

AWS Certified Cloud Practitioner Exam Personal Study Guide

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AWS



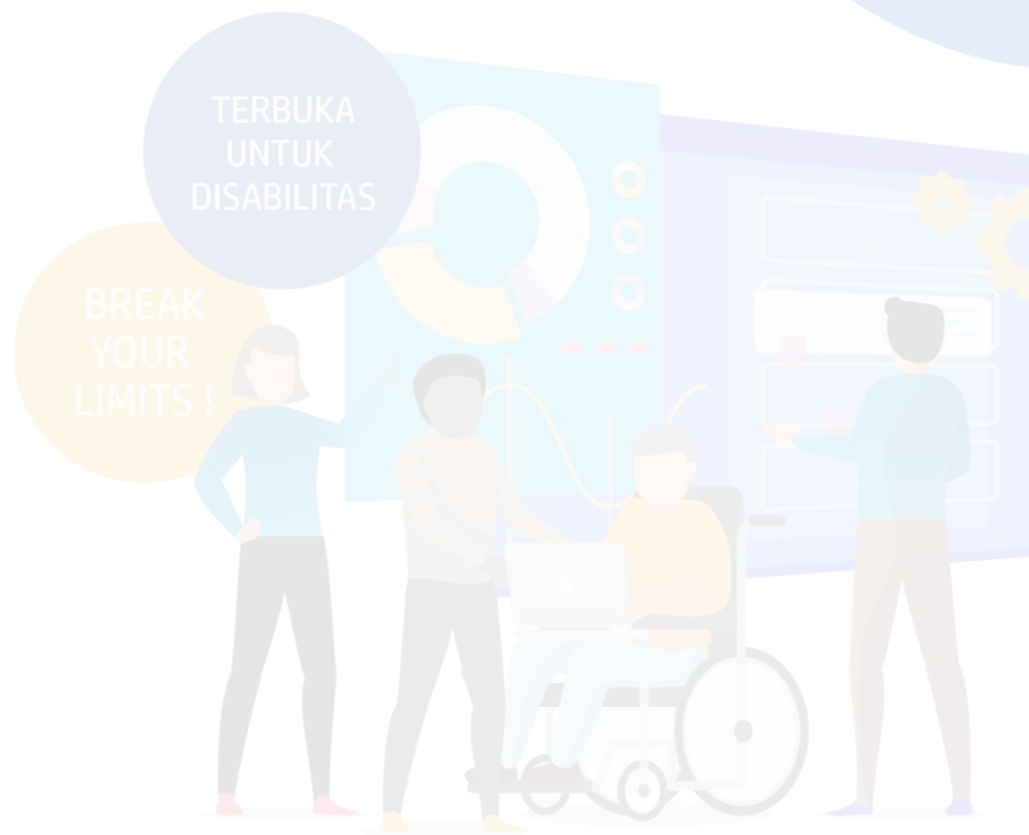
Certified Cloud Practitioner Exam Personal Study Guide

Disclaimer: These are my personal study notes I made to prepare for the aws cloud practitioner exam. I can't guarantee all the information is 100% correct. Please do not use this video as your only source to prepare for the exam. 90% of this content source is from the Amazon AWS website.

Responsibility Model



CUSTOMER	AWS
Customer Data	Physical Hardware
Security in the Cloud	Storage
Platform, Applications, Identity & Access Management	AWS Databases
OS, Network, Firewall	Configuring Managed Services
Client-side Data, Encryption, Authentication	Edge Locations
Server-side Encryption, files, data	Regions
Network Traffic Protection	Availability Zones
	Global Infrastructure
	Natural Disasters
	Compute
	Networking



MONITORING

Cloud trial

- gov, compliance, risk auditing
- Log, monitor, retain, record events across AWS
- who made API call, SDKs, command line
- Cloudwatch can use this information to take action

COST

Total Cost of Ownership

- TCO calculator
- your company cost vs aws savings
- reduce large capital investment
- pay as you go model
- detailed report
- no up front cost

COST

Cost Explorer

- easy-to-use interface, visualize, understand, manage costs and usage over time
- dive deeper in cost, usage data, identify trends, pinpoint cost drivers, detect anomalies
- future forecasting

COST

Trusted Advisor

- customized cloud expert, real-time software
- inspect aws environment for:
 - money saving
 - performance
 - reliability
 - security
- part of admin console



COST

Consolidated Billing

- the master account is called a payer account, and the member account is called a linked account

SECURITY

DDOS Prevention

- WAF(Web Application Firewall), AWS Shield, Cloudfront, Load Balancer
- NACL - subnet in VPC to protect against incoming traffic requests

Security Groups

- Acts as firewall that controls traffic allowed to reach one or more instances
- up to 5 security groups
- only use SSH into EC2 instances that are attached to security group

SECURITY

Penetration Testing

- Get permissions from AWS first. It can be done on your infrastructure only

Amazon Inspector

- automated security assessment service that improve security and compliance of applications deployed
- automatically assesses applications for exposure, vulnerabilities, and deviations from best practices

SECURITY

Identity Access Management

- IAM Roles – determine what the identity can and cannot do in AWS, temporarily
- Secure communication between EC2 Instance and S3
- IAM - Identity Access Mgt - manage users and their level of access to AWS Console, it's universal, root account - complete admin access by default, users have no permissions initially

DATABASES

- Relational Database Service(RDS) - MySQL, PostgreSQL, MicrosoftSQL Server, Oracle Multi-AZ, Read-Replica
- Dynamo DB - noSQL non relational database, serverless and fully managed.
- Amazon RedShift - Data Warehouse
- Aurora - MySQL and PostgreSQL-compatible relational database built for the cloud, managed by Amazon
- Host self-managed database in AWS - complete control over the database engine and infrastructures

STORAGE

- S3 Transfer Acceleration enables fast, easy, and secure transfers of files over long distances between your client and an S3 bucket. Transfer Acceleration takes advantage of Amazon CloudFront's globally distributed edge locations
- S3 Costs depend on GB size of storage, 5TB & maximum buckets = 100
- Import Data into Amazon - Glacier API, Glacier SDK, S3 lifecycle policies, Snowball petabytes of data mailed to AWS
- Glacier infrequently accessed data archives

INSTANCE TYPES



Reserved Instances

- discount (up to 75%) compared to On-Demand instance pricing
- assigned to a specific Availability Zone with capacity reservation
- available when you need them
- For applications that have steady state or predictable usage

INSTANCE TYPES



Spot Instances

- can be interrupted
- fault-tolerant
- flexible applications
- big data, data analysis, batch jobs
- 90% compared to on-demand
- medical, scientific, bids, if it's below your bid

INSTANCE TYPES

Dedicated Host

- physical EC2 server dedicated for your use
- can help reduce costs by allowing to use existing server-bound software licenses, including Windows Server, SQL Server, and SUSE Linux Enterprise Server (subject to license terms)

INSTANCE TYPES

On-Demand

- you pay for compute capacity by per hour or per second
- No longer-term commitments or upfront payments
- applications with short-term, spiky, or unpredictable workloads
- cannot be interrupted

DISASTER RECOVERY

- Backup and Restore (highest downtime)
- Pilot light - DR scenario in which a minimal version of an environment is always running in the cloud
- Warm Standby
- Multi AZ (least downtime)

DISASTER RECOVERY

- An Availability Zone (AZ) isolated location within an AWS region, put in multiple regions
- RRS reliability 99.99
- RRS durability 99.99
- S3 durability 99.999999999
- S3 availability 99.99

KEY POINTS

Elasticity

- allow application to scale up and scale down diverting traffic to instances based on the demand and least load

Elastic Beanstalk

- easy-to-use service for deploying and scaling web applications and services developed with Java, .NET, PHP, Node.js, Python, Ruby, Go, and Docker on familiar servers such as Apache, Nginx, Passenger, and IIS.
- upload code and Elastic Beanstalk automatically handles the deployment, from capacity provisioning, load balancing, auto-scaling to application health monitoring. Retain full control over the AWS resources

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KEY POINTS

CloudFormation

- model entire infrastructure in text file
- template single source of truth for infrastructure
- standardized code

Amazon Direct Connect

- easy to set up a dedicated network connection from your premises to AWS
- can reduce network costs, increase bandwidth, provide consistent network experience than Internet connections
- VPN Connection



KEY POINTS

SQS

- fully managed message queuing service that enables you to decouple and scale microservices, distributed systems, and serverless applications
- You can send, store, and receive messages between software components at any volume, without losing messages or requiring other services to be available

AWS Config

- service that enables you to assess, audit, and evaluate the configurations of your AWS resources. Config continuously monitors and records your AWS resource configurations and allows you to automate the evaluation of recorded configurations against desired configurations.

KEY POINTS

EMR

- managed Hadoop framework that makes it easy, fast, and cost-effective to process vast amounts of data across dynamically scalable Amazon EC2 instances. You can also run other popular distributed frameworks such as Apache Spark, HBase, Presto, and Flink

VPC

- carved out a portion of AWS Cloud
- virtual private network

KEY POINTS



AMI

- Amazon Machine Image (AMI) provides information required to launch instance
- You must specify a source AMI when you launch an instance.
- You can launch multiple instances from a single AMI
- A template for the root volume for the instance (for example, an operating system, an application server, and applications)
- You can create from EBS-backed instances & snapshots

KEY POINTS



Snap Shot

- take snapshot of volume, then put in another availability zone (in order to move one volume to another availability zone) copy snap shot to other region, create image of that snap shot, then boot as new EC2 instance, for back ups, image creates new, AMI's is where image is saved

Amazon ElastiCache

- offers fully managed Redis and Memcached - real-time apps, gaming, ride hailing, media streaming, dating, social media store as database cache, message broker, queue, real time transactions

KEY POINTS

CloudFront

- fast content delivery network (CDN) service that securely delivers data, videos, applications, and APIs to customers globally with low latency, high transfer speeds, all within a developer-friendly environment using edge locations

AWS Marketplace

- sales channel, easy Sellers to offer software solutions that run on the AWS cloud

KEY POINTS

Acceptable Use Policy - Describes Prohibited Actions

Policy Document - that provides a formal statement of (one or more permissions) provides formal statement of Permissions, resource, action, effect, principal, JSON, what user can do

Service control policies (SCPs) - manage your organization and restrict, at the account level of granularity, what services and actions the users, groups, and roles in those accounts can do

KEY POINTS

- **Support Plans** - Basic, Developer, Business, Enterprise - support Concierge
- **AWS Mgmt Console** - Web-based user interface
- **PCI Compliant** The Payment Card Industry Data Security Standard (PCI DSS) AWS offer these services

KEY POINTS

- you cannot upload archives to Glacier by using the management console. To upload data, such as photos, videos, and other documents, you must either use the AWS CLI or write code to make requests, by using either the REST API directly or by using the AWS SDKs



DIGITAL TALENT SCHOLARSHIP 2019

Big Data Analytics



Terimakasih

Oleh:

Fakultas Ilmu Komputer (Filkom) Universitas Brawijaya (UB)