

# AWS Case Playbook

# Case Template

- If Korean support is needed, please open cases during Sydney working hours.  
(07:00 ~ 03:00 KST)

# Case General Template

- Severity: Low / Normal / High / Urgent / Critical
- Subject: Instance health check failure
- Description

Hi,

There was instance health check failure. Please check whether there was host issue at the below time.

\* Account ID : 123456789012  
\* Region : Seoul(or ap-northeast-2)  
\* Resource : i-12345678/elb endpoint/rds endpoint/etc  
\* Timeline(UTC) : 2016-04-01 10:00 ~ 2016-04-10 10:00

Thanks,  
Customer Name

- Requirement
  - Account ID
  - Region
  - Resources
  - Timeline + TimeZone (Start Time ~ End Time)
  - Your name

# Account and Billing Case Template

- Severity: Low
- Subject: Account Activation
- Description

Hi,

I have created the below account, but I cannot activate the account. In addition, I cannot call any APIs related to EC2. Please let me know what I should do to activate the account properly.

\* Account ID : 123456789012

Thanks,  
Customer Name

- When you have any account/billing issues, you can open a case.
  - Activation
  - MFA Token
  - Reserved Instances

# General Question

- Severity: Low / Normal
- Subject: A question about DynamoDB
- Description

Hi,

We are considering using DynamoDB to store the session. Are there any use cases or best practices to store data on DynamoDB? In addition, is there any way to delete useless data automatically?

Thanks,  
Customer Name

- You can ask a general question through a case as well.

# Bad Cases (1)

- Severity: Critical
- Subject: Something wrong on my instance!!!
- Description

My instance is crazy. Please fix it ASAP!

- No information at all

## Bad Cases (2)

- Severity: High
- Subject : I have experienced something wrong.
- Description

I launched an EC2 instance yesterday, and I installed the Apache web server. It was fine for a while, and suddenly my web server went down.

So, I killed the process, and restarted the Apache web server, but I could not restart the Apache web server. I felt that something wrong happened.

So, my question is why I was not able to connect to the instance and web page, and why I was not able to restart the Apache web server when the issue was occurred.

Is that my fault or your fault?

I guess this was because of AWS problem!!!

Wish me luck!

- No information at all
- Too lengthy to find out the real issue

# Bad Cases (3)

- Severity: Critical
- Subject: Please check an instance!!!
- Description

Please check an instance!! It is normal, but had an issue!!!

Instance ID : i-12345678

- Not a good case, but not the worst case either.
- At least there is instance ID, it could be a trigger to develop the case.
- Not a critical case because the issue has been gone.
- Needs more information



# Case Examples

# EC2 - Status check failure (0/2)

- Severity: Low / Normal / High
- Subject: Instance health check failure
- Description

An instance went down. I would like to know why the instance failure happened.

```
* Account ID : 123456789012
* Region : Seoul(or ap-northeast-2)
* Instance ID: i-12345678
* Timeline(UTC) : 2016-04-01 10:00 ~ 2016-04-01 11:00
```

Thanks,  
Customer Name

- System status check failure can happen because of below reason:
  - Loss of network connectivity
  - Loss of system power
  - Software issues on the physical host
  - Hardware issues on the physical host
- When you need to figure out why the instance goes down, you can open a case lower than or equal to “High”.

# EC2 - Cannot stop an instance

- Severity: High / Urgent / Critical
- Subject: An instance is stuck to stop
- Description

Hi,

An instance cannot be stopped for XX minutes/hours even though I tried to do "Force Stop" the instance. Please force-stop the instance.

\* Account ID : 123456789012  
\* Region : Seoul(or ap-northeast-2)  
\* Instance ID: i-12345678  
\* Timeline(UTC) : 2016-04-01 10:00 ~

Thanks,  
Customer Name

# EC2 - Cannot stop an instance

- When the underlying host hardware has an issue, a stuck instance can be happened. Then, you sometimes cannot stop the instance for a while.
- If the instance is stuck so it is not possible to do “Force Stop”, then you can open a case to ask doing “Force Stop” the instance. In this case, you can open an “Urgent” or a “Critical” case depending on the sense of urgency.
- You cannot ask to do “Force Stop” the instance if the instance goes down because of the scheduled maintenance event. AWS only can accept the case when the scheduled maintenance event is due to degraded host hardware.

# EC2 - Unexpected rebooting

- Severity: Low / Normal / High
- Subject: An instance was rebooted unexpectedly
- Description

Hi,

We experienced unexpected instance rebooting. As far as I can see, there was no scheduled maintenance event on the time, and no one has rebooted or stopped the instance. Could you verify if there was a host hardware failure?

\* Account ID : 123456789012  
\* Region : Seoul(or ap-northeast-2)  
\* Instance ID : i-12345678  
\* Timeline(UTC) : 2016-04-01 10:00 ~ 2016-04-10 10:00

Thanks,  
Customer Name

# EC2 - Unexpected rebooting

- At first, you need to check if there is scheduled maintenance event.
- Secondly, you need to check if any IAM user rebooted or stopped/started the instance through CloudTrail logs.
- If there is no scheduled maintenance event and history of rebooting(stopping/starting) the instance, you can open a case to check if there was a underlying host hardware issue.
- You need to check the instance log to figure out when the issue happened.

# EC2 - Ephemeral Disk Recovery

- Severity: Low / Normal / High
- Subject: Ephemeral disk was broken
- Description

Hi,

One of the ephemeral disk was broken. Would you recover the ephemeral disk(/dev/sdb)?

\* Account ID : 123456789012  
\* Region : Seoul(or ap-northeast-2)  
\* Instance ID : i-12345678

Thanks,  
Customer Name

- Note that do not store important data on ephemeral disks.
- When you already stopped an instance, the data cannot be recoverable.
- AWS does not guarantee the data recovery, and it takes time to recover the data.

# EBS - Unable to detach a volume

- Severity: Low / Normal / High / Urgent / Critical
- Subject: Unable to detach a volume even though we tried to force-detach the volume
- Description

Hi,

We are trying to detach a volume, vol-12345678, from an instance, i-12345678. We already tried to force-detach the volume, but it is still detaching for XX minutes/hours. Can you detach the volume and tell us what the issue is?

\* Account ID : 123456789012  
\* Region : Seoul(or ap-northeast-2)  
\* Instance ID : i-12345678  
\* EBS ID: vol-12345678  
\* Timeline(UTC) : 2016-04-01 10:00 ~

Thanks,  
Customer Name



# EBS - Unable to detach a volume

- Generally, you can do “Force Detach” a volume.
- When the customer cannot detach the volume even though the customer tries to do “Force Detach”, you can open a case.
- Depending on the sense of urgency, you can choose the right severity

# EBS - Degraded performance (Throughput/IOPS/Latency)

- Severity: Low / Normal / High / Urgent / Critical
- Subject: EBS degraded performance
- Description

Case 1)

Hi,

We are experiencing degraded performance on an EBS volume, vol-12345678. Throughput/IOPS were suddenly dropped on 2016-04-01 10:00 UTC, and it is still happening. We have checked our application, but have not found any issues. Could you investigate this issue?

\* Account ID : 123456789012  
\* Region : Seoul(or ap-northeast-2)  
\* Instance ID : i-12345678  
\* EBS ID: vol-12345678  
\* Timeline(UTC) : 2016-04-01 10:00 ~ 2016-04-10 10:00

Thanks,  
Customer Name

# EBS - Degraded performance (Throughput/IOPS/Latency)

- Severity: Low / Normal / High / Urgent / Critical
- Subject: EBS degraded performance
- Description

Case 2)

Hi,

We experienced high write latency on an EBS volume, vol-12345678. Spikes in latency were happened from 2016-04-01 10:00 to 2016-04-01 11:00, and it is not happening right now. Could you investigate if there was an issue on the volume?

\* Account ID : 123456789012  
\* Region : Seoul(or ap-northeast-2)  
\* Instance ID : i-12345678  
\* EBS ID: vol-12345678  
\* Timeline(UTC) : 2016-04-01 10:00 ~ 2016-04-10 10:00

Thanks,  
Customer Name

# EBS - Degraded performance (Throughput/IOPS/Latency)

- When you experience degraded performance (more than 10%) on a volume, then you can open a case to check if there was an issue.
- If the issue is not on going, AWS recommends you to choose the severity lower than or equal to “High”.
- If the issue is on going, and it is critical to the service, you can open an “Urgent” or a “Critical” case.

# ELB - Pre-warming

- Severity: Low / Normal / High
- Subject: ELB Pre-warming request
- Description

We need the ELB to be pre-warmed because we have a new game launching event.

- \* Account ID :
- \* ELB DNS Name :
- \* Event start date/time  
(If traffic has already started, is the lack of this prewarm causing impact to a live application?)
- \* Event end date/time
- \* Expected percent of traffic going through the ELB that will be using SSL termination.
- \* An approximate percentage increase in traffic, or expected requests/sec that will go through the load balancer (whichever is easier to answer).
- \* If different from current load, what is the average amount of data passing through the ELB per request/response pair?
- \* Number of Availability Zones enabled

# ELB - Pre-warming

- Severity: Low / Normal / High
- Subject: ELB Pre-warming request
- Description

```
* Is the back-end currently scaled to the level it will be
during the event?
  - If not, when do you expect to add the required back-end
    instance count?
* A description of the traffic pattern you are expecting:
  - Is this a single increase in traffic that will be sustained
    afterwards, or will there be periods of inactivity followed
    by high traffic? If there are periods of inactivity, please
    describe the pattern (e.g. weekly spikes on Monday)
  - Large file uploads/downloads?
* A brief description of your use case.
  - What is driving this traffic? (e.g. application launch,
    event driven like marketing/product launch/sale, etc)
* Are the back-end instances using persistent
connections (keep-alive)?
```

Thanks,  
Customer Name

# ELB - Pre-warming

- ELB is automatically scaling by itself, so basically you do not need to open a case to request ELB pre-warming.
- When you have a certain event, which can cause higher traffic than usual, you can request ELB pre-warming.
- A case for ELB Pre-warming should be opened at least 3 business days before a certain event

# ELB – 5xx

- Severity: Low / Normal / High / Urgent / Critical
- Subject: Continuous ELB 5XX errors
- Description

Hi,

We are experiencing 5XX errors continuously. We have checked backend instance capacity, and found the number of backend instances is fine. In addition, maximum latency is not so high. We also checked our application logs, but we have not found any issues. I have attached ELB access logs, so could you investigate this issue?

\* Account ID : 123456789012  
\* Region : Seoul(or ap-northeast-2)  
\* ELB : test-1732137940.ap-northeast-1.elb.amazonaws.com  
\* Timeline(UTC) : 2016-04-01 10:00 ~

Thanks,  
Customer Name



# ELB – 5xx

- First of all, you need to check ELB Idle timeout and backend instance's keepAlive connection timeout.
  - KeepAlive connection timeout  $\geq$  ELB Idle Timeout
- Secondly, you need to check if your backend instances are too busy to handle request, and if there is an issue related to your application.
- Providing ELB logs would be better to investigate the issue.

# RDS - Failover

- Severity: Low / Normal / High
- Subject: Unexpected RDS failover
- Description

Hi,

RDS instance was failovered unexpectedly. Were there any issues on the underlying host hardware? Or was it because of another reason?

\* Account ID : 123456789012

\* Region : Seoul(or ap-northeast-2)

\* RDS : test-rds

\* Timeline(UTC) : 2016-04-01 10:00 ~ 2016-04-10 10:00

Thanks,

Customer Name

- RDS failover could be happened when the underlying host hardware has an issue.
- When your RDS instance was failovered unexpectedly, you can open a case.

# RDS – Performance (General)

- Severity: Low / Normal / High / Urgent / Critical
- Subject: RDS performance issue
- Description

Hi,

We have experienced RDS performance issue at the time. Read/Write IOPS were extremely dropped at 2016-04-01 10:00, and recovered several hours later(2016-04-01 12:00). During the time, we had degraded performance of our application. Would you investigate if there were any issues on RDS instances?

\* Account ID : 123456789012  
\* Region : Seoul(or ap-northeast-2)  
\* RDS : test-rds  
\* Timeline(UTC) : 2016-04-01 10:00 ~ 2016-04-10 10:00

Thanks,  
Customer Name

- When performance issue related IOPS, CPU utilization, and so on, you can open a case to check if there is a RDS issue.
- Describe the “issue” you have in detail as much as possible, but not so lengthy.

# RDS – Performance (Latency)

- Severity: Low / Normal / High / Urgent / Critical
- Subject: Latency spikes on RDS
- Description

Hi,

We have experienced irregular latency spikes, and whenever it happens, many slow queries has been occurred. We have investigated slow queries, but nothing special has been executed, and most of queries were small queries. It is still happening irregularly. Could you investigate if there was infrastructure issue particularly at 2016-04-01 10:00 UTC?

I have attached sample slow queries.

\* Account ID : 123456789012  
\* Region : Seoul(or ap-northeast-2)  
\* RDS : test-rds  
\* Timeline(UTC) : 2016-04-01 10:00 ~ 2016-04-10 10:00

Thanks,  
Customer Name

# RDS – Performance (Latency)

- Latency can be related to usage patterns. For examples, if you executes big queries frequently, latency could be high.
- You need a DBA to investigate the issue in your side before opening a case.

# S3 - Performance

- Severity: Low / Normal / High / Urgent / Critical
- Subject: S3 performance issue
- Description

We are experiencing S3 performance issue, so please see the detail information below:

- \* Account ID :
- \* Bucket and object name (i.e. s3://bucket/folder1/object1)
- \* HTTP or HTTPS
- \* Is this only on for PUT requests, or GETs as well?
- \* Endpoint used (i.e. s3-us-west-2.amazonaws.com)
- \* Source and destination IP addresses for the request  
(can be obtained with tools like netstat or packet captures)
- \* traceroute (preferably tcptraceroute) or MTR (especially if the issue is intermittent) to S3 IP address above from client  
(if possible please provide both)
- \* Specific time and timestamp of the request
- \* Are you connecting from EC2? If so, are you making requests using VPC Endpoints, IGW (VPC), or EC2 Classic?

Thanks,  
Customer Name

# CloudFront - Performance Issue

- Severity: Low / Normal / High / Urgent / Critical
- Subject: Getting contents from CloudFront is slow
- Description

Getting contents from CloudFront is slow from instances in Seoul region, so I have checked the routing path, and it looks like reaching out to other region, the United States.

\* Account ID : 123456789012

\* Distribution ID : E1EEE1EEEEEE1

\* Timeline(UTC) : 2016-04-01 10:00 ~ 2016-04-10 10:00

\* traceroute :

```
ubuntu@ip-10:~$ traceroute du5ar2l6dy86v.cloudfront.net
```

...

```
17 server-52-85-142-45 (52.85.142.45) 177.545 ms 175.218 ms *
```

Please investigate if there is an issue on Seoul edge location, or it is another issue.

Thanks,

Customer Name

- Each of your end users is routed to the edge location closest to them, in terms of internet latency.

# Network Performance/Connectivity

- Severity: Low / Normal / High / Urgent / Critical
- Subject: Network performance issue/Network connectivity issue
- Description

Case 1)

Hi,

We are currently experiencing network connectivity issue between an ISP(KT/SKT/LG U+) in Korea and instances in Seoul region. We cannot connect to specific servers with TCP 80 port even though we added a rule at the security group. Please investigate if there is any known network connectivity issues between the ISP and AWS.

\* Account ID : 123456789012

\* Timeline(UTC) : 2016-04-01 10:00 ~ 2016-04-10 10:00

\* Source IP/Destination IP : Source) 1.1.1.1, Destination) 2.2.2.2

\* Source to Destination traceroute(tracetcp) or MTR :

\* Destination to Source traceroute(tracetcp) or MTR :

Thanks,

Customer Name



# Network Performance/Connectivity

- Severity: Low / Normal / High / Urgent / Critical
- Subject: Network performance issue/Network connectivity issue
- Description

Case 2)

Hi,

We have experienced high latency between instances in Seoul region and instances in Tokyo region. Normally, the latency is about 30ms, but the latency was higher than 200ms for 3 hours. It is not happening right now. Please see the above traceroute(mtr) result, and investigate if there was a network issue between two regions.

\* Account ID : 123456789012

\* Timeline(UTC) : 2016-04-01 10:00 ~ 2016-04-10 10:00

\* Source IP/Destination IP : Source) 1.1.1.1, Destination) 2.2.2.2

\* Source to Destination traceroute(tracetcp) or MTR :

\* Destination to Source traceroute(tracetcp) or MTR :

Thanks,

Customer Name

# Network Performance/Connectivity

- You need to provide as much data as you can. When you provide data, AWS recommends you to provide data with service port.
- For example, traceroute (tcptraceroute or tracetcp) or MTR data with service port is preferred.
  - `mtr -rw -c 10 --no-dns --tcp --port 80 google.com`
- Data which is gathered at the time the issue was occurred would be useful to investigate the issue.
- If the issue is not on going, AWS recommends you to open a case lower than or equal to “High”.

# EOF