

- Amazon Polly → Text to speech
- Amazon Transcribe → speech to text
- Textract: Printed text, handwriting, forms, tables to read, extracts.

- Recognition: Identify image, scenes, objects.

- MQ: Message Brokers, set up maintenance of message.
 - AWS. AppSync: Develop GraphQL APIs to the data sources. ^{Dynamic DB} ^{Lambda}
 - AWS App Mesh: Networking to services communicate each other
 - Cloud Map: Microservices to locate one another, by service name and location,
microservice need connect API but needs location, and names.
 - Pinpoint: Outbound, inbound marketing comm. service.
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- Cloud9: Write, run, debug code with browser.
It is pre-installed Java, Python, PHP... no need installation

- Launch wizard: Setting, configuring, deploying ^{Amazon} ^{Types} AWS resources for third party application

→ Analyse infrastructure,

— AWS Trusted Advisor analyzes AWS environment
provides recommendations;

1) Cost optimisation 2) Performance

3) Security 4) Fault Tolerance

5) Service Limits

— It can check EBS volume configurations.

— AWS Config: Enables you to assess, audit
and evaluate config of resources.

It is tracking service not an infrastructure
tracking service.

— Cloud watch: Monitor Application, optimize
resource utilization, view of operat. health.

— Amazon Inspector: Automated service, security
and compliance of applications deployed on

EC2. Automatically assess applications
exposure, vulnerabilities. Security service not
infrastructure tracking service

- CloudWatch Logs for both EC2 and on premise

- Autoscaling: Correct Number of EC2

Load Balance: Distributes incoming traffic to the targets.

- AWS Global Accelerator: Availability and performance of application with local global user

→ Serverless.

- Amazon Athena: Query service to analyze data in S3 using SQL

- Amazon Detective: Analyze, investigate root cause potential ~~issue~~
 security issue, suspicious activities

- Resource access manager: Share AWS resources

- Amazon Cognito: Signin/signup access control your web and mobile apps quickly.

- Direct Connect: Private connection

VPN Connect: Public connection

Site-to-site VPN: Encrypted tunnel network to Transit Gateway

- Client VPN: Connect users to AWS, or on premise resources.

VM Import/Export: VM Image ↔ EC2
 Catalog

Rekognition: Image and Video analysis to applications

AWS WAF: Web app. firewall

AWS Shield: Protect AWS services from DDoS attack.

- AWS Outposts: Run AWS infrastructure & service on premise for consistent hybrid existence.

→ ~~Gen. status~~
- AWS Personal Health Dashboard: Personalized view of the status of AWS services.
performance, availability

- AWS Services Health Dashboard: Status and availability of all AWS services. → Gen. status
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AWS OpsWorks → chef - puppet

AWS X-Ray: Analyze, debug serverless app. like microservices.
See relationship b/w services and resources in app in real time

Light Sail: Cloud Platform offers everything needs for build app or website

Amazon Sage Maker: Developer, Data Scientist to build, deploy Machine Learning Models.

Amazon Macie: Data Security and privacy service use Machine Learning.

AWS Amplify: Deploy static website → Reporting → ^{is it} CI/CD

AWS Well Architected

- 1) Operational Excellence: Running monitoring system
 - 2) Security: Protecting information and system.
 - 3) Reliability: ~~Unplanned~~ Recovery failure, adapting changing reqs
 - 4) Cost optimization
 - 5) Performance efficiency: Structure computing resource.
 - 6) Sustainability: minimizing environmental impact.
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- Amazon Lex: Building conversational interface using voice and text
 - Security Hub: Comprehensive view security alerts,
 - Glue: Provides visual and code-based to data integration
 - Omnichannel → Amazon Connect.
 - Kendra: Intelligent search service by machine learning.
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Design Principles for "reliability:"

- Automatically recover failure - Test recovery procedures
- Scale horizontally to increase aggregate workload availability
- Stop guessing capacity - Manage change in automation

- Redshift is ideal for long complex queries, also it improve performance for repeat queries by caching result.

* To prevent or control users to reach website running on EC2, on CloudFront (WAF or pre-signed URL, /signed cookies) and origin access identity (OAI) to reach S3.

With WAF you can create ACL that includes IP restriction.

ElastiCache Redis in-memory database that supports data replication.

ElastiCache Memcached Not in-memory database.
RDS PostgreSQL and MySQL ↗

Amazon Macie: Detecting and protecting sensitive data in S3

Amazon GuardDuty: Detect and remediate compromise of services.

* RDS use snapshot for the backup.

Parameter Store: provides secure storage for the keys, passwords, IDs, API, license codes

* Launch RDS instance with encryption enabled, logs and backups automatically encrypted.

* S3 manages encryption and decryption automatically when

Amazon S3 server side encryption (SSE)

* AWS Config ^{packs} conformance set of evaluations and remediations across in AWS Organizations.

Trusted Advisor online tool with real-time guidance provision resources.