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Assignment-

1. Write AWS well architected frame working with 6 pillars and design principles and respective services.. Complete details

Ans

AWS well architected framework helps to build systems with all the features.

1. Operational Excellence Pillar :-

Operational excellence pillar includes the ability to run the workloads effectively, gain the insights of the operations and to deliver the bussiness needs.

Design principles :-
It has following design principles :

→ Perform operations as code
→ Small, frequent reversible changes
→ Automation
→ Anticipate failure

AWS Services :-
1. cloud formation
2. AWS Config
3. AWS cloudwatch
4. AWS cloud trail
5. AWS cloud Build
6. AWS code commit
7. AWS code deploy
8. Code pipeline

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2.8 Security Pillar :-

The security pillar includes the ability to protect data, systems and assets by the help of cloud to improve security

Design principles :-

- Implement a strong Identity
- Enable traceability
- protect the data in transit and at rest
- Automate best practices

AWS Services :-

1. IAM - Identity And Acess Management
2. MFA - Token
3. AWS Organizations
4. AWS Config
5. AWS Cloud watch
6. AWS cloud Trail
7. AWS VPC
8. AWS shield
9. AWS WAF
10. S3
11. KMS
12. AWS ELB

3. Reliability Pillar :-

It is the ability of a workload to perform its intended functions o, do correctly and consistently. It is the ability to operate and test the workload.

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Design Principles:

→ Recovery from failure
→ Stop guessing capacity
→ Automation
→ scalability

Aws services:

1. IAM
2. VPC
3. Amazon cloudwatch
4. Cloud Trail
5. Auto scaling
6. Aws config
7. S3
8. Amazon S3 types.

4. Performance Efficiency:-

The performance efficiency pillar includes the ability to use the computing resource efficiently to meet system requirements and to maintain the efficiency as demand change

Design principles:
- Go Global in minutes
- Use serverless architectures
- Experiment more often
- Advanced Technologies

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Aws services:-
1. Aws Lambda
2. Aws Auto scaling
3. Amazon RDS
4. Aws Cloudwatch
5. Aws RDS
6. Aomazon cloudfront
7. Amazon S3.

5. Cost Optimization
This pillar includes the ability to run systems to deliver bussiness value to the lowest price point

Design principles:-
- Implement cloud financial management
- measure efficiency
- Analyze expenditure

Aws Services:-
1. Aws Budgets
2. Aws cost explorer
3. Aws cost usage and reports
4. Auto scaling
5. Aws Lambda
6. Spot Instances

6. Sustainability:-
The discipline of sustainability address the ~~the~~ long-term environmental, economic and societal impact of your bussiness activities.

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Design Principles:
- Establish goals
- maximize utilization
- Use managed services
- Reduce the downstream impact.

2. S3 storage classess complete table and S3 use cases

Ans

S3 storage classes:

1. S3 Standard
2. S3 Intelligent tiering
3. S3-IA
4. S3 one IA
5. S3 Glacier
6. S3 Glacier Deep Archive

S3	S3 Standard	S3 Intelligent Tiering	S3 -IA	S3 One-zone IA	S3 Glacier	S3 Deep Archive
Durability	99.999999	99.9999999	99.9999999	99.9999999	99.999999	99.999999
	99999 (11 9's)	9999	9999	9999	99999	99999
Availability	99.9%	99%	99%	99%	99.9%	99.9%
AZ's	≥3	≥3	≥3	1	≥3	≥3
capacity	-	-	128KB	128KB	40KB	40KB
Storage charge	-	30 days	30 days	30 days	60 days	180 days
Retrieval fee	-	-	per GB	per GB	per GB	per GB
Storage Type	object	object	object	object	object	object

S3 Usecases are datalakes, websites, mobile applications, backup and restore, IOT device, big data analytics

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3. AWS EC2 shared Responsibility model.

Ans

Shared Responsibility model of EC2.

Responsibility of Users :-

- → Security of the data & at rest
- → Security Group rules
- → Software updates & utilities
- → OS patches & updates
- → IAM User management & IAM Roles for the Instance.

Responsibility of AWS :-

- → Security of the physcial hosts
- → Compilance validation
- → Infrastructure.
- → fault-tolerance.

4. What is AWS Marketplace ?

Ans AWS marketplace is a place where we can buy or sell the softwares.

AWS Marketplace is an online store that helps customers find, buy and immediately start using the software and services that run on AWS.

We can find thousands of the partners through the marketplace

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5. Write a detailed AWS support plans.

Ans

Different types of AWS support plans are

- Basic plan
- Developer plan
- Enterprise On-Ramp
- Enterprise
- Bussiness plan

Basic Support plan

→ Customer service & communities :-
24X7 access to customer service, documentation, white papers and support forums

→ AWS Trusted Advisor
Access to 7 core Trusted Advisor checks and guidance to provison your resources

→ AWS personal Health Dashboard

AWS Developer support plan:

→ All basic support plan +
→ Business hours email access to cloud Support
→ ~~888~~ Unlimited cases / 1 primary Contact.

→ General guidance < 24 business hours
→ System Impaired < 12 business hours

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Business Support Plan :

- Intended to be used if you have production workloads
- Trusted Advisor - Full set of checks + API access
- Unlimited cases / unlimited contacts.
- Additional fee
  - General guidance < 24 business hours
  - System Impaired < 12 hours
  - production Impaired < 4 hours
  - ~~down~~ system down < 1 hour

Enterprise On-Ramp :

→ Support all with Technical Account Managers(TAM) can contact with down time < 30 hours.

Enterprise Support :

→ mission critical workloads.
→ Has a designated TAM.
→ can contact with < 15 minutes

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6. On prem, IAAS, PAAS and SAAS detailed

On prem	IAAS	PAAS	SAAS
Application	Application	Application	Application
Data	Data	Data	Data
Runtime	Runtime	Runtime	Runtime
middleware	middleware	middleware	middleware
O/s	O/s	O/s	O/s
Visualization	Visualization	Visualizations	V/s
servers	servers	servers	servers
storage	storage	storage	storage
Networking	N/w	N/w	N/w
managed by users	managed by service provider	managed by service provider	All managed by service provides

9. How to do one bill provided for multiple accounts

Ans

Inorder to have centralized bill for accounts we have "Aws Organization"

Aws organizations provides you with the capability to centrally manage and governe the accounts. We can create custom permissions and access to the users. with organization can get high discounts on the bills.

10. An Elastic IP Address can be remapped between E2 instance accross which boundaries.

Ans Elastic IP addresses are for use in a specific region only and can therefore only be remapped between instances within that region.

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