

god Mode Commands Cookbook for OpenSearch

Primary Owner aes-ops-support-l3 (POSIX)

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If you have any feedback for additional sections or sorting please let me know!

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god Mode

This wiki was inspired by Sabeer who first shared the [god Mode tool](#) with me. I have lovingly plagiarized [his cheat sheet](#) and included many of my own commands and comments into this wiki.

You can use this page as an all-in-one cookbook that has most commands needed for your average oncall shift for general OpenSearch ticket work. If you find yourself running a command frequently that is not listed in this page, please leave a comment, reach out to me (@burnthm), or add it yourself with the proper god Mode formatting.

1.1

Installation

- Install the Tampermonkey script from <https://w.amazon.com/bin/view/Users/Behroozi/Scripts/IsengardWikiConsoleDeepLinks/#HInstalltheTamperMonkeysript>
- Refresh this page

1.2

Use

Simply click the copy button above the desired command and you will be prompted to fill in the required information. After you have set these variables once for the domain, it will be prefilled from your browser's memory for any subsequent commands. Beware of RED copy button commands as there are mutating commands and can cause changes in behavior to the customer

domain such as blue/green deployments or changes in cluster status away from green. Please be aware of what actions you are taking in a customer domain. **If you don't know what the outcome of a command might be, DO NOT RUN IT.** Instead, ask for help.

1.2.1 All Available OpenSearch tooling commands:

To see a full list of AOS commands and who has permissions (L1/L2/L3 or service team, TAM/SA, etc) to run a command: the allowed, approver, and bypass groups; refer to the following mechanic sites:

- [Tumbler Mechanic site](#)
- [Aesccloudopstools Mechanic site](#)

2

Domain Status Manager

This will be your first stop for anything Control Plane related to verify the current ongoing or previously completed activities in the cluster.

2.1 Default

```
#copy
aesccloudopstools ~~~region=region~~~ domain cp cs-domain-manager-status --args "-D ~~~
```

2.2 additional args

-a | Show previously completed activities

-i -all | Show instance information

-i -dd | Show detailed instance information For additional options you can use the -h flag. The above options are my most frequently used.

```
#copy
aesccloudopstools ~~~region=region~~~ domain cp cs-domain-manager-status --args "-D ~~~
```

2.3 TMS issues output

```
#copy
aesccloudopstools ~~~region=region~~~ domain cp tms-fetch-issues --args "-D ~~~domainId
```

3

Domain Configuration Commands

3.1 get list of all clusters in every region of a single AWS account

```
#copy
for region in arn bah bjs bom cdg cmh cpt dub fra gru hkg iad icn kix lhr mxp nrt pdx
```

3.2 check domain status

Most useful for verifying if a domain is in processing or active status. You can remove the grep to view normal command output.

```
#copy
tumbler ~~~region=region~~~ aes domain cp describe-elasticsearch-domain -D ~~~domainId
```

3.3 check processing domain's configuration

You can remove the select to view normal command output.

```
#copy
tumbler run ~~~region=region~~~ aes domain cp get-elasticsearch-domain-config -D ~~~domainId
```

3.4 check upgrade status

-dd flag gives upgrade failure output

```
#copy
aescloudopstools ~~~region=region~~~ domain cp es-print-upgrade-history --args "-D ~~~domainId"
```

3.5 check domain's current VFI

```
#copy
aescloudopstools ~~~region=region~~~ domain cp cs-list --args "-D ~~~domainIdentifier="
```

3.6 list internal VFI to public service software mappings

Note: This command has not worked for me recently and hangs during execution

```
#copy
aescloudopstools ~~~region=region~~~ domain cp cs-inspect-deployment --args "-p "
```

3.7 view autoscaling events

```
#copy
tumbler run ~~~region=region~~~ aes domain dp describe-scaling-activities -D ~~~domainId
```

3.8

Update Cluster Settings

3.8.1 guard-railed command

For updating: bucket limit, scroll limit, shard per node limit, and read only block

[Usage reference link](#)

```
#copy
tumbler --bypass run ~~~region=region~~~ aes domain dp node es curl cluster update-set
```

3.8.2 free form cluster setting edit example

When copying this command, the prompt comes with a prefilled default section of commonly adjusted cluster setting values. Please be mindful of either what the customer is requesting or what you think settings should be adjusted to (in the case of speeding shard allocations or high risk oncall levers).

Transient settings should be used for temporary adjustments. Set both transient and persistent otherwise. (still working to gain clarification from service team on which cluster setting changes can be/already are persisted through b/g).

```
#copy
tumbler ~~~region=region~~~ aes domain dp node es curl put -D ~~~domainIdentifier=accc
~~~dataJson=dataJson {"type":"textarea", "default": "\"persistent\" : {\n\"cluster.blc
}{'
```

4

Cat Commands

4.1 Generic

```
#copy
tumbler ~~~region=region~~~ aes domain dp node es curl get -D ~~~domainIdentifier=accc
```

4.2 full node ID

Used to align node IDs with their respective node name and IP.

```
#copy tumbler ~~~region=region~~~ aes domain dp node es curl get -D ~~~domainIdentifier=accc
```

4.3 relocating shards

View shards moving due to b/g or cluster rebalance and their current progress.

```
#copy
tumbler ~~~region=region~~~ aes domain dp node es curl get -D ~~~domainIdentifier=accc
```

5

Health Check Commands

Sadly these currently require L3 access and there is no L1/L2 alternative since the containerization of deployment environments and the 'dptool' command no longer working in all cases.

These commands run a curl to individual data nodes using the node shell command. These can also be handily combined with the for loop command (to run a command on all data/master nodes).

5.1 ES health check

```
#copy
tumbler ~~~region=region~~~ aes domain dp node shell -D ~~~domainIdentifier=accountID:
```

5.2 Kibana health check

```
#copy
tumbler ~~~region=region~~~ aes domain dp node shell -D ~~~domainIdentifier=accountID:
```

6

Shard Management

6.1 reroute/retry failed

Triggers reroute API with ?retry_failed parameter set as true.

```
#copy
tumbler run ~~~region=region~~~ aes domain dp node es curl cluster reroute-retry-fail
```

6.2 print shard status

Useful for monitoring domains in an active b/g. Shows a higher level than cat/recovery?active_only which shows specific shard migration statuses with bytes and files totals/percentages.

-a | Show shard counts per node

-dd | Show all shard status (way too verbose usually).

--print-stuck-shards-on-di <DI-number> | shows the shards on the given DI

```
#copy
aescloudopstools ~~~region=region~~~ domain cp es-print-shards-info --args "-D ~~~doma
```

6.3 allocation explain of specific index's shards

If the primary is the shard not allocating, change "primary" to "true"

```
#copy
tumbler ~~~region=region~~~ aes domain dp node es curl get -D ~~~domainIdentifier=acc
```

6.4 sort by largest indices

```
#copy
tumbler ~~~region=region~~~ aes domain dp node es curl get -D ~~~domainIdentifier=acc
```

6.5 sort by disk usage

```
#copy
tumbler ~~~region=region~~~ aes domain dp node es curl get -D ~~~domainIdentifier=acc
```

6.6 check for shards pinned to node

```
#copy
tumbler ~~~region=region~~~ aes domain dp node es curl get -D ~~~domainIdentifier=acc
```

7

Bounce Commands

Before running any ES bounce or entire node restart, make sure that the cluster is in green status.
Be especially careful when bouncing master nodes or elected master of non-master clusters.

7.1 restart ES

L2 runnable | requires 2pr

It is best practice to run the preactivate command for this action

```
#copy
tumbler --bypass run ~~~region=region~~~ aes domain dp node es deactivate --domain-ide
#copy
tumbler --bypass run ~~~region=region~~~ aes domain dp node es preactivate --domain-ic
#copy
tumbler --bypass run ~~~region=region~~~ aes domain dp node es activate --domain-ident
```

7.2 reboot node

Restarts the underlying Ec2 instance. ES restart should be used with priority as node restart will be more expensive on the node, take longer for ES to come up again than just restarting the ES process.

```
#copy
tumbler --bypass run ~~~region=region~~~ aes domain dp node reboot-instance --domain-i
```

7.3 terminate node

Node terminations should only be performed as a last resort. If you are not careful, this can result in data loss.
To avoid data loss, the cluster must be in green state and any indices held in the node must have replica shards enabled.

```
#copy {"dangerous":true}
tumbler --bypass run ~~~region=region~~~ aes domain dp node terminate-instance --domain
```

7.4 restart all data nodes

This command restarts each data node in the cluster one by one and waits for the cluster to turn to green before continuing its ES bounce execution. Though this command should be safe, you should make sure to confirm this action with the customer and advise on its potential impact.

```
#copy {"dangerous":true}
for id in `tumbler ~~~region=region~~~ aes domain dp get-domain-resources -D ~~~domain
do
echo $id
while [[ $(tumbler ${region} aes domain dp node es curl get -D ${domainIdentifier} -u
do
sleep 10
done
yes | tumbler --bypass ${region} aes domain dp node es deactivate -D ${domainIdentifier}
sleep 10
yes | tumbler --bypass ${region} aes domain dp node es preactivate -D ${domainIdentifier}
yes | tumbler --bypass ${region} aes domain dp node es activate -D ${domainIdentifier}
done
```

8

Mutating Commands

These commands should be run with care.

8.1 retry failed activities

Domain activities queued for retry may include a b/g and should be approved by customer if that is the case as it may disrupt normal cluster operations

```
#copy {"dangerous":true}
aescloudopstools ~~~region=region~~~ domain cp cs-retry-failed-activities --args "-D ~
```

8.2 recover domain

Terminates any running domain manager for the search domain and starts a new one with the "restart" flag set.

Recover is typically run in the following circumstances:

- Domain is in processing state with no ongoing activities
- Validation errors
- Domain has a failed recover activity (retry failed activities will be caught as an 'unhandled signal' and do nothing)

Please be aware if there are queued config changes that sending this command will trigger a b/g. Please be sure to check the aes config history tool or confirm with the customer before running this.

```
#copy {"dangerous":true}
```

```
aesccloudopstools ~~~region=region~~~ domain cp cs-recover-domain --args "-D ~~~domain]
```

8.3 recover deleted domain

Run for domain stuck in deletion. Recover cannot be invoked in this case unless domain is marked for deletion - so command is not marked dangerous.

```
#copy
aesccloudopstools ~~~region=region~~~ domain cp cs-recover-deleted-domain --args "-D ~
```

8.4 create domain instance

Trigger a b/g for customer domain. Run ONE of the following.

```
#copy {"dangerous":true}
aesccloudopstools ~~~region=region~~~ domain cp cs-create-domain-instance --args "-D ~
#copy {"dangerous":true}
aesccloudopstools ~~~region=region~~~ domain cp cs-create-domain-instance --args "-D ~
```

8.5 for loop / run command on all data/master nodes

This is not inherently a dangerous thing to run but you should be very careful with the commands you include in this loop. I find it is most useful for running health checks and node level setting checks/changes (GC algo, yaml config, etc).

This appends the instance-id flag to the end of the command, so be mindful of this when copying any commands from previous sections of this wiki that already have the instance-id passed.

```
#copy
for id in `tumbler ~~~region=region~~~ aes domain dp get-domain-resources -D ~~~domain
do
echo $id
~~~tumblerCommand=tumblerCommand {"type":"textarea"}~~~ --instance-id $id
done
```

9

Snapshot Commands

Service team [Snapshot SOP wiki](#)

9.1 list snapshots

```
#copy
tumbler ~~~region=region~~~ aes domain dp node es curl get -D ~~~domainIdentifier=accc
```

9.2 list indices in a snapshot

```
#copy
tumbler ~~~region=region~~~ aes domain dp node es curl get -D ~~~domainIdentifier=acc
```

9.3 disable hourly snapshots

Region here must be non-airport code. For example us-east-1 not IAD/iad.

Run the list command first, make note if there are preexisting domains marked for disabled hourly snapshot. You will need to append the domain you plan to disable hourly snapshots for to this list.

```
#copy
aescloudopstools ~~~region=region~~~ domain cp cs-whitelist-client-snapshot --feature
```

Run this command to disable the snapshots for a domain. Again make sure to use the full region code, not airport code. domainList should be filled with a comma separated list w/no spaces.

```
#copy
aescloudopstools ~~~region=region~~~ domain cp cs-whitelist-client-snapshot --feature
```

9.4 disable daily snapshots / set daily snapshot hour

To disable daily snapshots, set the snapshot hour to -1

```
#copy
aescloudopstools run ~~~region=region~~~ domain cp cs-override-es-domain-config-snapsh
```

10

Kibana/Dashboards

10.1 diagnostic info

L1 runnable

Usually run this first for any Kibana related issues.

```
#copy
tumbler ~~~region=region~~~ aes domain dp node kibana diagnostic -D ~~~domainIdentifier
```

10.2 kibana restart (all nodes)

```
#copy
tumbler --bypass run ~~~region=region~~~ aes domain dp restart-kibana -D ~~~domainIdentifier
```

11

Log Commands

11.1 List log files in ES directory on node

API reference: <https://api.us-east-1.tumbler.prod.search-services.aws.a2z.com:8443/explorer/aes/domain/dp/node/es/logs/ls>

```
#copy
tumbler run ~~~region=region~~~ aes domain dp node es logs ls -D ~~~domainIdentifier=a
```

11.2 Grep ES logs on node

API reference: <https://api.us-east-1.tumbler.prod.search-services.aws.a2z.com:8443/explorer/aes/domain/dp/node/es/logs/grep>

```
#copy
tumbler run ~~~region=region~~~ aes domain dp node es logs grep -D ~~~domainIdentifier
```

11.3 Tail ES logs on node

API reference: <https://api.us-east-1.tumbler.prod.search-services.aws.a2z.com:8443/explorer/aes/domain/dp/node/es/logs/tail>

```
#copy
tumbler run ~~~region=region~~~ aes domain dp node es logs tail -D ~~~domainIdentifier
```

11.4 Cat ES logs on node

```
#copy
tumbler run ~~~region=region~~~ aes domain dp node es logs cat -D ~~~domainIdentifier=
```

11.5 Unzip and Cat ES logs on node

for older logs that haven't been pulled by log.puller

```
#copy
tumbler run ~~~region=region~~~ aes domain dp node es logs zcat -D ~~~domainIdentifier
```

11.6 Grep ES logs on all nodes

```
#copy
tumbler run ~~~region=region~~~ aes domain dp grep-es-log -D ~~~domainIdentifier=accou
```

12

Ticket Searches

Provides context to understand if the domain had previous issues and what was done to resolve them in the past.

12.1 Support ops search

#link

<https://t.corp.amazon.com/issues?q=%7B%22AND%22%3A%7B%22assignedGroup%22%3A%22aws-supp>

12.2 Service team search (includes auto-cuts)

#link

<https://t.corp.amazon.com/issues?q=%7B%22AND%22%3A%7B%22category%22%3A%22AWS%20Elastic>

12.3 OpenSearch Serverless search

#link

<https://t.corp.amazon.com/issues?q=%7B%22AND%22%3A%7B%22tags%22%3A%7B%22OR%22%3A%5B%22>

12.4 OpenSearch Ingestion Service search

#link

<https://t.corp.amazon.com/issues?q=%7B%22AND%22%3A%7B%22tags%22%3A%7B%22OR%22%3A%5B%22>

Tags: [inclusive_tech_exception](#)

- [Information](#)
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