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AWS CLI Assignment 03

Using the (new) AWS Command Line Tools - write a bash shell script that make calls to the AWS CLI to do the following:

1. Create a security group that allows ssh access

Before

Security Group

Security Group Actions

All security groups

Search Security Groups and tti

name tag	Group ID	Group Name	VPC	Description
	sg-67046b03	default	vpc-68a2960d (172.31.0.0/16)	default VPC security group
	sg-65036c01	launch-wizard-1	vpc-68a2960d (172.31.0.0/16)	launch-wizard-1 created 2016-07-19T1
	sg-409fbf24	python2	vpc-68a2960d (172.31.0.0/16)	Security group for python homework2

Between

```
siming.meng@USABOS147305L ~/.aws
$ aws ec2 create-security-group --group-name homework3 --description "Security group for homework3"
sg-8e6645ea

siming.meng@USABOS147305L ~/.aws
$ aws ec2 authorize-security-group-ingress --group-name homework3 --protocol tcp --port 22 --cidr 0.0.0.0/0

siming.meng@USABOS147305L ~/.aws
$ |
```

After

All security groups <input type="text" value="Search Security Groups and tags"/>					
Name tag	Group ID	Group Name	VPC	Description	
	sg-67046b03	default	vpc-68a2960d (172.31.0.0/16)	default VPC security group	
	sg-8e6645ea	homework3	vpc-68a2960d (172.31.0.0/16)	Security group for homework3	
	sg-65036c01	launch-wizard-1	vpc-68a2960d (172.31.0.0/16)	launch-wizard-1 created 2016-07-19T1	
	sg-409fbf24	python2	vpc-68a2960d (172.31.0.0/16)	Security group for python homework2	

2. Create a key-pair that is used for ssh access

(we will not actually use this key pair in this assignment) – and download it

Before

```
siming.meng@USABOS147305L ~/.aws
$ pwd
/home/siming.meng/.aws

siming.meng@USABOS147305L ~/.aws
$ ls -xap
./ ../ ami.txt config credentials key-west1.pem mynewkey1.pem mynewkey2.pem

siming.meng@USABOS147305L ~/.aws
$ |
```

Between

```
siming.meng@USABOS147305L ~/.aws
$ aws ec2 create-key-pair --key-name mynewkey3 > hw3.pem

siming.meng@USABOS147305L ~/.aws
$ ls -xaxp
./ ../ ami.txt config credentials hw3.pem key-west1.pem mynewkey1.pem mynewkey2.pem

siming.meng@USABOS147305L ~/.aws
$ |
```

After



```
$ ls -xaxp
./ ../ ami.txt config credentials hw3.pem key-west1.pem mynewkey1.pem myne

siming.meng@USABOS147305L ~/.aws
$ more hw3.pem
68:63:e1:f9:c0:49:af:3c:1f:85:21:10:ab:77:26:24:ea:9f:a1:84 -----BEGIN RSA PRIVATE KEY-----
MIIEowIBAAKCAQEAmlD1MgmRIigTrBD7GtQBcWmy4XoYTHR5jaaZYy7555AqhbhTgweGwb+m0Qmw
GabczBRz68APJCQ50pn5LD+RnH3f+02ZV1/UD6wUy12UTy/3x6Z7ITAreX8Wxis3mU+r8my+g1Hm
/OC5oPgt9jGH1ArWra7pPWqeTiK5OH0YKN+g9C/xP7xjLJMjLQrf09VlTh6oLB/z/vFAz4bdJLWM
K5KhUjVy3QCrHb7zcoQ/PWxQKyxfvXcrnRDK8oVR9+UKTGjeQ1eraigy2l1QAK4ER5BSizfLJfNJ
n/C1/lGWPZnu6bHnbTeLWfGCD06qqpELEu1zZDT0UMC7JlMzeuc1cQIDAQABAoIBAFvAxaHli5Q4
/fDAVw28WE8eeUhtCFJPHITVloy3uZ+9xz6GC27LA9S+X+1r1Ajlbv05QL9ggfgt56u3pLRIESUz
n3GuIrYTNiagXfH9bFDYgXK4umCtmwNx1ITvxjWfF1vqlrdx2q0qbiJw4GKKrBkPq0lTK8AstIB
HmVkg9gN/waQYoZ1ke1lpQAJWyaq4FXq0iT+hsX7IS7F2/WogHK7aTODmxm2SXaylw/uhfctUfjs0
we1rMURzTPg2KE7Id+GEC5UfSAGECuhzw/0ubrNcyuVyS6jj1CZjQJ84GNvAgJ7HrOD7kvhD1Yvt
h6CzIdmijI4YL5Ng606o2Ey1esECgYEAA22c0a0NIUSrY/CiD1nB7whTocF8HddeXadcpnBGMTyVi
JAX29VXx8uVeoSgfeChBdwYcLcd/XnqyFvyHBGziRCb3uFB+M+3+VY+E8HCj02uEFShnLyIP7p7C
rQB167ZZZxMCsucgEOMjIHLnK0eVueJ4s8K0Ky7dF6af1hImyGkCgYEAsjdGLY75sjTiXlX7Dh2n
xbrQeCpweLB1MFYHOC+5w26F0v5G4bpPk+2j6h0k8Bbha+cV0wR0/8eTYwSmM1XwG5KcYL7TVPWhc
AH0eyFoLMD/HaYy6t8hCRZtCIafntXwHKilzAyyj6wHw9HG3a0vOM1QRYwGGmzQKZtQRT9fp0E8kC
gYA+jZJZ2JP8uEenFPIJqIZQXl+q8h0RZwc/YN33JjWntxPVC3J0n1NeGjExp1vZiTiofRVZpABX
con17dec1mJoZefIwAJLufZqdIHFf4e6gDvnQF6y3HZIZTFB29NY0uQgdBX6Pw0xELoqHTh0vBo/
JiedsMGR5Ema3aHCieh0yQKBgAhvIpI5dmOU+Tn52945LR3Az+1AKP6ta36UM9dG+wXzDz9R1c1N
YkLgNqf3sgXLShMUC4hIeCRc7p2F9/KKk4aQ0iY/6u/zJpenVHOrP2hTPH8UeCoGwoxE4wZwyhje
+//U4mq939CIk0Ptlyy/JmVwxVSlp1diCT3RXoZFrFxAoGBAJJ5xhMkk8p8fPBYC7LlqEpU5ggU
T+PvfDlswDnNTbRlqiQPUryAPdQHgwUCCz0hJJKFPvVLziBrpTLU5rVVECsJcC9eJkUTqsqg3U8T
wFHg5p8/BZLx1iEmoG5RRmcXgT8YMU++6pBIZs7/C8Rl+xpCf0HtbXowWRdMlirTeHnr
-----END RSA PRIVATE KEY----- mynewkey3
```

3. Create two AMI instances in the us-west-1 region

```
aws ec2 run-instances --image-id ami-31490d51 --count 2 --instance-type t2.micro
--security-groups homework3
```

Before

Launch Instance					
Connect					
Actions					
Filter by tags and attributes or search by keyword					
Name	Instance ID	Instance Type	Availability Zone	Instance State	Status
	i-0252143fe7414a70f	t2.micro	us-west-1b	 terminated	
	i-062bf0dea3f84f47d	t2.micro	us-west-1b	 terminated	

Between

```
siming.meng@USAB05147305L ~/$.aws
$ aws ec2 run-instances --image-id ami-31490d51 --count 2 --instance-type t2.micro --security-groups homework3
413365813430 r-0a984a3f19e255e5e
INSTANCES 0 x86_64 False xen ami-31490d51 i-00538f569ceb11656 t2.micro
-09-18T18:41:46.000Z ip-172-31-2-192.us-west-1.compute.internal 172.31.2.192 /dev/xvda
rue subnet-bf0836e6 hvm vpc-68a2960d
MONITORING disabled
NETWORKINTERFACES 06:9d:55:10:e9:a0 eni-95ac3a9a 413365813430 ip-172-31-2-192.us-west-1.compute.internal 172.31.2.192 True in-use subnet-bf0836e6 vpc-68a2960d
ATTACHMENT 2016-09-18T18:41:46.000Z eni-attach-81c2ff23 True 0 attaching
GROUPS sg-8e6645ea homework3
PRIVATEIPADDRESSES True ip-172-31-2-192.us-west-1.compute.internal 172.31.2.192
PLACEMENT us-west-1a default
SECURITYGROUPS sg-8e6645ea homework3
STATE 0 pending
STATEREASON pending pending
INSTANCES 1 x86_64 False xen ami-31490d51 i-0dc445dc4acb1c9b3 t2.micro
-09-18T18:41:46.000Z ip-172-31-2-191.us-west-1.compute.internal 172.31.2.191 /dev/xvda
rue subnet-bf0836e6 hvm vpc-68a2960d
MONITORING disabled
NETWORKINTERFACES 06:f5:f7:6a:e8:d4 eni-94ac3a9b 413365813430 ip-172-31-2-191.us-west-1.compute.internal 172.31.2.191 True in-use subnet-bf0836e6 vpc-68a2960d
ATTACHMENT 2016-09-18T18:41:46.000Z eni-attach-86c2ff24 True 0 attaching
GROUPS sg-8e6645ea homework3
PRIVATEIPADDRESSES True ip-172-31-2-191.us-west-1.compute.internal 172.31.2.191
PLACEMENT us-west-1a default
SECURITYGROUPS sg-8e6645ea homework3
STATE 0 pending
STATEREASON pending pending
siming.meng@USAB05147305L ~/$.aws
$ |
```

After

Instance ID	Instance Type	Availability Zone	Instance State	Status Checks
i-00538f569ceb11656	t2.micro	us-west-1a	running	Initializing
i-0252143fe7414a70f	t2.micro	us-west-1b	terminated	
i-062bf0dea3f84f47d	t2.micro	us-west-1b	terminated	
i-0dc445dc4acb1c9b3	t2.micro	us-west-1a	running	Initializing

4. After both instances are launched

print out information about these two running instances:

```
aws ec2 describe-instances --filter Name="instance.group-name",Values="homework3" --output json
```

```
{
  "Reservations": [
    {
      "OwnerId": "413365813430",
      "ReservationId": "r-0a984a3f19e255e5e",
      "Groups": [],
      "Instances": [
        {
          "Monitoring": {
            "State": "disabled"
          },
          "PublicDnsName": "ec2-54-153-76-110.us-west-1.compute.amazonaws.com",
          "State": {
            "Code": 16,
            "Name": "running"
          },
          "EbsOptimized": false,
          "LaunchTime": "2016-09-18T18:41:46.000Z",
          "PublicIpAddress": "54.153.76.110",
          "PrivateIpAddress": "172.31.2.192",
          "ProductCodes": [],
          "VpcId": "vpc-68a2960d",
          "StateTransitionReason": "",
          "InstanceId": "i-00538f569ceb11656",
```



```
"ImageId": "ami-31490d51",
"PrivateDnsName": "ip-172-31-2-192.us-west-1.compute.internal",
"SecurityGroups": [
  {
    "GroupName": "homework3",
    "GroupId": "sg-8e6645ea"
  }
],
"ClientToken": "",
"SubnetId": "subnet-bf0836e6",
"InstanceType": "t2.micro",
"NetworkInterfaces": [
  {
    "Status": "in-use",
    "MacAddress": "06:9d:55:10:e9:a0",
    "SourceDestCheck": true,
    "VpcId": "vpc-68a2960d",
    "Description": "",
    "Association": {
      "PublicIp": "54.153.76.110",
      "PublicDnsName": "ec2-54-153-76-110.us-west-1.compute.amazonaws.com",
      "IpOwnerId": "amazon"
    },
    "NetworkInterfaceId": "eni-95ac3a9a",
    "PrivateIpAddresses": [
      {
        "PrivateDnsName": "ip-172-31-2-192.us-west-1.compute.internal",
        "Association": {
          "PublicIp": "54.153.76.110",
          "PublicDnsName": "ec2-54-153-76-110.us-west-1.compute.amazonaws.com",
          "IpOwnerId": "amazon"
        },
        "Primary": true,
        "PrivateIpAddress": "172.31.2.192"
      }
    ],
    "PrivateDnsName": "ip-172-31-2-192.us-west-1.compute.internal",
    "Attachment": {
      "Status": "attached",
      "DeviceIndex": 0,
      "DeleteOnTermination": true,
      "AttachmentId": "eni-attach-81c2ff23",
      "AttachTime": "2016-09-18T18:41:46.000Z"
    },
    "Groups": [
      {
        "GroupName": "homework3",
        "GroupId": "sg-8e6645ea"
```

```

    }
  ],
  "SubnetId": "subnet-bf0836e6",
  "OwnerId": "413365813430",
  "PrivateIpAddress": "172.31.2.192"
}
],
"SourceDestCheck": true,
"Placement": {
  "Tenancy": "default",
  "GroupName": "",
  "AvailabilityZone": "us-west-1a"
},
"Hypervisor": "xen",
"BlockDeviceMappings": [
  {
    "DeviceName": "/dev/xvda",
    "Ebs": {
      "Status": "attached",
      "DeleteOnTermination": true,
      "VolumeId": "vol-099553449e52b441a",
      "AttachTime": "2016-09-18T18:41:47.000Z"
    }
  }
],
"Architecture": "x86_64",
"RootDeviceType": "ebs",
"RootDeviceName": "/dev/xvda",
"VirtualizationType": "hvm",
"AmiLaunchIndex": 0
},
{
  "Monitoring": {
    "State": "disabled"
  },
  "PublicDnsName": "ec2-54-67-6-12.us-west-1.compute.amazonaws.com",
  "State": {
    "Code": 16,
    "Name": "running"
  },
  "EbsOptimized": false,
  "LaunchTime": "2016-09-18T18:41:46.000Z",
  "PublicIpAddress": "54.67.6.12",
  "PrivateIpAddress": "172.31.2.191",
  "ProductCodes": [],
  "VpcId": "vpc-68a2960d",
  "StateTransitionReason": "",
  "InstanceId": "i-0dc445dc4acb1c9b3",

```

```
"ImageId": "ami-31490d51",
"PrivateDnsName": "ip-172-31-2-191.us-west-1.compute.internal",
"SecurityGroups": [
  {
    "GroupName": "homework3",
    "GroupId": "sg-8e6645ea"
  }
],
"ClientToken": "",
"SubnetId": "subnet-bf0836e6",
"InstanceType": "t2.micro",
"NetworkInterfaces": [
  {
    "Status": "in-use",
    "MacAddress": "06:f5:f7:6a:e8:d4",
    "SourceDestCheck": true,
    "VpcId": "vpc-68a2960d",
    "Description": "",
    "Association": {
      "PublicIp": "54.67.6.12",
      "PublicDnsName": "ec2-54-67-6-12.us-west-1.compute.amazonaws.com",
      "IpOwnerId": "amazon"
    },
    "NetworkInterfaceId": "eni-94ac3a9b",
    "PrivateIpAddresses": [
      {
        "PrivateDnsName": "ip-172-31-2-191.us-west-1.compute.internal",
        "Association": {
          "PublicIp": "54.67.6.12",
          "PublicDnsName": "ec2-54-67-6-12.us-west-1.compute.amazonaws.com",
          "IpOwnerId": "amazon"
        },
        "Primary": true,
        "PrivateIpAddress": "172.31.2.191"
      }
    ],
    "PrivateDnsName": "ip-172-31-2-191.us-west-1.compute.internal",
    "Attachment": {
      "Status": "attached",
      "DeviceIndex": 0,
      "DeleteOnTermination": true,
      "AttachmentId": "eni-attach-86c2ff24",
      "AttachTime": "2016-09-18T18:41:46.000Z"
    },
    "Groups": [
      {
        "GroupName": "homework3",
        "GroupId": "sg-8e6645ea"
```



```
    }
  ],
  "SubnetId": "subnet-bf0836e6",
  "OwnerId": "413365813430",
  "PrivateIpAddress": "172.31.2.191"
}
],
"SourceDestCheck": true,
"Placement": {
  "Tenancy": "default",
  "GroupName": "",
  "AvailabilityZone": "us-west-1a"
},
"Hypervisor": "xen",
"BlockDeviceMappings": [
  {
    "DeviceName": "/dev/xvda",
    "Ebs": {
      "Status": "attached",
      "DeleteOnTermination": true,
      "VolumeId": "vol-0b5d8526e4f8fbbb8",
      "AttachTime": "2016-09-18T18:41:47.000Z"
    }
  }
],
"Architecture": "x86_64",
"RootDeviceType": "ebs",
"RootDeviceName": "/dev/xvda",
"VirtualizationType": "hvm",
"AmiLaunchIndex": 1
}
]
}
```

5. Next, Programmatically terminate both instances

Between

```
siming.meng@USAB05147305L ~/.aws
$ ls
ami.txt  config  credentials  hw3.pem  key-west1.pem  mynewkey1.pem  mynewkey2.pem

siming.meng@USAB05147305L ~/.aws
$ aws ec2 describe-instances --filter Name="instance.group-name",Values="homework3" --output text | awk -F"\t" ' $1==
$8}' > termination.sh

siming.meng@USAB05147305L ~/.aws
$ more termination.sh
i-00538f569ceb11656
i-0dc445dc4acb1c9b3

siming.meng@USAB05147305L ~/.aws
$ sed -i -- 's/i-/aws ec2 terminate-instances --instance-ids i-/g' termination.sh





siming.meng@USAB05147305L ~/.aws
$ !mo
more termination.sh
aws ec2 terminate-instances --instance-ids i-00538f569ceb11656
aws ec2 terminate-instances --instance-ids i-0dc445dc4acb1c9b3

siming.meng@USAB05147305L ~/.aws
$ chmod 755 termination.sh

siming.meng@USAB05147305L ~/.aws
$ ./termination.sh
TERMINATINGINSTANCES    i-00538f569ceb11656
CURRENTSTATE             32      shutting-down
PREVIOUSSTATE            16      running
TERMINATINGINSTANCES    i-0dc445dc4acb1c9b3
CURRENTSTATE             32      shutting-down
PREVIOUSSTATE            16      running

siming.meng@USAB05147305L ~/.aws
```

After

Instance ID	Instance Type	Availability Zone	Instance State	Status
i-00538f569ceb11656	t2.micro	us-west-1a	 terminated	
i-0252143fe7414a70f	t2.micro	us-west-1b	 terminated	
i-062bf0dea3f84f47d	t2.micro	us-west-1b	 terminated	
i-0dc445dc4acb1c9b3	t2.micro	us-west-1a	 terminated	