EC2 Instance Store

EBS	- Persist data if terminate - Mount one instance at time - Bound specific AZ
EBS Snapshot	- Backup EBS - Copy across AZ or region - Feature: + Archive + Recycle Bin for EBS Snapshot
AMI	- Customization EC2 - Launch instace From (public AMI, private AMI and AWS Marketplace AMI)
EC2 Image Builder	- Create, maintain, validate, test EC2 AMI - Can run schedule - Free service
EC2 Instance Store	- Lose storage if stop - For buffer or cache
EFS	- Can mounted 100 EC2 - Work linux-multi AZ - EFS-IA (Infrequent Access): Auto move file EFS to EFS-IA - FSx: + Launch 3rd party + Build on Window File Server + Integrate Microsoft Active Derectory

Elastic Load Balancing & Auto Scaling Group

Elastic Load Balancer	- 3 kind: + Application load balancer (HTTP/HTTPS - layer 7) + Network load balancer (TCP - layer 4) + Classic load balancer (layer 4 & layer 7)

Elastic Load Balancing & Auto Scaling Group (cont)

Auto Scaling Group	- Ensure min max instance run - Register new instance - Replace unhealthy instance - Scaleing strategies: + Manual Scaling + Dynamic Scaling => Simple/Step scaling => Target tracking scaling => Schedule scaling + predictive scaling
S3	- unit name - S3 global, bucket region - S3 contain: + bucket + Object
Snow Family	- Data migrate: + Snowcone (8TB) + Snowball Edge (80TB) (TB or PB) + Snow mobile (EB) better > 10 PB - Edge computing
OpsHub	- Software manage snow family
AWS Storage Gateway	- Connect on-premise and cloud - Type: + File gateway + Volumn gateway + Tape gateway

Database

AWS RDS	- Multi AZ - Scale verticle and horizontal - Store blocked by EBS - Simlify for database admin
Amazon Aurora	
Amazon Elastic Cache	Cache for RDS

Database (cont)

DynamoDB	- 100TB
	- Type:
	  + standard
	  + Infrequent Access (IA)
	- Integrate IAM

DynamoDB Accelerator (DAX)	Cache for DynamoDB
Redshift	Warehourse
EMR (Elastic MapReduce)	Big data, hadoop
Athena	analyze data S3
QuickSight	- Machine learning - Bussiness intelligent (BI) service
DocumentDB	For mongoDB
Neptune	- Graph database - For social network
QLDB (Quantum ledger database)	book (ledger)
Amazon manage blockchain	blockchain
AWS Glue	extract, move S3

DMS (Database migrate service)	- Migrate
	- Support:
	  + Homogenerous migrates
	  + Heterogenerous migrates

Other Compute

ECS	- Launch docker container - not serverless - Intergrate Application load balacer
Fargate	- launch docker container - Serverless
ECR (Elastic Container Registry)	Store docker image
AWS Lamda	- You only upload code, lamda will run code deploy for you - Java, Nodejs, Python

Other Compute (cont)

Amazon API Gateway	- Build a serverless API
AWS Batch	- Launch EC2 or Spot Instance - Run by docker image & run on ECS
Lightsail	Simple create server for people little experience

Deploying and Managing Infrastructure at scale

Cloud Formation	- Is a declarative way of outlining your AWS Infrastructure - Repeat across region & account.
CDK (Cloud Developer Kit)	Defind infrastructure by language program
Elastic Beanstalk	- Developer centric view of deploy app on AWS - Easy to user service deploy - Paas - Free
AWS Code Deploy	- Deploy app auto - Hyrid service - Config CodeDeploy Agent
AWS Code Commit	git repository
AWS Code Build	Complies source code, run test
Code Artifact	Manage depend on software package (npm, ...))
Code Star	- Unified UI manage software in one place - Can edit Cloud 9
Cloud 9	Cloud IDE
SSM (Amazon System Manager)	- Manage EC2 and on-premise - SSM sission manager: start shell on EC2 not SSH not port - UI view operational data
Opswork	chef & puppet

By **tronghao**
cheatography.com/tronghao/

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Global Infrastructure

Route53	is a manage DNS
CloudFront	- Content delivery network (CDN)
	- DDos protect
	- File cacshe
	- Static content
S3 Cross Region Relication	- File update realtime
	- Read only, dynamic content
S3 Transfer Acceleration	Upload and download file to S3 bucket
AWS Global Accelerator	- Improve global app and performance
	- 2 any cast ip
	- Integrate Sheild
	- No cache
	- Improve TCP or UDP
AWS Outposts	- Hyrid
	- Server racks
	- Access AWS Infrastructure on - premise
AWS Warelength	5G Network
AWS LocalZones	place sesrvices closer to user

Cloud Intergration

SQS	Queue
SNS	Push notifier
Kinesis	- Streaming
	- Type:
	+ Data stream
	+ Data Fire house
	+ Data analytic
	+ Video streaming
Amazon MQ	- For RabbitMQ, ActiveMQ
	- have SNS & SQS feature.

Cloud Monitoring

Amazon CloudWatch	- Metrics: various monitor
	- Alarm: Trigger notify for metric
	- Logs: Realtime monitor log
Amazon EventBridge	Service allow access realtime change of AWS Service under SaaS
CloudTrail	- Govermance, complance and audit your account
	- Resource deleted => view CloudTrail
	- Record API your account
AWS X-Ray	- Debug in production
CloudTrail Insight	Auto analysis cloudtrail event
Amazon Code Guru	- Code review and recommand
	- 2 function: Code Guru Reviewer and Code Guru Profier
AWS Personal Health Dashboard	Remendiation guide when AWS experiency may impact you
AWS Services Health Dashboard	Status all AWS service across all regions

VPC

Internet Gateway	Help VPC Connect internet
NAT Gateway	- Private subnet to access internet
	- AWS manage
NAT Instance	- Private subnet to access internet
	- Self manage
NACL (Network ACL)	Firewall controls traffic to subnet
VPC Flow Logs	Capture info IP
VPC Peering	Connect two VPC
VPC Endpoint	Allow connect AWS Service use private network
AWS PrvateLink	Most secure & scalable way to expose a service to 1000s of VPCs.

VPC (cont)

DX (Direct connect)	- Make easy establish a declicate connect form on-premise network to one or more VPC in same region - Private connect form data center to AWS
Client VPN	Connect your compute to private netwowrk user open VPC
Transit Gateway	Transitive peering between thousand of VPC and on-premise, optimized network

Security and Compliance

WAF (Web Application Firewall)	- Protect your web app (layer 7) - Protect SQL Injection, cross site scripting
Penetration Testing	Customer test infrastructure AWS
AWS KMS	Encryption
Cloud HSM	Encrypt hardware
ACM (AWS Certificate Manager)	SSL/TLS Certificate
AWS Secret Manager	Store secret
AWS Artifact	Customer access AWS compliance/Security document and AWS agreement
AWS GuardDuty	- Inteligent protect - Against crypto currency attack.
AWS Inspector	Auto security assetment
AWS Config	- Audit & recording compliance your AWS resource - Config AWS resources - Keep track change your resources - Have Service AWS Config Resources
AWS Macie	Protect your sensitive data

Security and Compliance (cont)

AWS Security Hub	Cental security tool across several AWS account and auto security check
AWS Detective	Analyze, quickly identifies root cause of security issue
AWS abuse	Report AWS resource use for abuse or illiegal purpose

Machine Learning

Rekognition	Find object, people, text, ...
Transcribe	Convert speech to text
Polly	Convert text to speech
Translate	Translate
Lex	Chatbot
Connect	Recieve call, message SMS
Comprehend	Natual language pocessing - NLP
SageMarker	Developer build ML Model
Forecast	Use ML to Forecast
Kendra	Document search (text, pdf, ...)
Amazon Personalize	Buil app realtime personal
Textract	Extract text, hand writing

Account Management, Billing & Support

AWS Trust Advisor	- Tool realtime guildance help you provision your resource - Check security group for rules allow urestrical aross
AWS Cost Explorer	View cost
Cost Allocation Tag	Categories and track resource view billing
CTO Calculator	Estimate cost save between AWS and on-premise
AWS Pricing Calculator	Estimate a month bill resource use
AWS Budgets	Set custm budgets to track your cost and usage.
Cost And Usage Report	Dive Deeper in your AWS cost and usage

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Account Management, Billing & Support (cont)

Billing Alarm	- Simple alarm cost - Not powerfull as AWS budget
AWS Basic Support Plan	
AWS Business Support Plan (24/7)	- Production workload - Phone, email, chat to Cloud Support Engineer
AWS Enterprise Support Plan (24/7)	- Production or bussiness critaical workload - Mission critical workload - Access Techinical Account Manage (TAM) - Concierge Support Team - Infrastructure event manage, well-architect & opertationo reviews

Advanced Identity

AWS STS Security Token Services	Create temporary, limit privilege credentials
AWS Cognito (Simplified)	- Identity for web and mobile - Sign up, sign in (SAML & OpenID) - You can create user by Cognito
AWS Directory Service	Manage Microsoft Active Directory

Other AWS Service

Amazon Workspace	- Virtual Desktop Computing - Manage desktop as services (DAAS) Solutions.
Amazon Appstream 2.0	App streaming allow access vitual desktop
Amazon sumerian	VR, AR
Amazon IoT Core	IoT
AMazon Elastic transcoder	Convert media file S3 to media file

Other AWS Service (cont)

AWS Appsync	Service allow developer build app with realtime or offline synced data.
AWS Device Form	Test web and mobile in browser
AWS Backup	Auto backup
DRS - Elastic Disaster Recovery	Quickly and easily recover your physical and cloud
AWS DataSync	Move large data on-premise to AWS
MGW AWS Application Migrate Service	lift and sift solution simle migrate app to AWS
FIS AWS Fault Injection Simulator	Run test fault injection
AWS StepFunction	Build workflow order to lamda
AWS GroudStation	Controll Sattelite Communicator
AWS Pinpoint	Scale 2 way (outbound/invound markerting)

AWS Architecting & Ecosystem

AWS Well-Architecture Tool	Review your architect 6 pillas
AWS Right Sizing	Process matching instance type size your requirement
AWS Marketplace	Digital catalog with thousand of software
AWS Training	
AWS Professional Services & Partner Network	- Is global team of export - APN = AWS Partner Network
AWS Knowlege Center	Most frequently & Common question
AWS IQ	Quicky find help
AWS re:post	Question and Answer Services

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Other

Quickstart	- Deploy popular technologies
AWS Storage gateway	- Hyrid cloud storage service
Services control policy (SCPS)	Are a type of organization policy you can use manage permission in your organization.
Service controll policy (SCP)	Retrict acount privileage
AWS Control Tower	Easy way to setup govern a secure and complant AWS enviroment base on best practice
AWS Compute Optimizer	Recomment optimizer resource your workload
AWS Analyzer	Identity resource external
SWF (Simple Workflow services)	is a web services easy to coordinate work across distribute application component

Experience

1) Advanced RDS ở database admin => simplifies

2) VPC include multiple AZ

3) AWS Trust Advisior: Tool realtime guilidance help you provision your resource

4) AWS Health Dashboard: show issue impact your resource

5) AWS Cost Exploere: is used for view cost

6) S3 Store virtual unlimited

7) Cost Allocation Tags => categories and track resource after run view billing cost Explorer

8) Elasticity to resolve the issue of under utilization

9) AWS Direct Connect: provide private connect from data center to AWS

10) AWS Transit gateway: used for optimizing the network VPC and on-premise network.

11) EC2 hosts # Ec2 instance

12) Continually reduce price => economies of scale

13) Quick Start => deploy popular technologies on AWS

14) Cloud Formation => deploy infrastructure from template

15) AWS Artifact =>provide access AWS security and compliance report.

16) AWS Config: used for compliance relating config AWS resource.

17) IAM grant for S3 bucket => update principal

Experience (cont)

18) Launch EC2 Instance behind Elastic Load Balance => accross multi AZ in a single AWS Region

19) Database access operating system => EC2

20) Dynamo DB => config (customer), backup (AWS)

21) A sole manage reponsibility AWS => AZ manager

22) Agility - (fast, quick) in one click

23) Elasticity - Infrastructure scale base on demand.

24) Fault tolerance - Ensuring app stay available in the event of a fault.

25) CTO Calculator - estimat cost saving on AWS compare on-premise

26) AWS Pricing Calculator - Estiamte a month bill resource use

27) IAM Roles not have standard long-term credentials

28) AWS Storage Gateway - hyrid cloud storage servies

29) VPC establish connect between your on-premise network

30) AWS Budgets - set custom budgets to trck your cost and usage

31) AWS config keep track all change your resource

32) In a higher avalable system the failer of a single component should not affect the app.

33) Quick Sight - bussiness intellient (BI) service

34) Elastic Beanstalk - Easy to user service deploy

35) Access key contain 2 part: an access key ID and a secret access key

36) Trust Advisor - check security group for rules allow unrestricted access

37) Service control policy (SCPs) - are a type of organization policy that you can use to manage permission iyour organization

38) Network ACL: chặn IP cụ thể (block IP)

39) Access Analyzer: ideatity resource ễtrnal

40) AWS System Manager: UI view operational data.

41) IAM user have an access key ID and secret access key

42) Sheild => in a edge location

43) Amazon Cognito can add user sign-up, sign-in and access control web & mobile (SAML) and OpenID

44) GuardDuty: account continous for malicious activity and unauth-orized behavior.

45) AWS site-to-site VPN: encrypt traffic arcoss your network + Amazon workspace

Experience (cont)

46) Amazon App Stream 2.0: is non-persistent desktop and application services for remotely access your work

47) AWS managed services (AMS): adopt scale and operate more efficiently and securely. Easily leave a lot of the heavy lifting to AWS.

48) FSX - has standard server message block (SMB) protocol to access file over a network

49) Facility operation and hardware procurement cost are something you no longer to pay for in AWS cloud.

50) AWS Technical Account Mnager: provide expert monitoring and optimization for your environment and cordinates access to other pgram and experts

51) The company is resonsible for enabling encryptiion on the buckets S3

52) AWS ApplicatioDiscovery Service: help you plan your migrate AWS, collect usage and cofig data.

53) AWS Resource Groups: manage and auto task on large number of resource in one place.

54) AWS Service Catalog: reate and manage catalog IT services

55) SQS and Step Function: provide asynchonous itergrate

56) Amazon EC2 Dedicate host: allow use your iligoble software licenses from vendors.

57) Consolidated billing benefit: onebill, easy tracking, conbined usage, no extra fee.

58) AWS Health API is available to bussiness, Enterprise On-Ramp, Enterprise Support

59) AWS Storgae & Gateway has gateway virtual Tape library to backup software.

60) Resource performance monitor, event and leart => Cloudwatch

61) Account - specific activity and audit => CloudTrail

62) Resource - specific change history, audit, compliance => Config

63) Service Health Dashboard display the general status personal Health Daboard personal view.

64) Cloudformatio => same AWS infrastructure across multiple AWS Account and regions

65) Elastic Load Balance - high availibility, auto scleing and rebust security.

66) U2F security key - use USB port on yr compute

Experience (cont)

67) Virtual MFA Sservice - software app

68) Hardwrae MFA Device - hardware device generate six-digital

69) SMS text message - SMS

70) AWS Computed Optimizer: provide EC2, ELB, Lamda, Auto Scaling; not provide EFS, S3.

71) Cloudwatch enable central log on-premise and cloud.

72) IAM Credential Report: là loại báo cáo liệt kê all user và trạng thái thông tin đăng nhập của họ.

73) IAM Access Advisor: là 1 cố vấn truy cập, show ra các quyền dịch vụ được cấp cho user và thời điểm dịch vụ đó truy cập lần cuối.

74) AMI: là loại thiết bị ảo để tạo 1 máy áo

75) EFS: dịch vụ lưu trữ tệp

76) OpsHub: software quản lý Snow Family

77) AWS Storage gateway: hyrid access on-premise to AWS

78) AWS EMR: dịch vụ Hadoop (big data), kiểm soát cụm và phần mềm cài trên nó

79) Althena: analyze data S3

80) AWS Batch: run job batch trên nhiều AZ trong 1 region

81) Lightsail: tạo server cho người ít kinh nghiệm

82) Elastic Beanstalk: dịch vụ Paas giúp dễ dàng triển khai và mở rộng ứng dụng web và dịch vụ

83) AWS Code pipeline: tự động hóa quy trình deploy cho các bản cập nhật nhanh chóng và ổn định.

84) CodeStar: Unifed UI in one place manage.

85) Quicksight: machine leaning, trực quan hóa dữ liệu business itelligent.

86) AWS System manager: cung cấp cho người dùng khả năng hiển thị và kiểm soát cơ sở hạ tầng trên AWS

87) OpsWorks: quản lý Chef & Puppet, sử dụng mã tự động cấu hình máy chủ.

88) Outpost: khách hàng truy cập cơ sở hạ tầng AWS, hyrid nhất quán.

89) Amazon Event Bridge: truy cập realtime những thay đổi trong dịch vụ AWS dưới dạng Saas

90) AWS CloudTrail: ghi lại lệnh gọi API

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Experience (cont)

91) AWS Service Heath Dashboard: hiển thị tình trạng chung của ác dịch vụ Ẳ

92) NAT gateway: mạng private connect internet nhưng ngăn không cho internet kết nối đến Server đó.

93) NACL: lớp bảo mật như firewall kiểm soát ra vào của 1 hoặc nhiều subnet.

94) VPC Flow log: cho phép nắm bắt thông tin traffic đến và đi

95) AWS Private Link: là cách an toàn để kết nối VPC tới các dịch vụ AWS khác.

96) Forecast: dự báo chuỗi thời gian dựa trên máy học xây dựng phục vụ mục đích phân tích chỉ số kinh doanh

97) Artifact: Truy cập báo cáo trên thư và bảo mật.

98) GuardDuty: phát hiện mói đe dọa, inteligent protect

99) AWS Inspector: phát hiện lỗ hổng bảo mật tự động, phát hiện lỗ hổng bảo mật và khả năng xâm nhập qua mạng

100) AWS Security Hub: cảnh báo bảo mật ưu tiên cao và trạng thái tuân thủ trên các tài khoản AWS.

101) AWS Step Function: luồng công việc cho Lamda

102) AWS Pinpoint: marketing

103) Direct connect

104) Transit gateway

105) AWS Detective: root cause