

Managed Services in AWS

1. Monitoring - AWS CloudWatch
2. Streaming Data Services - Amazon Kinesis
3. Architecting for the cloud

CloudWatch

- Central integrated monitoring services
- Free monitoring - added(detailed) monitoring
- Organised by log group
- Alarm and events can be triggered with the monitored metric present in Cloudwatch
- Cloudwatch agent can be installed to collect the custom log(logs generated by custom apps)
- CloudWatch alarms can take on different colors based on their status
 - Red - out of the marked limit on the metric
 - Yellow no data/ warning
 - Green - under proper limits
 - Bill limit - alarm trigger (only in N. Virginia)
- Events are triggered thru rules
- The logs from the Log groups can be exported to S3, Lambda and Elastic search.
- Retention period is inversely proportional to the collected data:
 - A retention period of 60 seconds => 3hours of retention time
 - A retention period of 1minute => 15days
 - A retention period of 5minutes=> 63 days
 - 1hour=> 455 days
- Metric deletion is not supported. They can only expire.

Architecting

<https://aws.amazon.com/architecture/>

Reference architecture examples and standardized template for real time use cases.

Data architecture

- Business Logic Layer => Data Access Layer => Database/Keyspaces/Schema => Data files
- Data of different users should not be accessible but only restricted to a single user - single data structure
- The code should be taking care of the above.
- Separation of data can level up to physical disk separation, geographical separation etc.,
- Sensitivity towards data layer is mandatory and should be given equal importance like designing layer

Serverless architecture

- Do not need to worry about the infrastructure, configuration of scalability, endurance and reliability. Write the code (with any function) and deploy directly.
- No fixed commitment and fee. Pay according to the usage. Examples are. AWS Lambda , Google Cloud Functions
- Lambda is to be used for short and quick workloads. It is not suitable for long drawn-out processes due to the limitations of memory and runtime. Lambda functions have a maximum runtime of 15 minutes within which the task must be completed.