrates AWS compute and storage services with telecom providers' 5G networks for ultra-low latency applications.

Cloud Financial Management

Service	Description
AWS Billing Conductor	• A service that allows customization of AWS cost management and billing to reflect your internal cost structures.
AWS Budgets	• A financial planning service that allows you to set budgets and track your AWS resource costs and usage.
AWS Cost and Usage Report	• A tool that provides detailed reports on your AWS service usage and costs.
AWS Cost Explorer	• A tool for visualizing and analyzing AWS costs, allowing you to generate custom reports on usage and spending.
AWS Marketplace	• An online platform that allows you to buy and sell software and services that run on AWS.

Customer Engagement

Service	Description
AWS Activate for Startups	• A program that offers resources, AWS credits, and support to startups to help them grow their business on AWS.
AWS IQ	• A platform that connects AWS customers with certified experts to help solve specific problems.
AWS Managed Services (AMS)	• A service that provides operational management of AWS environments, helping reduce risk and improve efficiency.
AWS Support	• A service that provides technical assistance, guidance, and best practices for using AWS services effectively.

Database

Service	Description
Amazon Aurora	• A relational database service compatible with MySQL and PostgreSQL, designed to deliver high performance and availability.
Amazon DynamoDB	• A fully managed NoSQL database that offers fast and predictable read and write performance at any scale.
Amazon MemoryDB for Redis	• An in-memory database service compatible with Redis, designed for applications demanding high performance.
Amazon Neptune	• A fast, reliable graph database service for applications that use graph models.
Amazon RDS	• A relational database service that makes it easy to set up, operate, and scale relational databases in the cloud.

End-User Computing

Service	Description
Amazon AppStream 2.0	• An application streaming service that allows you to stream desktop applications to any web browser.
Amazon WorkSpaces	• A desktop-as-a-service (DaaS) solution that allows you to provision Windows or Linux desktops in the cloud.
Amazon WorkSpaces Web	• A service that provides secure and managed access to web applications from compatible browsers.

Developer Tools

Service	Description
AWS AppConfig	• A service that allows developers to configure, validate, and deploy application configurations securely.
AWS CLI	• A command-line interface for managing AWS services.
AWS Cloud9	• A cloud-based integrated development environment (IDE) for writing, running, and debugging code with just a browser.
AWS CloudShell	• A browser-based shell environment for managing, interacting with, and exploring AWS resources.
AWS CodeArtifact	• A software artifact management service for storing, publishing, and sharing software packages used in development.
AWS CodeBuild	• A fully managed build service for compiling source code, running tests, and producing software packages.
AWS CodeCommit	• A source control service that facilitates secure and scalable code management.
AWS CodeDeploy	• A fully managed deployment service that automates software deployments to a variety of AWS compute services.
AWS CodePipeline	• A continuous integration and delivery service to automate deployment pipelines.
AWS CodeStar	• A service that enables quick development, building, and deployment of applications on AWS with integrated DevOps tools.
AWS X-Ray	• A service for performance analysis and debugging of distributed applications.

Web and Mobile Front-End

Service	Description
AWS Amplify	• A set of tools and services for building and deploying scalable and secure web and mobile applications.
AWS AppSync	• A service that allows you to create flexible GraphQL APIs to synchronize real-time data between applications.
AWS Device Farm	• A service for testing mobile and web applications on a wide range of real devices in the cloud.

Internet of Things (IoT)

Service	Description
AWS IoT Core	• A service that makes it easy to connect IoT devices to the cloud and interact with other AWS services.
AWS IoT Greengrass	• A service that allows you to run IoT software locally.

Machine Learning

Service	Description
Amazon Comprehend	• A natural language processing (NLP) service that uses machine learning to discover insights and relationships in text.
Amazon Kendra	• An intelligent enterprise search service that uses machine learning to improve the accuracy and relevance of search results.
Amazon Lex	• A service for building conversational interfaces using voice recognition and natural language processing.
Amazon Polly	• A text-to-speech service that turns text into lifelike speech, enabling the creation of talking applications.
Amazon Rekognition	• A service that enables image and video analysis to detect objects, people, text, scenes, and activities.
Amazon SageMaker	• A fully managed service that allows developers and data scientists to build, train, and deploy machine learning models at scale.
Amazon Textract	• An optical character recognition (OCR) service that automatically extracts text and data from scanned documents.
Amazon Transcribe	• An automatic speech recognition service that enables speech-to-text conversion.
Amazon Translate	• An automatic translation service that quickly and accurately translates text between different languages.

Management and Governance - part 1

Service	Description
AWS Auto Scaling	• Automatically adjusts compute resources based on demand to maintain optimal performance at the lowest cost.
AWS CloudFormation	• Allows you to model and provision AWS infrastructure resources quickly using template files.
AWS CloudTrail	• Tracks API activity in your AWS account, providing event logs for governance, compliance, and auditing.
Amazon CloudWatch	• A monitoring service to collect and track metrics, monitor log files, and set alarms.
AWS Compute Optimizer	• Recommends optimal compute resources for your workloads to improve performance and reduce costs.
AWS Config	• Enables you to assess, audit, and monitor the configurations of your AWS resources to ensure compliance with internal policies.
AWS Control Tower	• Simplifies setting up and governing your multi-account AWS environment using best practices.
AWS License Manager	• Simplifies managing software licenses from vendors like Microsoft and SAP on AWS.
AWS Organizations	• Helps centrally manage and govern multiple AWS accounts within an organization.

Management and Governance - part 2

Service	Description
AWS Proton	• A service that makes it easier to manage the deployment and management of container and serverless applications.
AWS Service Catalog	• A service that enables organizations to create and manage catalogs of IT services that are approved for use on AWS.
AWS Systems Manager	• A service that provides a unified interface to manage AWS resources and automate operational tasks across your AWS infrastructure.
AWS Trusted Advisor	• A service that provides real-time guidance to help you provision your resources according to AWS best practices.
AWS Well-Architected Tool	• A service that helps you review and improve your cloud-based architecture using best practices.

Media Services

Service	Description
Amazon Interactive Video Service (IVS)	• A managed live streaming service for creating interactive video experiences.
AWS Elemental MediaConvert	• A file-based video transcoding service with broadcast-level features for delivering content across multiple devices.
AWS Elemental MediaLive	• A service that enables the encoding and broadcasting of live video streams.
AWS Elemental MediaPackage	• A service that packages and encrypts video content for live streaming to multiple devices.
AWS Elemental MediaStore	• A storage service optimized for media applications that require high performance for video assets.
AWS Elemental MediaTailor	• A service that enables personalized ad insertion for video streams, ensuring a seamless viewing experience.

Migration and Transfer

Service	Description
AWS Application Discovery Service	• A service that helps you plan your cloud migration by discovering and collecting data on your on-premises resources.
AWS Database Migration Service (DMS)	• A service that helps you migrate databases to AWS quickly and securely.
AWS DataSync	• A service that simplifies moving data between on-premises storage and AWS cloud storage.
AWS Migration Hub	• A service that helps you discover, plan, and track the migration of your applications to AWS.
AWS Server Migration Service (SMS)	• A service that automates the migration of on-premises servers to AWS.

Networking and Content Delivery

Service	Description
Amazon API Gateway	• A managed service that makes it easy to create, publish, maintain, and secure APIs at any scale.
Amazon CloudFront	• A content delivery network (CDN) that securely delivers data, videos, and applications to users worldwide with low latency.
Amazon Route 53	• A scalable Domain Name System (DNS) web service that provides reliable and cost-effective routing.
AWS Cloud WAN	• A wide area network service that helps you build, manage, and monitor a global network across multiple locations.
AWS Direct Connect	• A service that allows you to establish a dedicated network connection from your premises to AWS.
AWS Global Accelerator	• A service that improves the performance and availability of your applications with global users by routing traffic through AWS's global network infrastructure.
AWS PrivateLink	• A service that allows you to securely access AWS services over a private connection without exposing traffic to the public internet.
AWS Transit Gateway	• A service that allows you to connect your Amazon Virtual Private Cloud (VPC) environments and on-premises networks through a central hub.

Security, Identity, and Compliance

Service	Description
Amazon Cognito	• A service that enables authentication, authorization, and user management for web and mobile applications.
AWS Artifact	• A service that provides access to AWS's compliance documentation and agreements, helping you achieve compliance with industry standards.
AWS Certificate Manager (ACM)	• A service that simplifies the creation, management, and deployment of SSL/TLS certificates for securing websites and applications.
AWS CloudHSM	• A hardware security module (HSM) service that helps you meet compliance requirements by managing encryption keys in FIPS 140-2 Level 3 validated hardware.
AWS Firewall Manager	• A service that simplifies the management of firewall rules across multiple AWS accounts and resources.
AWS Identity and Access Management (IAM)	• A service that enables secure access management to AWS services and resources.
Amazon Inspector	• A vulnerability management service that automates security assessments to help you identify vulnerabilities and security issues in your AWS workloads. -> EC2 !
Amazon Macie	• A data security service that uses machine learning to discover and protect sensitive data stored in AWS. -> For S3 !
AWS Secrets Manager	• A service that helps you securely manage, rotate, and retrieve secrets and credentials to protect access to your AWS resources.
AWS Shield	• A managed Distributed Denial of Service (DDoS) protection service for safeguarding web applications from DDoS attacks.
AWS Single Sign-On (SSO)	• A service that enables single sign-on (SSO) access to multiple AWS accounts and business applications.
AWS WAF	• A web application firewall that helps protect web applications from common web exploits.

Storage

Service	Description
Amazon Elastic Block Store (EBS)	• A block storage service for use with Amazon EC2 instances that provides persistent storage.
Amazon Elastic File System (EFS)	• A scalable file storage service for use with Amazon EC2 instances.
Amazon FSx	• A family of fully managed file systems for Windows, Lustre, and NetApp ONTAP, providing high-performance file storage for various applications.
Amazon S3	• A scalable object storage service that offers high durability and availability for storing and retrieving any amount of data.
AWS Backup	• A centralized backup service that automates and manages backups across AWS services and on-premises resources.
AWS Storage Gateway	• A hybrid cloud storage service that provides on-premises access to virtually unlimited cloud storage.

Contact details :

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"Believe you can and you're halfway there."

—THEODORE ROOSEVELT

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