EXAM Q&A

Glacier

Expedited = 1-5 min

Standard = 3-5 hours

Bulk = 5-12 hours

EBS

provisioned IOPS SSD

Snapshot → copy to new region

Batch → throughput

S3

performance hexadecimal hash prefix

S3 Vpc endpoint ← ec2 allow without nat gateway

Temporary access → pre-signed

Cloudfront

static based promoter

Store session data

- DynamoDB
- Elasticache

NGNIX

EC2

ElasticBeanstalk

Cloudtrail = API

Cloudwatch = Monitoring

IAM

- IAM roles for tasks (Container)

EC2

NAT instance

public subnet

outbound IPV4

no inbound

VPC

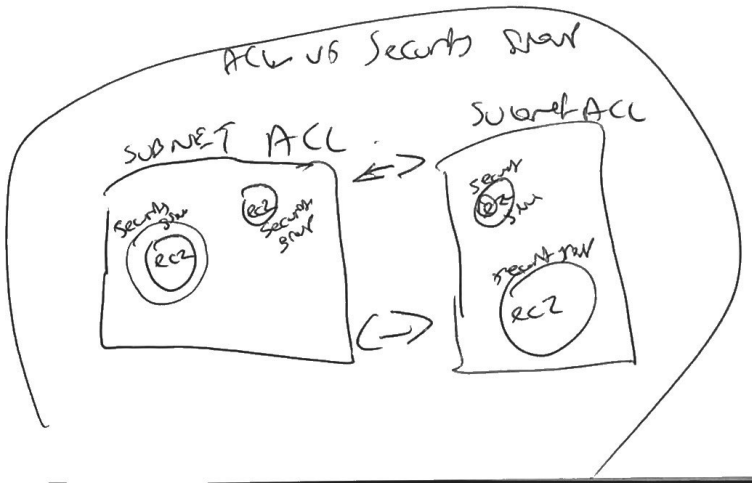
~~Redshift~~ Vpc endpoint ← private connect AWS services

Redshift

S3

- VPC flow logs = ip adresses VPC

(saved in Cloudwatch logs



Redshift

- Redshift enchanted VPC Routing } Copy + unload
- Crossregion snapshots
- KMS Encrypt ←

VPC

ACL → Subnet → Sec group → EC2 Default ACL = allow in/out
New ACL = deny all

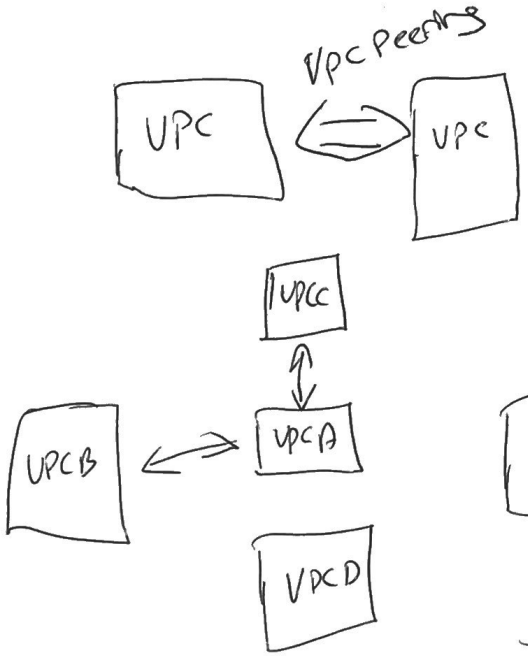
- all default VPC has access to Internet
- Each ec2 → public → IP
  → private

Sec Group
VPC — SUBNET
Network ACL
IGW / Attached private GW
Route table

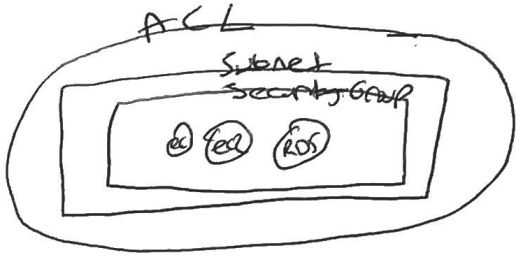
1 Subnet = 1 Availability Zone

Sec group = Stateful

ACL = Stateless



NO TRANSATIVE PEERING



AWS reserves 5 IP's

10.0.0.0 Network adress
10.0.0.1 Vpc Router
10.0.0.2 Reserved AWS
10.0.0.3 Reserved future use
10.0.0.255 - Broadcast adress

NAT GATEWAY
- Assign IPv6
- Nate GW - IPv4
- Highly available

Cloudwatch logs — export S3
Stream to Lambda
Stream to Elastic Search

VPC Logs
No DHCP, WIN licensing
No change configs
No DNS
No 169.254.169.254

VPC Flowlogs = IP Traffic
Cloudwatch logs
VPC
Subnet
Network Interface

Application Services 101

Travel

SQS queue message

oldest AWS service

pull based

Travel Website
Booking.com
Skyscanner

256KB of text
XML, JSON, text

Pull Based
(1 min - 14 days
default 4 days)

Visibility Timeout
30 sec
if not deleted
visible again
MAZ 12h

Queues

Standard
Unlimited
Not ordered sorting
Multiple delivery sec

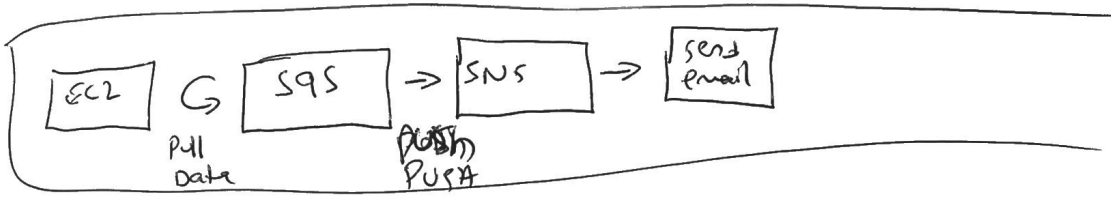
FIFO
300 message / sec
Batch 10 messages
FIFO queue 3000 messages
First in first out
Only once delivered

Short polling
Continuous

long polling
periodically

SNS simple notification service
PUSH mechanism
Poll this from queue

mobile
- SMS
- email
- SQS



SNS topic
multiple topics
Access point

SNS
- instant delivery
- Simple API
- Flexible message delivery
- Pay as you go
- Console
- $0.50 per 1m SNS

SNS
JSON
Subscriber
HTTP
HTTPS
EMAIL-JSON
SQS queue
Lambda
Application

Elastic Transcoder

Media transcoder

Convert media file from original ⇒ mobile, tablet

Kinesis 101

used in { IOT, AMAZON, UBER, Geo

saved

Default 24 hour 7 days

Kinesis

- Streams
  - 24h-7days
  - Shards
  - 5 txns / sec
  - 1mb write
- Firehose
  - Automated
  - Can lambda in place
  - Data analyzed or sent to S3 Redshift
- Analytics

Api Gateway

Front-door

Api GW cache

- Caches endpoints response
- TTL

Scales

Low cost

Throttle requests

Same origin Policy

1 web page ↓ can access 2nd

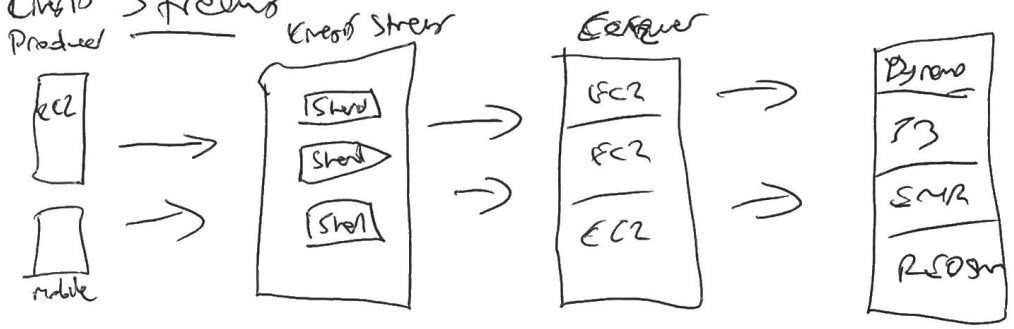
CORS → allow only thgs from certain Domain

Cross origin resource sharing

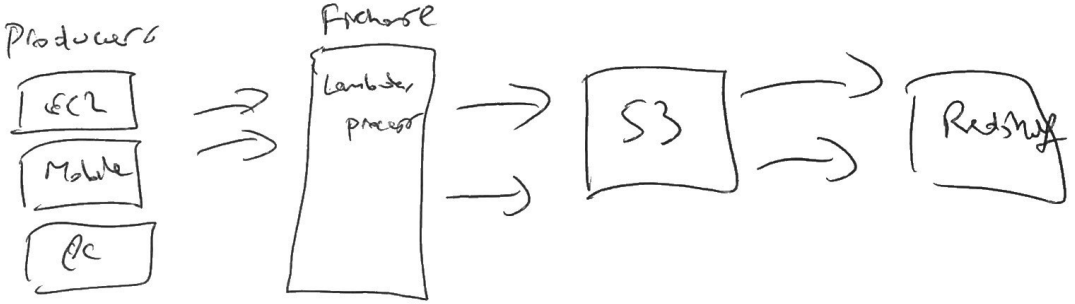
Origin policy cannot be read at the remote resource? → Enable CORS at Api Gateway

— Api gateway Server / origin

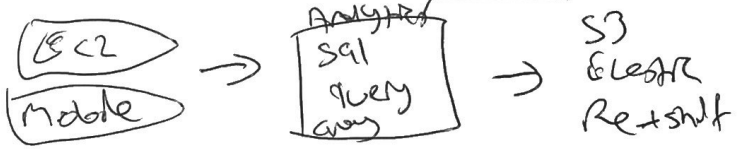
Kinesis Streams



Kinesis firehose



Kinesis Analytics



well architected framework

General principles

- stop guessing
- Test at prod scale
- Automate experimentation
- Evolutionary architectures
- Drive architecture using Data
- Improve using game days

5 pillars of well architected

Security / Reliability / Performance Efficiency / Cost optimization / Operational excellence

5 Pilars ROCPS

1 Security DIPD

- all layers
- traceability
- automate events
- shared model (responsability)
- automate security best practices

Encrypt: ELB, EBS, S3, RDS

Privilege: MFA, IAM

INFRA: VPC

Detective: -Cloudtrail, -Cloudwatch, -Aws Config, -S3, -Glacier

definition 4 areas:

- Data protection
- privilege management
- Infrastructure protection
- Detective controls

} (security)

Cloudtrail: who did what? Governance, Audit, ALL logged

Aws config → let me know when services service change

Cross multiple accounts SNS

} Sperb!

Cloudwatch: what's happening with Aws Resources, Alarms, Events, logs

2 Reliability FCF

- Test
- recover failure
- horizontal increase
- stop guessing

definition: Source (Limits)

→ foundation - Base is OK

→ Change management

→ failure management

→

foundation: IAM, VPC, Limits

Change management: Cloudtrail

failure management: Cloud formation

5 pillars of well architected — operational excellence
— cost optimization
Security, Reliability, Performance Efficiency

ROCPS

3 Performance efficiency

- Compute
- Storage
- Database
- Space-time tradeoff

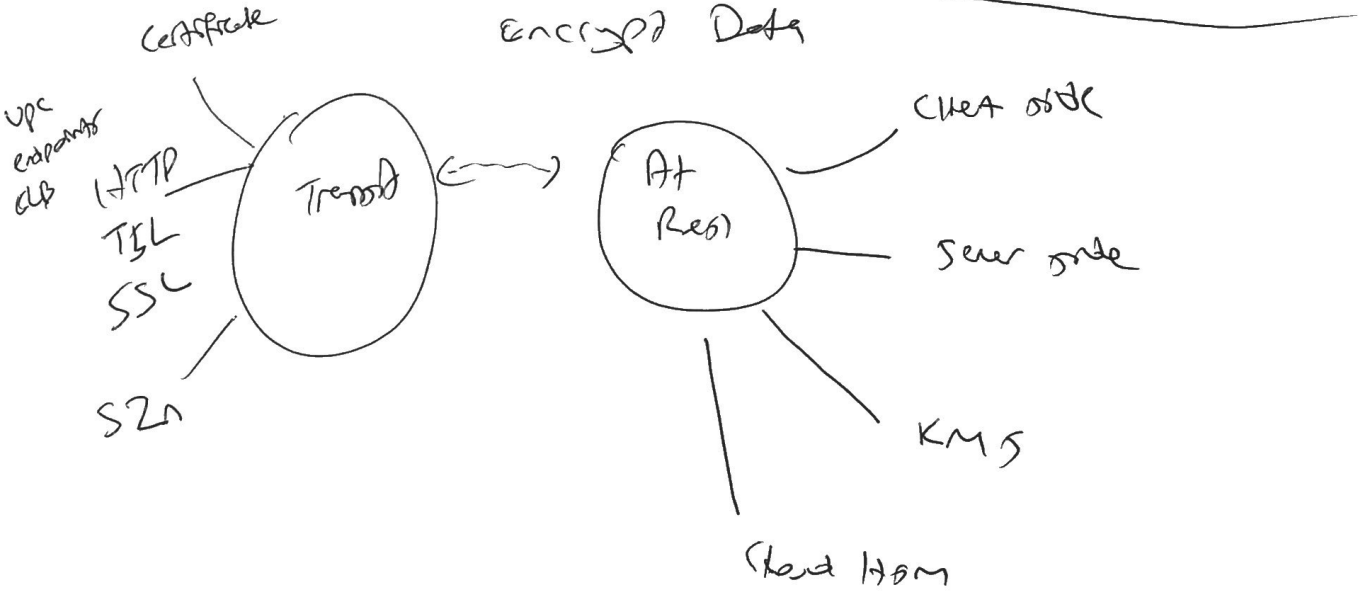
5- Operational excellence

- Perform with code
- Align op process → business
- make small, increment changes
- Test for response
- Learn from events (failure)
- keep operations current

Definition
- Preparation → Aws config, Deploy, codeDeploy
- Operation
- Response → Cloudwatch → SNS

4 Cost optimization

- Match supply & Demand
  Auto scaling
- Cost effective
  EC2 reserved, Trusted Advisor
- Expenditure awareness
  Cloudwatch alarm, SNS
- optimize overtime
  Aws blog, trusted advisor



Encryption

at rest
- Client side
- Server side
- KMS
- Cloud HSM

at transit
- VPC
- TSL SSL
- ELB + Cloud front + Acm

S3
- encrypt Before
- Decrypt at Download

EBS
- only data volumes
- KMS

RDS
encrypted EBS volume
full at encryption
volume, snapshot, backups
read replicas
encrypted

KMS
EBS
S3
Redshift

EXAM TIPS

EBS

snapshots replicate automatically to A2

KMS encrypt

Block-storage

EBS optimized dedicated I/O

Perf - Nwelinux
EBS optimized
Raid 0

RDS

Encryption ONLY on creation
instance type should support
Shard data

Routing

0.0.0.0/0 → route internet

Cloudwatch

Ec2 state change
Lambda error logs

DYNAMODB

DynamoDB Streams
with Hamda trigger
(TRIGGER)

Metadata DB
EC2 → IAM Role → DYNAMO
Lambda
Session data save
400 KB (name+value)

Elastic Beanstalk

Docker containers host

SQS

Horizontal scaling
Decouple

S3

- presigned urls
  time download
  Post upload
- random / hexadecimal
  prefix for PERFORMANCE
- 0-5TB size
  Bucket policy
  Iam policy
- Upload to save
  closest key SLOW
- Transition rule
  S3 → Glacier 1year
  S1A 30 days
- SSE-S3

Cloudtrail

Governance
Compliance
Audit
ALL API calls
per region
per account

Vpc

internet gateway 2way
Nat gateway 1way

EC2

Automated start
USER DATA
EBS backed volume → persistent
Instance store → ephemeral
169.254.169.254/latest/meta-data
METADATA

Aurora

Replica
PostgreSQL
MySQL

ELB (load balancer)

1 region
No. Multiple regions
CROSS-ZONE (cross availability zone)
A2

EMR

process log file
analysis

Volumes

Gateway Cached Volumes = Realtime data
Gateway STORED = Backup

Store session Data
ELB + Elasticache

Network ACL = Stateless
Security Group = Stateful

~~API~~ Gateway → IAM Policies

VM import / Export

PCI = Cloudwatch + Cloudtrail

Limits account 20

Cloud formation
YAML, JSON

AWS Server Migration Service

Ephemeral port 135...65...)
ACL

Cloudfront ALIAS Record

Opsworks Stacks

Direct Connect (Private)

STATELESS
RDS + DYNAMO + Elasticache

STS

Identity Broker → LDAP, AWS → temporary creds

STS ⇒ Limited (temporary access to aws resources } federation

Kinesis

Realtime Data
Consume Big data

BIG DATA

Redshift → Business Analytics
EMR → Big data Processing

Opsworks

chef, recipe

SWF Actors

1 Starter 2 Decider 3 Worker

ECS / Docker

Task definition files
ECS

Private registry Authentication
Connect Public → Private Hub
Docker diagnostics Tools

ECS

Docker

ECS registered
ETL works
Private docker reg
IAM permissions

Security groups
Instance level
Regional span multiple AZ

EC2 Instance Store → Temporary

EBS → persistent

DYNAMO DAX

In memory cache
Server side encryption
Best for READ

VPC

No transitive
No peering regions
No overlapping CIDR

Tags

Key value pairs
Auto scaling, Cloud formation, Elastic Beanstalk can create tags

Resource Groups
Classic Resource M
Systems Manager

Workspaces

Windows 7 pointed with 2008 R2
By default Admin
Office bundled up 12 hours ∈
No AWS account needed
VDI in cloud

Direct Connect

Private conn
to AWS 1GB/ps 1GB/ps 802.1q

No internet
Dedicated Private conn

VPN

internet Based
Not stable
Quicker

organizations

manage policies
Control access to AWS services
Automate AWS Account creation
Consolidated billing

EXAM TIPS 2

DYNAMODB (NoSQL)

auto scale
No nodes

- 400KB limit
- Need table each day
- Push button scaling
- SSD
- 3 AZ standard

Already MULTIAZ

Dyno, S3, SQS

Need MULTIAZ

EC2, RDS

Region specific

EC2 key pair
Sec group
ELB

STATELESS

DYNAMO
RDS
Elasticache

Redshift

Redshift (Column)

Encrypted Vpc Routing
Block size 1024 KB

Data warehouse
N nodes

Multipart upload

- Improved throughput
- Quick recovery
- Pause resume
- Begin upload without knowing object size

SQS

queue 14 days

VPC

1- private subnet
2- Hardware access
3- Customer gateway (on premise)
4- Virtual Private Gateway

No edge to edge

No going back
Dedicated
(Recreate)

RTO = Recovery time objective

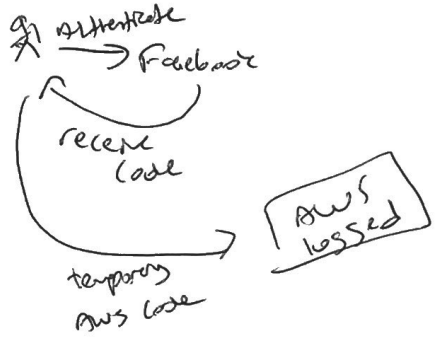
RPO = Recovery point objective

How much data can you loose

Developer Associate

Web Identity Federation

Amazon
Facebook
Google



Amazon Cognito

- Sign up - Sign in
- Guest users
- Identity broker (no additional code)
- Sync user data
- All mobile apps AWS
- No need to store credentials
- Seamless

Cognito user pools
user pools
Directories manage sign-in sign up
Sign web tokens
JWT's

Identity pools → create unique identities for your users.
Auth users with FB, Google
Temporary limited privilege

Push synchronization
Sync user data

SNS ⇒ silent notification

IAM

INLINE
customer MANAGED
CUSTOM
} Policies

IAM

Managed Policy
- By AWS
- Job function
Amazon EC2 ReadOnly Access
- 1 managed - multiple user
  - group
  - Role
- all accounts
- You cannot edit

Customer Managed
- You manage
- within your account
- Copy existing policy & edits
-

INLINE Policy
1:1 entered in user group - role
Managed over INLINE
Delete user deleted permissions

STS (Not IAM user)

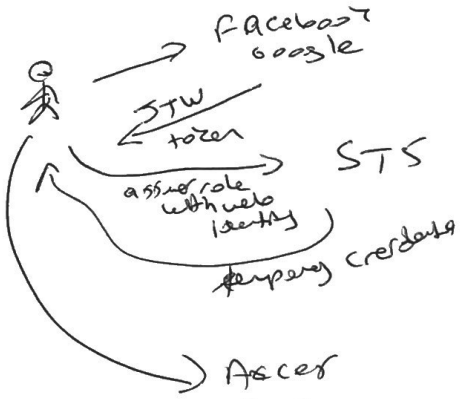
- AssumeRoleWithWebIdentity ARWWI
- API Security Token Service

Returns temporary security credentials

Use cognito for mobile apps

Register web apps ⇒ STS

with no cognito



Developer Associate

Cross account access

Switch roles

Cloudwatch RAM meter
Custom metric

- enable detailed
5 min interval

GetMetricStatistics API

- Can data from terminated EC2 ELB

- Can Customize
Indefinite logs

Normally 1 min
but can be 3-5

Cloudwatch alarms
↓
Monitor resources

CPU
Network
Disk
Status
} only

RAM = Custom metric
↑
Push

Cloudwatch on premise
SSM Agent

Cloudwatch vs Cloudtrail vs Config

- Monitor PERFORMANCE
- API calls
- Record state environment
notify you changes

Exam Tips

dynamodb:LeadingKeys

DynamoDB

- encrypt by SDK

throughput capacity
1RCU = 1 strong } 4KB
= 2 eventual }
1WCU = 1 } 1KB

Global Index
- partition + sort key
spans all data
- only eventual
- Any time create

Local Index
partition + different sort key
local for some partition
key value - base table
- eventual + strong
- only when you create

- Keep Indexes minimum
- Avoid indexing with lots of write

Kinesis Firehose
Streaming Data to → S3
→ Elastic Search

Encrypt data enable ~~stream~~

Kinesis Data Streams
Collect data from multiple sources
Realtime
Mobile App
Gaming
Log + event collection

Elastic beanstalk
- YAML with package
- .ebextensions
- IMMUTABLE Deploy → New Stack No Downtime
- SWAPURL

SQS
- use long poll
- Grant SQS API operation before

Cloudformation
preconfigure NGINX
cfn-init helper

KMS
use GenerateDataKey
GenerateDataKeyWithoutPlaintext
DynamoDB encryption (KMS)
- create table with encryption enabled
- copy data from old to encrypted
- ONLY MSK TLS

Need Study
- Cloudformation template
- Dynamodb
- Elastic Beanstalk
- Error Codes DynamoDB
- Api Gw

CodeURI
Aws Code deploy

Appspec.json
→ BeforeInstall
→ AfterInstall
→ AfterAllowTestTraffic
→ BeforeAllowTraffic
→ AfterAllowTraffic

Buildspec.yml
Collection of build commands
install
pre-build
build
post-build
artifacts

Dynamodb

Query → only primary key → Sorted by sort key

Scan → All every item
↓ Result
↓ Projection Expression
↓ refine results

ScanIndexForward

Dax = Read acceleration

Less Impact DYNAMODB — Avoid Scan use Query, GetItem, BatchGetItem

- Smaller page size
- Isolate segment
- parallel Scans

Provisioned throughput
- Less than 4 KB
- 80 items per/sec

80 needed strongly (1x)

40 needed eventual (2x)

Elasticache

Lazy loading when needed

Data pipeline

pipeline Component → Business Logic

Instances → all necessary specific tasks

Attempts: → retry failed

Task runner = poll

Needs Study

1 Cloudformation Template

2 X-ray interceptor handlers

3 Codepipeline

4 Redshift transfer S3

5 Kinesis Shard Calculate

6 Redshift encryption

7 Elastic Beanstalk

Elastic Beanstalk — All at once Immutable Rolling Rolling + Batch

Rolling
Reduced capacity revert w/ rolling

Rolling + Batch
- full capacity maintained
- revert with rolling

Immutable
- Mission critical
- Full capacity C
- Create new instances + Auto scaling group
- Roll back delete new

You can configure .config under

.ebextensions
..config

Exam Tips

RDS

- DescribeDBInstances Api
- endpoint via console
- Slow query logs
  Error → all errors
  General query → all clients
- Table Joins

Elastic Beanstalk

- Swap URL

SQS (30sec - 12hour)

- ChangeMessageVisibility Api
- DeleteMessage Api
- Default visibility 30sec
- 2 queues premium users

SNS

Add filter policy topic
SQS 30sec 12hour

DynamoDB

- Query
  GetItem
  BatchGetItem
  6l
  GBI 3 Dynamo DB
  API

Cloudformation

Parameters - values pass to your template at runtime

Mappings: - case if

Conditions - weather stack is prod or test

Transform - version of SAM

Resources - Aws resources to be created

Outputs - values returned when you call describe
aws cloudformation describe-stacks

Input - prod-test-userinput

Docker

- ECS + Cloudformation
+ Api GW + DB
- Containers: - Dockerhub (Pub)
  - EC Registry (Aws)
- IAM role for ECS tasks

Lambda

- Yaml deployment package
- Upload to S3
- Node.JS deployment
  3rd party package

AWS SAM (serverless application model)

→ Initialize → sam init

→ test locally → sam local invoke
→ start-api

- Package → sam package (send to S3)

- Deploy → sam deploy

CodeBuild

Vpc not accessible
Add configs for
Vpc to your project

EC2

query instance metadata
169.254.169.254/latest/meta-data/

S3

Can publish events → Lambda → Dynamo

CloudFront

Object stay in cache
- expires header to object
- TTL
  - default value 24h

Redshift

Encryption ONLY with a new cluster

Exam Tips

Study more
Cognito security
Kinesis shards

Api Gw (redeploy Api Gw)

- IAM
- Resource } Policies
- IAM Roles
- Cors
- Lambda Authorizers
- Cognito user pool
- SSL cert
- Usage plans
- SOAP, XML } mapping template
- Redeploy Api when update
- Deployment Stage
  Stage variables

X-Ray

Interceptors — add to your code trace incoming Http

Client handler — instrument SDK client to call other AWS service

Http client — to call external Http services

- X_AMZN_TRACE_ID
- AWS_XRAY_CONTEXT_MISSING
  -Daemon-Address

Data pipeline

Component - business logic

Instances — actionable instance todo list

Attempts - retry attempts failed

Task runner - polls pipeline for tasks and completes them

Datanodes - Jdbc, Rds, Redshift

Activities — pre-package activities move data for example

Pre-conditions - must be true before an activity can run

Resources — compute and resource
Ec2Resource
EmrCluster

Actions — steps when something happen
sns alarm, onLateAction, Emr activity.

Defaultnode - Defines type and location of Data
- DynamoDBDataNode
- SqlDataNode
- RedShiftDataNode
- S3DataNode

Cognito

"Block use" in Advanced Security
- Cross device sync
- offline data sync
- Push sync notification

Cognito
X off push

CWAPA

Schedule Lambda via

Cloudwatch events

Lambda

Code Storage Exceeded Exception
↓
Reduce code size

Trouble shooting:
Cloudwatch + XRAY

S3

- revertback policy

Cloudwatch Batch

- Cloudwatch events ⇒ Monitor Batch progress
- Deployment process
- Redis better than Memcached
  MultiAZ
  No MultiAZ

Better news

EXAM TIPS

LAMBDA

- Default threat function
  3 seconds
- Memory
  128 MB – 3 GB
- Better no recursion
- Environmental variables
- Lambda Edge® → Customize Cloudfront content

Lambda 3 sec 128 MB

DYNAMODB

- ProjectionExpression
- Fine IAM access
  dynamodb:LeadingKeys

Streams to create secondary table

Query = only Primary key

Scan = all data returned

Streams sequence
insert, update, delete

24 hours endpoint

→ Rate limited
→ Scans random → avoid burst reads.

RCU
300 items every 30 sec 6KB
300/30 = 10 items per sec
6KB so 2 reads needed
10 × 2 = 20

Api Gateway

control frontend interaction
Method request
Method response

Cognito Streams
Analyze data stored

Redis
Leaderboard

CodeDeploy
appspec.yml

Kinesis → Realtime

EC2
UserData → Bootstrap

Cloudwatch Alarm

Period (seconds)

Evaluation Point

Data points
within evaluation point

Codebuild (buildspec.yml)
buildOverride

SQS
Longpolling over short
↑ Better
20 secs

Amazon Cloudwatch
High resolution Custom Metric → 10-30 secs

regular alarm → 60 secs

S3
STT, zip based

STS AssumeRole

ELB enable access logs

STS: AssumeRole

SQS

Message visibility Timeout

0 sec — 30 sec — 12 hours

0 sec ↑ min

30 sec ↑ default

12 hours ↑ max

Which operation return inconsistent temporary results

→ getting object from S3 after it was deleted

300/30

100/10

10/1 secs

round 4 = 8

8/4 = 2

2 × 10 = 20

Delay

0 sec — 15 minutes

↑ max

AWS Credentials Rotated

Launch EC2 app with IAM (Role automatically Rotates)

EC2

user data

bootstrap

STS:AssumeRole

Repeated attempts converts

↳ dead letter & Max 3

Cloudwatch HighResolution metrics

1 sec monitor

10 sec alarm

GetMetricStatistics

Period — Evaluation — Datapoints

Cloudwatch

GetMetricStatistics

Period

Evaluation

Datapoints

Facebook
google → Cognito user pools → STS; Assume → Login

EXAM TIPS

Customize CloudFront content ⇐
Lambda Edge

↑

• .NET Core app → enable DynamoDB Encryption at CREATION

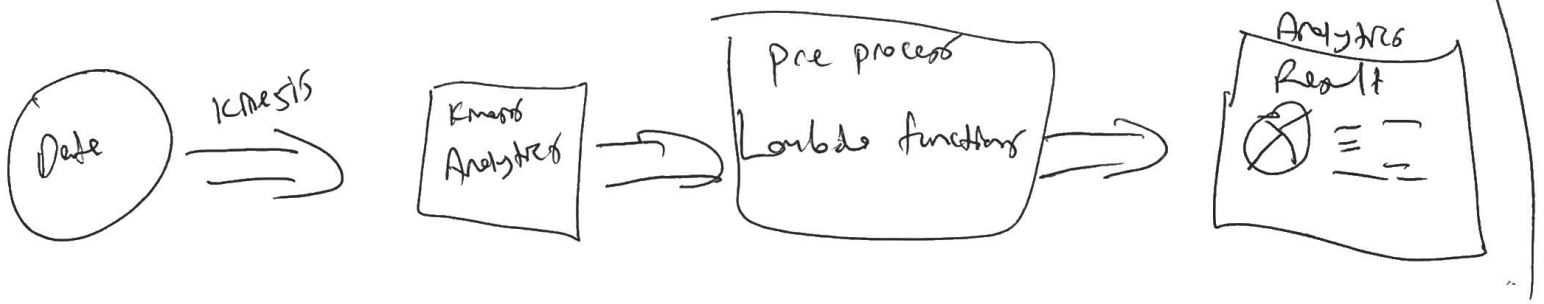
Application based on Microservices
AWS Lambda functions ⇒ Step Functions
multiple

Analytics ~~Lambda~~ pre-processing

↓

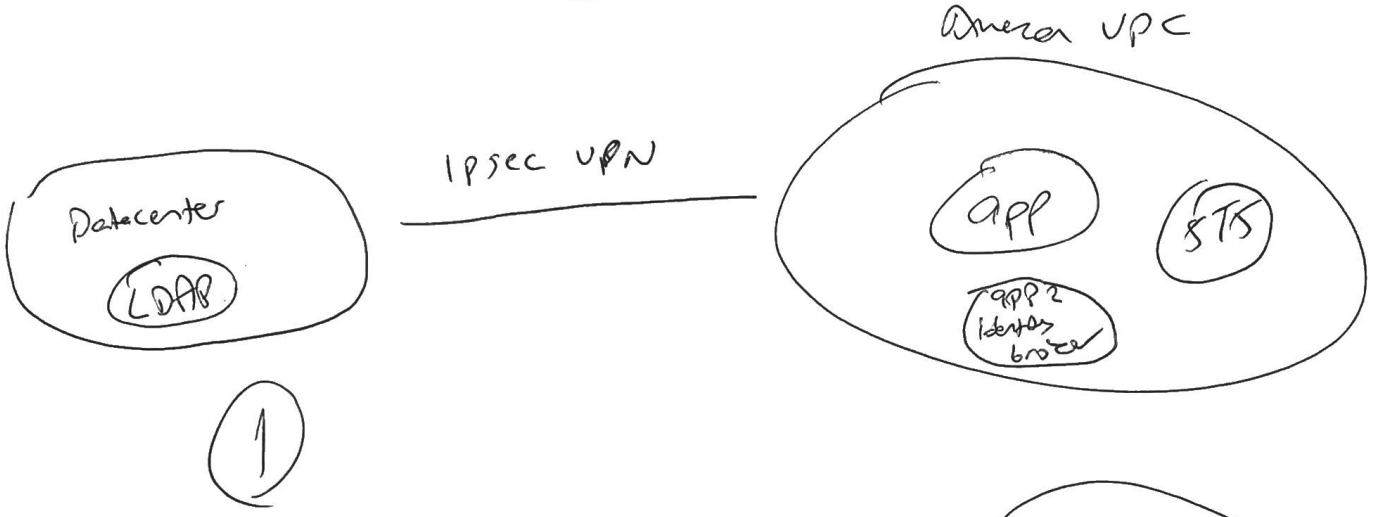
Lambda functions

Customize CloudFront with Lambda Edge



pre process kinesis streams with Lambda

LDAP (Exam Tip)



1- App auth LDAP + Set name

2- Call IAM Security Token Service (STS)
+
Assume Role

3- use Temp credentials

1 Develop identity Broker
Auth LDAP

2- CALL STS + GRT Federated credential

3- App calls Identity Broker for credentials

LDAP authentication

1- Auth with Ldap

2- Call IAM STS
AssumeRole

3- Use temp credentials

2

1 Develop Identity broker
+
Auth with LDAP

2 Call STS
+
federated Credential

3- App call identity broker

Exam Questions

1- A developer using Amazon Api Gateway 3 seperate environments How to redirect without creating a seperate

Answer
Uses stage variables
HTTP integration

2- A developer Aws codebuild wants to OVERRIDE a build command.

Answer
Update buildspec.yml
run new build

3- Read ~~messages~~ from SQS queue every 15-60 seconds

Answer
Use LONGPOLLING
always better long

4- An organizations application needs to monitor application specific events
Logged in users as Trigger events

Answer
High-Resolution
custom Cloudwatch

5- Lamda Common
Database RDS
Short connection
String

Answer
Use Systems Parameter
Store

http://s3-REGION.amazonaws.com/Bucket

Access bucket ~~with~~ Api call to login

Answer
~~[redacted]~~
STS:AssumeRole

Elastic Beanstalk
change instance
Type
M4.large

Answer:
Change instance type in
Configuration details page
Create New Environment

Api Gateway
stage variables
HTTP integration

Override Codebuild => update buildspec.yaml

Logged in user monitoring => Cloudwatch custom high resolution

Elastic beanstalk
M4.large => change instance type in config details
Create Network Environment

SQS (30sec - 12 - 14)

256 KB

2 queues for prioritization

visibility expires => increase the window

visibility timeout 30sec - 12h

up to 14 days

FIFO: GetAPI => return result and create 0/4 x three 12

Dropped Exceed capacity

400 bad request

ProvisionedThroughputExceededException

US Standard => immediate retries

Stuff 1 year

SQS 1 million

S3 100 buckets

Dynamo 10GB

100 items

Stuff 100

Dynamo 100

x-amz-server-side-encryption

S3 encryption

SSE-S3 server side AES256

KMS -

SSE-C client side provide keys

Burst CPU cycles

Receive Message Wait time 20 seconds

400 = Bad request

403 = Forbidden

404 = Not found

409 = Conflict

delete you create same S3 bucket

Local index 10

Global index 5

15.5 WRITE GUIDED!

16/4 = 4

Dynamo

1 thru between N Mbps

write through

15.5 KB = 16

10 writes

10 x 16 = 160

Serverless

Combo

Api GW

S3

Athena

SNS/SQS/Stuff

Dynamodb

AMI: SAME REGION

Burn Cpu Cycles = ReceiveMessageWaitTime to 20 seconds

DynamoDB: Optimistic Concurrency Control

LDAP → IAM STS → AssumeRole → App temporary credentials

HTTP 400 → Bad request
403 → Forbidden
404 → Not found
409 → Conflict → BucketExists

Serverless Services

1-LAMBDA 3-SNS/SQS/SWF 5-Athena
2-API GW 4-S3 6-DynamoDB

ProjectionExpression = return selected attributes

S3 AWS:Referer Only accesible from your own page

S3 Saveascript = Enable Cors

S3 Multi-Object Delete

Elastic IP ⇒ Remap a failure to another instance

Elastic Load balancer → Application Stack ⇒ Elasticache

Final process AMI ⇒ RegisterImage
DescribeImages

Vpc ⇒ Free

Glacier
CodePipeline

SNS using GCM

1L Submit GCM
2L Receive regID (register ID)
3L Pass to SNS
4L Mobile end point
LDONE

SNS Topics = Deny ALL

SNS = NO subject ID

SNS "fan out" ⇒ SQS

Yes unsubscribeURL ✓

S3: ReducedRedundancyLostObject ⇒ SNS + SQS water

Apple Push + Google Cloud Messaging ⇒ Get set of credentials

X-amz-server-side-encryption

SNS None, 1
Type
Value
> MUST NOT be empty

SQS send more then 256KB-456KB SQS Extended Client

⇒ ANY NUMBER QUEUES

SQS 1 Million ⇒ Free Tier

S3 ⇒ AES256

100 Buckets per Account

US-STANDARD ⇒ immediately retrieve

SWF Domains 100

Primary Key user_id

Write throughput 10 items per second

0/4 x times / 2

15.5 KB = 160 write

50 items per second

20 KB = 250 read

5 x 5 = 250

DynamoDB 256 tables per region

Query scan = it does not do consistent scan

BatchGetItem = DynamoDB 100 items

Local index (10 per table)
ONLY AT CREATION
Partition } SAME
Primary }

Global index (5 per Table)
ANYTIME
partition } Different
SORT }

Not Allowed NO INCREASE ~~INDEX~~ #

SWF = Can live 1 year

DynamoDB conditional write

String | Number | Boolean

Atomic counter
increment
decrease

DynamoDB 10 GB item collection

Smallest reserved capacity 100