# AWS CLI CheatSheet

#### **Important Point:**

If you have multiple AWS Accounts, you can use bash alias like the following. So you no longer need to pass --profile to aws tool.

```
alias aws-prod="aws --profile work-prod"
alias aws-dev="aws --profile work-dev"
alias aws-self="aws --profile personal"
alias aws="aws --profile work-dev"
```

To format aws command output into tables, you can pipe output to column -t

```
# aws ec2 describe-instances | jq ...
i-0f112d652ecf13dac c3.x2large fisher.com
i-0b3b5128445a332db t2.nano robinson.com

# aws ec2 describe-instances | jq ... | column -t
i-0f112d652ecf13dac c3.x2large fisher.com
i-0b3b5128445a332db t2.nano robinson.com
```

#### EC2

List Instance ID, Type and Name

```
aws ec2 describe-instances | jq -r '.Reservations[].Instances[]|.InstanceId+"
"+.InstanceType+" "+(.Tags[] | select(.Key == "Name").Value)'
i-0f112d652ecf13dac c3.xlarge fisher.com
i-0b3b5128445a332db t2.nano robinson.com
i-0d1c1cf4e980ac593 t2.micro nolan.com
i-004ee6b792c3b6914 t2.nano grimes-green.net
i-00f11e8e33c971058 t2.nano garrett.com
```

# List Instances with Public IP Address and Name

```
153.134.83.44 grimes-green.net
202.32.63.121 garrett.com
```

#### List of VPCs and CIDR IP Block

```
aws ec2 describe-vpcs | jq -r '.Vpcs[]|.VpcId+"
"+(.Tags[]|select(.Key=="Name").Value)+" "+.CidrBlock'
vpc-0d1c1cf4e980ac593 frontend-vpc 10.0.0.0/16
vpc-00f11e8e33c971058 backend-vpc 172.31.0.0/16
```

#### List of Subnets for a VPC

```
aws ec2 describe-subnets --filter Name=vpc-id, Values=vpc-0d1c1cf4e980ac593 | jq -r '.Subnets[]|.SubnetId+" "+.CidrBlock+" "+(.Tags[]|select(.Key=="Name").Value)' subnet-0dae5d4daa47fe4a2 10.0.128.0/20 Public Subnet 1 subnet-0641a25faccb01f0f 10.0.32.0/19 Private Subnet 2 subnet-09fb8038641f1f36f 10.0.0.0/19 Private Subnet 1 subnet-02a63c67684d8deed 10.0.144.0/20 Public Subnet 2
```

# **List of Security Groups**

```
aws ec2 describe-security-groups | jq -r '.SecurityGroups[]|.GroupId+" "+.GroupName'
sg-02a63c67684d8deed backend-db
sg-0dae5d4daa47fe4a2 backend-redis
sg-0a56bff7b12264282 frontend-lb
sg-0641a25faccb01f0f frontend-https
sg-09fb8038641f1f36f internal-ssh
```

## **Print Security Groups for an Instance**

```
aws ec2 describe-instances --instance-ids i-0dae5d4daa47fe4a2 | jq -r
'.Reservations[].Instances[].SecurityGroups[]|.GroupId+" "+.GroupName'
sg-02a63c67684d8deed backend-db
sg-0dae5d4daa47fe4a2 backend-redis
```

### **Edit Security Groups of an Instance**

```
aws ec2 modify-instance-attribute --instance-id i-0dae5d4daa47fe4a2 --groups sg-02a63c67684d8deed sg-0dae5d4daa47fe4a2
```

## Print Security Group Rules as FromAddress and ToPort

# Add Rule to Security Group

```
aws ec2 authorize-security-group-ingress --group-id sg-02a63c67684d8deed --protocol tcp --port 443 --cidr 35.0.0.1
```

## **Delete Rule from Security Group**

```
aws ec2 revoke-security-group-ingress --group-id sg-02a63c67684d8deed --protocol tcp --port 443 --cidr 35.0.0.1
```

# **Edit Rules of Security Group**

```
aws ec2 update-security-group-rule-descriptions-ingress --group-id
sg-02a63c67684d8deed --ip-permissions
'ToPort=443,IpProtocol=tcp,IpRanges=[{CidrIp=202.171.186.133/32,Description=Home}]'
```

### **Delete Security Group**

```
aws ec2 delete-security-group --group-id sg-02a63c67684d8deed
```

**S3** 

**List Buckets** 

```
aws s3 ls

2020-01-28 18:49:50 customer-data-primary

2020-01-28 18:50:22 customer-data-backup

2020-01-28 18:50:54 wordpress-cdn

2020-01-28 18:52:25 backend-artifacts-20200220-deployment
```

#### List Files in a Bucket

```
aws s3 ls wordpress-cdn/wp-content/uploads/2019/10/04/
2019-10-04 15:02:02 133557 amazing-content.jpg
2019-10-04 15:02:02 2986 amazing-content-103x50.jpg
2019-10-04 15:02:02 5640 amazing-content-120x120.jpg
2019-10-04 15:02:02 7924 amazing-content-150x150.jpg
```

#### **Create Bucket**

```
aws s3 mb s3://my-awesome-new-bucket
make_bucket: my-awesome-new-bucket
```

#### **Delete Bucket**

```
aws s3 rb s3://my-awesome-new-bucket --force
```

### Download S3 Object to Local

```
aws s3 cp s3://my-awesome-new-bucket .
download: ./backup.tar from s3://my-awesome-new-bucket/backup.tar
```

# Upload Local File as S3 Object

```
aws s3 cp backup.tar s3://my-awesome-new-bucket
upload: ./backup.tar to s3://my-awesome-new-bucket/backup.tar
```

# Delete S3 Object

```
aws s3 rm s3://my-awesome-new-bucket/secret-file.gz .
delete: s3://my-awesome-new-bucket/secret-file.gz
```

#### **Download Bucket to Local**

```
aws s3 sync s3://my-awesome-new-bucket/ /media/Passport-Ultra/Backup
```

## **Upload Local Directory to Bucket**

```
aws s3 sync /home/minhaz/Downloads s3://my-awesome-new-bucket/
```

# **Share S3 Object without Public Access**

aws s3 presign s3://my-awesome-new-bucket/business-reports.pdf --expires-in 3600 https://my-awesome-new-bucket.s3.amazonaws.com/business-reports.pdf?AWSAccessKeyId=AKISUENSAKSIEUAA&Expires=1582876994&Signature=kizOEA93kaIHw7uv25wSFIKLmAx

#### **API Gateway**

# List of API Gateway IDs and Names

```
aws apigateway get-rest-apis | jq -r '.items[] | .id+" "+.name'
5e3221cf8 backend-api
69ef7d4c8 frontend-api
bb1e3c281 partner-api
f99796943 internal-crm-api
ee86b4cde import-data-api
```

## List of API Gateway Keys

```
aws apigateway get-api-keys | jq -r '.items[] | .id+" "+.name'
ee86b4cde backend-api-key
69ef7d4c8 partner-api-key
```

### **List API Gateway Domain Names**

### List of Resources for API Gateway

```
aws apigateway get-resources --rest-api-id ee86b4cde | jq -r '.items[] | .id+"
"+.path'
ee86b4cde /{proxy+}
69ef7d4c8 /
```

## Find Lambda for API Gateway Resource

```
aws apigateway get-integration --rest-api-id ee86b4cde --resource-id 69ef7d4c8
--http-method GET | jq -r '.uri'
arn:aws:lambda:ap-southeast-1:987654321:function:backend-api-function-5d4daa47fe4a2:l
ive/invocations
```

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#### **ELB**

#### List of ELB Hostnames

```
aws elbv2 describe-load-balancers --query 'LoadBalancers[*].DNSName' | jq -r 'to_entries[] | .value' frontend-lb-1220186848339.ap-southeast-1.elb.amazonaws.com backend-lb-6208709163457.ap-southeast-1.elb.amazonaws.com
```

#### List of ELB ARNs

```
aws elbv2 describe-load-balancers | jq -r '.LoadBalancers[] | .LoadBalancerArn' arn:aws:elasticloadbalancing:ap-southeast-1:987654321:loadbalancer/app/frontend-lb/12 20186848339 arn:aws:elasticloadbalancing:ap-southeast-1:987654321:loadbalancer/app/backend-lb/620 8709163457
```

### **List of ELB Target Group ARNs**

```
aws elbv2 describe-target-groups | jq -r '.TargetGroups[] | .TargetGroupArn'
arn:aws:elasticloadbalancing:ap-southeast-1:987654321:targetgroup/frontend/b6da07d35
arn:aws:elasticloadbalancing:ap-southeast-1:987654321:targetgroup/backend/97ad3b13c
```

# Find Instances for a Target Group

```
aws elbv2 describe-target-health --target-group-arn
arn:aws:elasticloadbalancing:ap-southeast-1:987654321:targetgroup/wordpress-ph/88f517
d6b5326a26 | jq -r '.TargetHealthDescriptions[] | .Target.Id'
i-0b3b5128445a332db
i-0d1c1cf4e980ac593
i-00f11e8e33c971058
```

#### List of DB Clusters

```
aws rds describe-db-clusters | jq -r '.DBClusters[] | .DBClusterIdentifier+"
"+.Endpoint'
backend-prod backend-prod.cluster-b6da07d35.ap-southeast-1.rds.amazonaws.com
internal-prod internal-dev.cluster-b6da07d35.ap-southeast-1.rds.amazonaws.com
```

#### List of DB Instances

```
aws rds describe-db-instances | jq -r '.DBInstances[] | .DBInstanceIdentifier+"
"+.DBInstanceClass+" "+.Endpoint.Address'
backend-dev db.t3.medium backend-prod.b6da07d35.ap-southeast-1.rds.amazonaws.com
internal-dev db.t2.micro internal-dev.b6da07d35.ap-southeast-1.rds.amazonaws.com
```

#### **Take DB Instance Snapshot**

```
aws rds create-db-snapshot --db-snapshot-identifier backend-dev-snapshot-0001
--db-instance-identifier backend-dev
aws rds describe-db-snapshots --db-snapshot-identifier backend-dev-snapshot-0001
--db-instance-identifier general
```

### Take DB Cluster Snapshot

```
aws rds create-db-cluster-snapshot --db-cluster-snapshot-identifier backend-prod-snapshot-0002 --db-cluster-identifier backend-prod aws rds describe-db-cluster-snapshots --db-cluster-snapshot-identifier backend-prod-snapshot-0002 --db-cluster-identifier backend-prod
```

#### ElastiCache

# List of ElastiCache Machine Type and Name

```
aws elasticache describe-cache-clusters | jq -r '.CacheClusters[] | .CacheNodeType+"
"+.CacheClusterId'
cache.t2.micro backend-login-hk
cache.t2.micro backend-login-vn
cache.t2.micro backend-login-sg
```

#### List of ElastiCache Replication Groups

```
aws elasticache describe-replication-groups | jq -r '.ReplicationGroups[] |
.ReplicationGroupId+" "+.NodeGroups[].PrimaryEndpoint.Address'
backend-login-hk backend-login-hk.6da35.ng.0001.apse1.cache.amazonaws.com
backend-login-vn backend-login-vn.6da35.ng.0001.apse1.cache.amazonaws.com
backend-login-sg backend-login-sg.6da35.ng.0001.apse1.cache.amazonaws.com
```

# List of ElastiCache Snapshots

```
aws elasticache describe-snapshots | jq -r '.Snapshots[] | .SnapshotName' automatic.backend-login-hk-2020-02-27-00-27 automatic.backend-login-vn-2020-02-27-00-27 automatic.backend-login-sg-2020-02-27-00-27
```

## Create ElastiCache Snapshot

```
aws elasticache create-snapshot --snapshot-name backend-login-hk-snap-0001 --replication-group-id backend-login-hk --cache-cluster-id backend-login-hk
```

## Delete ElastiCache Snapshot

aws elasticache delete-snapshot --snapshot-name backend-login-hk-snap-0001

## Scale Up/Down ElastiCache Replica

```
aws elasticache increase-replica-count --replication-group-id backend-login-hk
--apply-immediately
aws elasticache decrease-replica-count --replication-group-id backend-login-hk
--apply-immediately
```

### Lambda

### List of Lambda Functions, Runtime and Memory

```
aws lambda list-functions | jq -r '.Functions[] | .FunctionName+" "+.Runtime+" "+(.MemorySize|tostring)' backend-api-function nodejs8.10 512 backend-signup-email-function nodejs10.x 128 partner-api-8XJAP1VVLYA7 python3.7 128 marketing-promo-sqs-function nodejs10.x 128
```

### List of Lambda Layers

```
aws lambda list-layers | jq -r '.Layers[] | .LayerName' imagemagik-layer django-layer nodejs-extra-layer
```

#### List of Source Event for Lambda

```
aws lambda list-event-source-mappings | jq -r '.EventSourceMappings[] |
.FunctionArn+" "+.EventSourceArn'
arn:aws:lambda:function:backend-api-function
arn:aws:dynamodb:table/prod-user-list/stream
arn:aws:lambda:function:backend-signup-email-function
arn:aws:dynamodb:table/prod-user-email/stream
arn:aws:lambda:function:partner-api-8XJAP1VVLYA7
arn:aws:sqs:partner-input-msg-queue
arn:aws:lambda:function:marketing-promo-sqs-function
arn:aws:sqs:promo-input-msg-queue
```

#### Download Lambda Code

```
aws lambda get-function --function-name DynamoToSQS | jq -r .Code.Location https://awslambda-ap-se-1-tasks.s3.ap-southeast-1.amazonaws.com/snapshots/987654321/b ackend-api-function-1fda0de7-a751-4586-bf64-5601a410c170
```

### CloudWatch

#### List of CloudWatch Alarms and Status

```
aws cloudwatch describe-alarms | jq -r '.MetricAlarms[] | .AlarmName+" "+.Namespace+"
"+.StateValue'
backend-autoscale AWS/EC2
backend-lb
                   AWS/ApplicationELB
                                       OK
partner-hk
                   AWS/ECS
                                       ALARM
partner-vn
                   AWS/ECS
                                       ALARM
                   AWS/ECS
                                       ALARM
partner-sg
                   AWS/DynamoDB
userdata-read
userdata-write
                   AWS/DynamoDB
                                       OK
```

#### **SNS**

### **List of SNS Topics**

```
aws sns list-topics | jq -r '.Topics[] | .TopicArn'
arn:aws:sns:ap-southeast-1:987654321:backend-api-monitoring
arn:aws:sns:ap-southeast-1:987654321:dynamodb-count-check
```

```
arn:aws:sns:ap-southeast-1:987654321:partner-integration-check
arn:aws:sns:ap-southeast-1:987654321:autoscale-notifications
```

# List of SNS Topic and related Subscriptions

```
aws sns list-subscriptions | jq -r '.Subscriptions[] | .TopicArn+" "+.Protocol+"
"+.Endpoint'
arn:aws:sns:ap-southeast-1:autoscale-notifications
                                                      lambda
arn:aws:lambda:function:autoscale-function
arn:aws:sns:ap-southeast-1:backend-api-monitoring
                                                      email
alert@mdminhazulhaque.io
arn:aws:sns:ap-southeast-1:dynamodb-count-check
                                                      email
alert@mdminhazulhague.io
arn:aws:sns:ap-southeast-1:partner-integration-check
                                                     lambda
arn:aws:lambda:function:partner-function
arn:aws:sns:ap-southeast-1:autoscale-notifications
                                                      lambda
arn:aws:lambda:function:autoscale-function
```

## **Publish to SNS Topic**

```
aws sns publish --topic-arn
arn:aws:sns:ap-southeast-1:987654321:backend-api-monitoring \
    --message "Panic!!!" \
    --subject "The API is down!!!"
```

## DynamoDB

# List of DynamoDB Tables

```
aws dynamodb list-tables | jq -r .TableNames[]
userdata_hk
userdata_vn
userdata_sg
providers
events
```

### Get All Items from a Table

```
aws dynamodb scan --table-name events
```

### Get Item Count from a Table

```
aws dynamodb scan --table-name events --select COUNT | jq .ScannedCount 726119
```

# Get Item using Key

```
aws dynamodb get-item --table-name events --key '{"email": {"S":
"admin@mdminhazulhaque.io"}}'
{
```

```
"Item": {
        "email": {
            "S": "admin@mdminhazulhaque.io"
        },
        "created_at": {
                 "N": "1554780667296"
        },
        "event_type": {
                "S": "DISPATCHED"
        }
    }
}
```

# Get Specific Fields from an Item

```
aws dynamodb get-item --table-name events --key '{"email": {"S":
"admin@mdminhazulhaque.io"}}' --attributes-to-get event_type
{
    "Item": {
        "event_type": {
            "S": "DISPATCHED"
        }
    }
}
```

## Delete Item using Key

```
aws dynamodb delete-item --table-name events --key '{"email": {"S":
"admin@mdminhazulhaque.io"}}'
```

#### SQS

#### **List Queues**

```
aws sqs list-queues | jq -r '.QueueUrls[]'
https://ap-southeast-1.queue.amazonaws.com/987654321/public-events.fifo
https://ap-southeast-1.queue.amazonaws.com/987654321/user-signup
```

### **Create Queue**

```
aws sqs create-queue --queue-name public-events.fifo | jq -r .QueueUrl https://ap-southeast-1.queue.amazonaws.com/987654321/public-events.fifo
```

### Count Messages in Queue

```
aws sqs get-queue-attributes --queue-url
https://ap-southeast-1.queue.amazonaws.com/987654321/public-events.fifo | jq -r
'.Attributes | .QueueArn + " " + .ApproximateNumberOfMessages'
arn:aws:sqs:ap-southeast-1:987654321:events.fifo 42
```

## Send Message

```
aws sqs send-message --queue-url
https://ap-southeast-1.queue.amazonaws.com/987654321/public-events.fifo
--message-body Hello
{
    "MD5OfMessageBody": "37b51d194a7513e45b56f6524f2d51f2",
    "MessageId": "4226398e-bab0-4bee-bf5a-8e7ae18c855a"
}
```

### Receive Message

```
aws sqs receive-message --queue-url
https://ap-southeast-1.queue.amazonaws.com/987654321/public-events.fifo | jq -r
'.Messages[] | .Body'
Hello
```

# **Delete Message**

```
aws sqs delete-message --queue-url
https://ap-southeast-1.queue.amazonaws.com/987654321/public-events.fifo
--receipt-handle
"AQEBpqKLxNb8rIOn9ykSeCkKebNzn0BrEJ3Cg1RS6MwID2t1oYHCnMP06GnuVZGzt7kpWXZ5ieLQ=="
```

### **Purge Queue**

```
aws sqs purge-queue --queue-url https://ap-southeast-1.queue.amazonaws.com/987654321/public-events.fifo
```

## **Delete Queue**

```
aws sqs delete-queue --queue-url
https://ap-southeast-1.queue.amazonaws.com/987654321/public-events.fifo
```

#### CloudFront

List of CloudFront Distributions and Origins

```
aws cloudfront list-distributions | jq -r '.DistributionList.Items[] | .DomainName+" "+.Origins.Items[0].DomainName' d9d5bb1e3c281f.cloudfront.net frontend-prod-hk.s3.amazonaws.com d12b09e8a0a996.cloudfront.net frontend-prod-vn.s3.amazonaws.com db64e7e9b3cc22.cloudfront.net frontend-prod-sg.s3.amazonaws.com d5e3221cf8b921.cloudfront.net cdn.mdminhazulhaque.io
```

#### **Create Cache Invalidation**

```
aws cloudfront create-invalidation --distribution-id D12B09E8A0A996 --path /blog/\*/blog/assets/\* | jq -r '.Invalidation.Id' IALJ5AL93ZD79
```

#### **Check Cache Invalidation Status**

```
aws cloudfront get-invalidation --distribution-id D12B09E8A0A996 --id IALJ5AL93ZD79 | jq -r '.Invalidation.Status'
Completed
```

# **Amplify**

# List of Amplify Apps and Source Repository

```
aws amplify list-apps | jq -r '.apps[] | .name+" "+.defaultDomain+" "+.repository'
fe-vn d9d5bb1e3c281f.amplifyapp.com https://bitbucket.org/aws/frontend-vn
fe-hk db64e7e9b3cc22.amplifyapp.com https://bitbucket.org/aws/frontend-hk
fe-sg d5e3221cf8b921.amplifyapp.com https://bitbucket.org/aws/frontend-sg
```

#### Cognito

#### List of User Pool IDs and Names

```
aws cognito-idp list-user-pools --max-results 60 | jq -r '.UserPools[] | .Id+"
"+.Name'
ap-southeast-1_b6da07d35 prod-users
ap-southeast-1_b6da07d34 dev-users
```

#### List of Phone and Email of All Users

```
aws cognito-idp list-users --user-pool-id ap-southeast-1_b6da07d35 | jq -r
'.Users[].Attributes | from_entries | .sub + " " + .phone_number + " " + .email'
585fb96e-525c-4f9b-9d41-865d2dffde9b +601122334455 admin@mdminhazulhaque.io
```

```
71f2778c-8e21-4775-94dc-e363c77d1ae1 +601122334455 foo@bar.com
8fc1882e-e661-49db-88e6-45d370bc352a +601122334455 cli@aws.com
```

#### IAM User

### List of UserId and UserName

```
aws iam list-users | jq -r '.Users[]|.UserId+" "+.UserName'
AIDAZBWIOJIQFOLNBXXCVSUQ kaiser
AIDAZCTWYVXYOKSHVWXPYPLR thornton
AIDAZUYALCGFQJENBCZFJTVX maldonado
AIDAZKQAFIGQJWOKKSKRBLGE key
AIDAZXUDGQVQCEWBFGIJOWWY nelson
```

# **Get Single User**

```
aws iam get-user --user-name kaiser
```

#### Add User

```
aws iam create-user --user-name audit-temp
```

#### Delete User

```
aws iam delete-user --user-name audit-temp
```

# List Access Keys for User

```
aws iam list-access-keys --user-name audit-temp | jq -r
.AccessKeyMetadata[].AccessKeyId
AKIABWIOJIQFOLNBXXCVSUQ
AKIACTWYVXYOKSHVWXPYPLR
AKIAUYALCGFQJENBCZFJTVX
```

## Delete Access Key for User

```
aws iam delete-access-key --user-name audit-temp --access-key-id
AKIABWIOJIQFOLNBXXCVSUQ
```

### Activate/Deactivate Access Key for User

```
aws iam update-access-key --status Inactive --user-name audit-temp --access-key-id
AKIABWIOJIQFOLNBXXCVSUQ
```

```
aws iam update-access-key --status Active --user-name audit-temp --access-key-id AKIABWIOJIOFOLNBXXCVSUO
```

## Generate New Access Key for User

```
aws iam create-access-key --user-name audit-temp | jq -r '.AccessKey | .AccessKeyId+"
"+.SecretAccessKey'
AKIABWIOJIQFOLNBXXCVSUQ p9ge02ebLX9jobdQKmfikRqCiEw3HBylwHyXq0z
```

## **IAM Group**

### **List Groups**

```
aws iam list-groups | jq -r .Groups[].GroupName
developers
administrators
testers
marketing-ro
```

# Add/Delete Groups

```
aws iam create-group --group-name business-ro
aws iam delete-group --group-name business-ro
```

#### List of Policies and ARNs

```
aws iam list-policies | jq -r '.Policies[]|.PolicyName+" "+.Arn' aws iam list-policies --scope AWS | jq -r '.Policies[]|.PolicyName+" "+.Arn' aws iam list-policies --scope Local | jq -r '.Policies[]|.PolicyName+" "+.Arn'
```

# List of User/Group/Roles for a Policy

```
aws iam list-entities-for-policy --policy-arn
arn:aws:iam::987654321:policy/Marketing-ReadOnly
```

# List Policies for a Group

```
aws iam list-attached-group-policies --group-name business-ro
```

# Add Policy to a Group

aws iam attach-group-policy --group-name business-ro --policy-arn
arn:aws:iam::aws:policy/DynamoDBReadOnlyAccess

# Add User to a Group

aws iam add-user-to-group --group-name business-ro --user-name marketing-michael

## Remove User from a Group

aws iam remove-user-from-group --group-name business-ro --user-name marketing-alice

# List Users in a Group

aws iam get-group --group-name business-ro

# List Groups for a User

aws iam list-groups-for-user --user-name qa-bob

# Attach/Detach Policy to a Group

aws iam detach-group-policy --group-name business-ro --policy-arn
arn:aws:iam::aws:policy/DynamoDBFullAccess
aws iam attach-group-policy --group-name business-ro --policy-arn
arn:aws:iam::aws:policy/DynamoDBFullAccess