# ATTACK DEFENSE

by PentesterAcademy

| Name | GuardDuty : IAM Findings |
|---|---|
| URL | https://attackdefense.com/challengedetails?cid=2478 |
| Type | AWS Cloud Security : Defense |

**Important Note:** This document illustrates all the important steps required to complete this lab. This is by no means a comprehensive step-by-step solution for this exercise. This is only provided as a reference to various commands needed to complete this exercise and for your further research on this topic. Also, note that the IP addresses and domain names might be different in your lab.

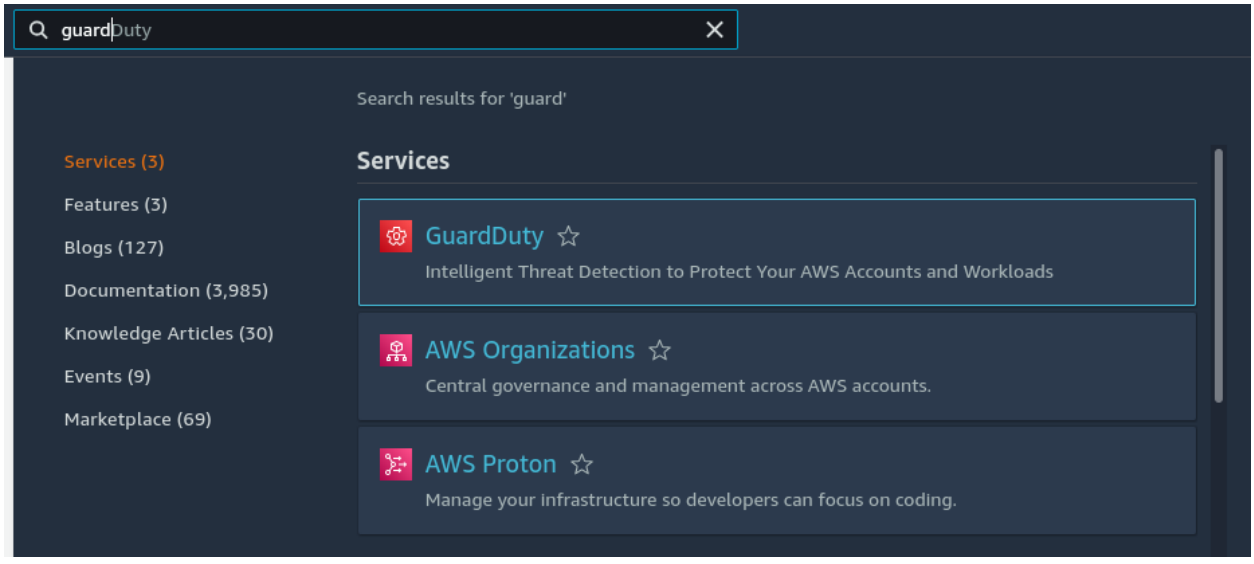
**Solution:**

**Step 1:** Click the lab link button to get access credentials.

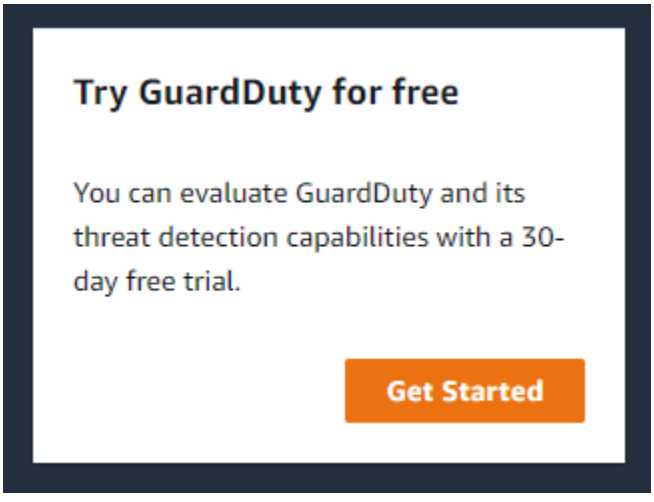
## Access Credentials to your AWS lab Account

| Login URL | https://029911053369.signin.aws.amazon.com/console |
|---|---|
| Region | US East (N. Virginia) us-east-1 |
| Username | student |
| Password | Ad0jwjpEsZaLFsKx |
| Access Key ID | AKIAQN5WWOQ42ZAKYJV6 |
| Secret Access Key | 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 |

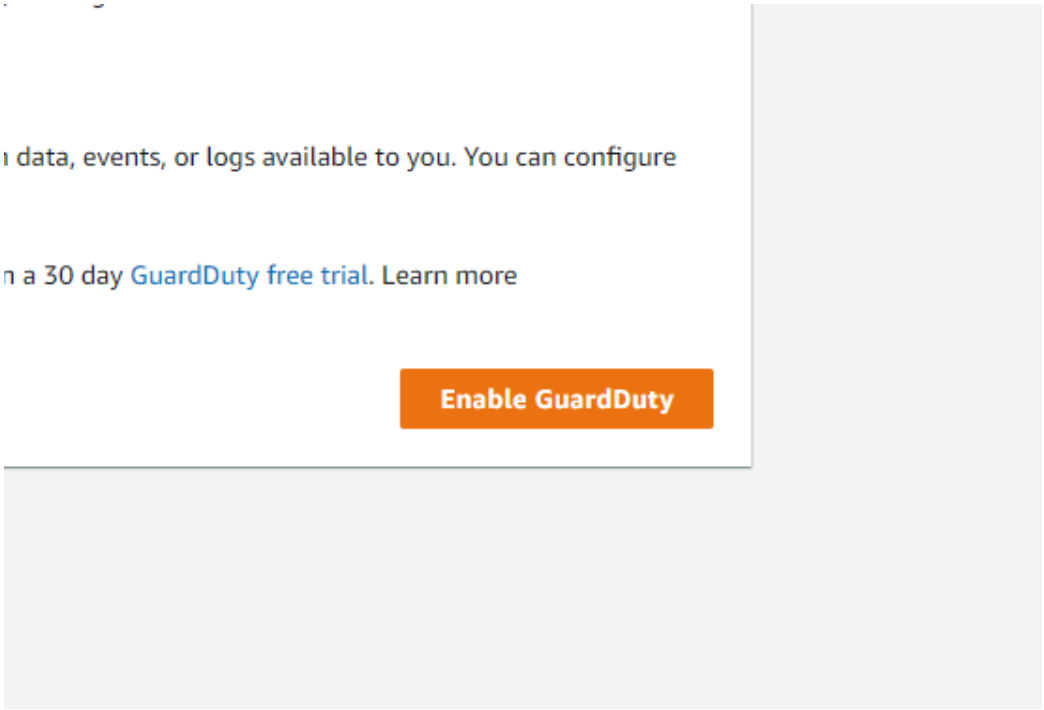
**Step 2:** Enable GuardDuty from the console. Search for GuardDuty in the search bar and navigate to the GuardDuty dashboard.



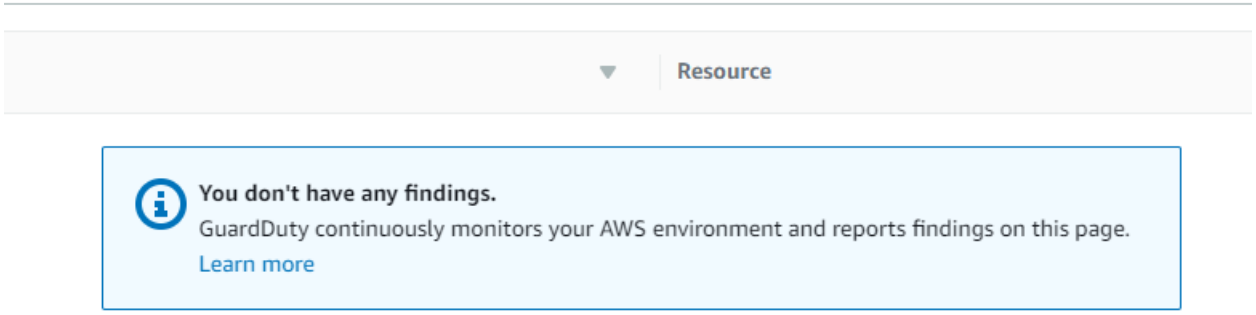

**Step 3:** Click on Get Started.




**Step 4:** Click on Enable GuardDuty.




There will not be any findings at first.



**Step 5:** Configure AWS CLI with given credentials.

**Command:** aws configure

```
┌──(kali㉿kali)-[~/lab]
└─$ aws configure
AWS Access Key ID [****************QSPA]: AKIAQN5WWOQ42ZAKYJV6
AWS Secret Access Key [****************i9tf]: 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
Default region name [us-east-1]:
Default output format [None]:
```

**Step 6:** Interact with AWS account using various commands. Change the AWS account password policy to a weak policy.

**Command:** aws iam update-account-password-policy --no-require-symbols --no-require-numbers --no-require-uppercase-characters --no-require-lowercase-characters

```
┌──(kali㉿kali)-[~/lab]
└─$ aws iam update-account-password-policy --no-require-symbols
 --no-require-numbers --no-require-uppercase-characters --no-re
quire-lowercase-characters
```

Create an access key for this account.

**Command:** aws iam create-access-key --user-name student

```
┌──(kali㉿kali)-[~/lab]
└─$ aws iam create-access-key --user-name student
{
    "AccessKey": {
        "UserName": "student",
        "AccessKeyId": "AKIAQN5WWOQ4Y5GUBER7",
        "Status": "Active",
        "SecretAccessKey": "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",
        "CreateDate": "2022-08-29T17:45:53+00:00"
    }
}
```

Update the username of this account to the name “Bob”.

**Command:** aws iam update-user --user-name student --new-user-name Bob

```
┌──(kali㉿kali)-[~/lab]
└─$ aws iam update-user --user-name student --new-user-name Bob
```

Revert back the name “Bob” to “student”.

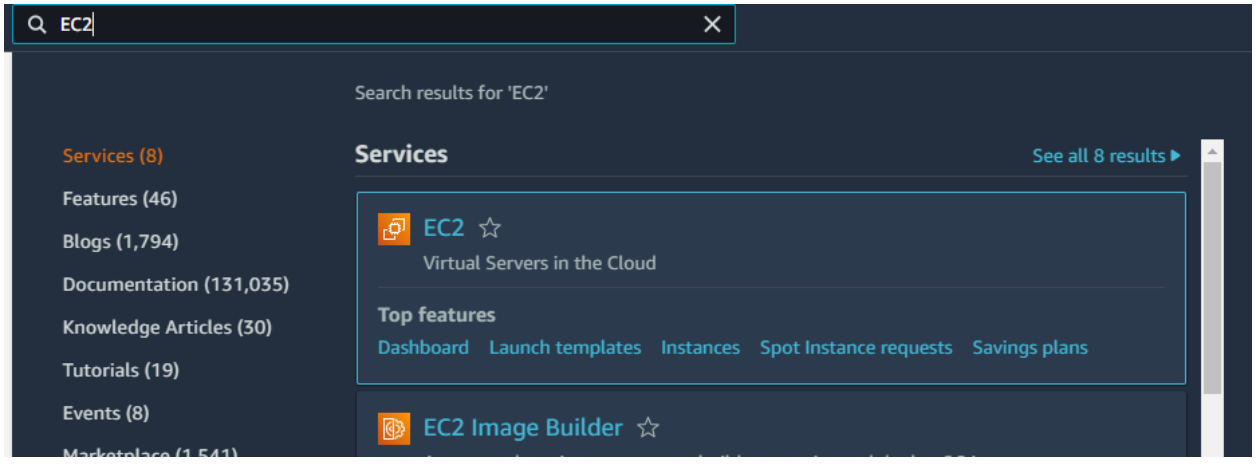
**Command:** aws iam update-user --user-name Bob --new-user-name student

```
┌──(kali㉿kali)-[~/lab]
└─$ aws iam update-user --user-name Bob --new-user-name student
```

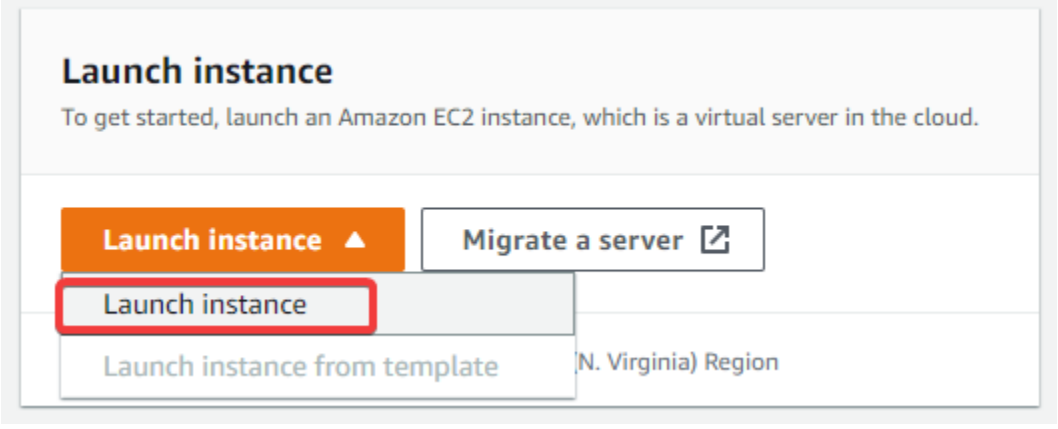
Try to list the access keys of this account.
**Command:** aws iam list-access-keys --user-name student

```
┌──(kali㉿kali)-[~/lab]
└─$ aws iam list-access-keys --user-name student
{
    "AccessKeyMetadata": [
        {
            "UserName": "student",
            "AccessKeyId": "AKIAQN5WWOQ42ZAKYJV6",
            "Status": "Active",
            "CreateDate": "2022-08-17T23:17:42+00:00"
        },
        {
            "UserName": "student",
            "AccessKeyId": "AKIAQN5WWOQ4Y5GUBER7",
            "Status": "Active",
            "CreateDate": "2022-08-29T17:45:53+00:00"
        }
    ]
}
```

**Step 7:** Get back to the AWS console and search for “EC2” and navigate to EC2 dashboard.

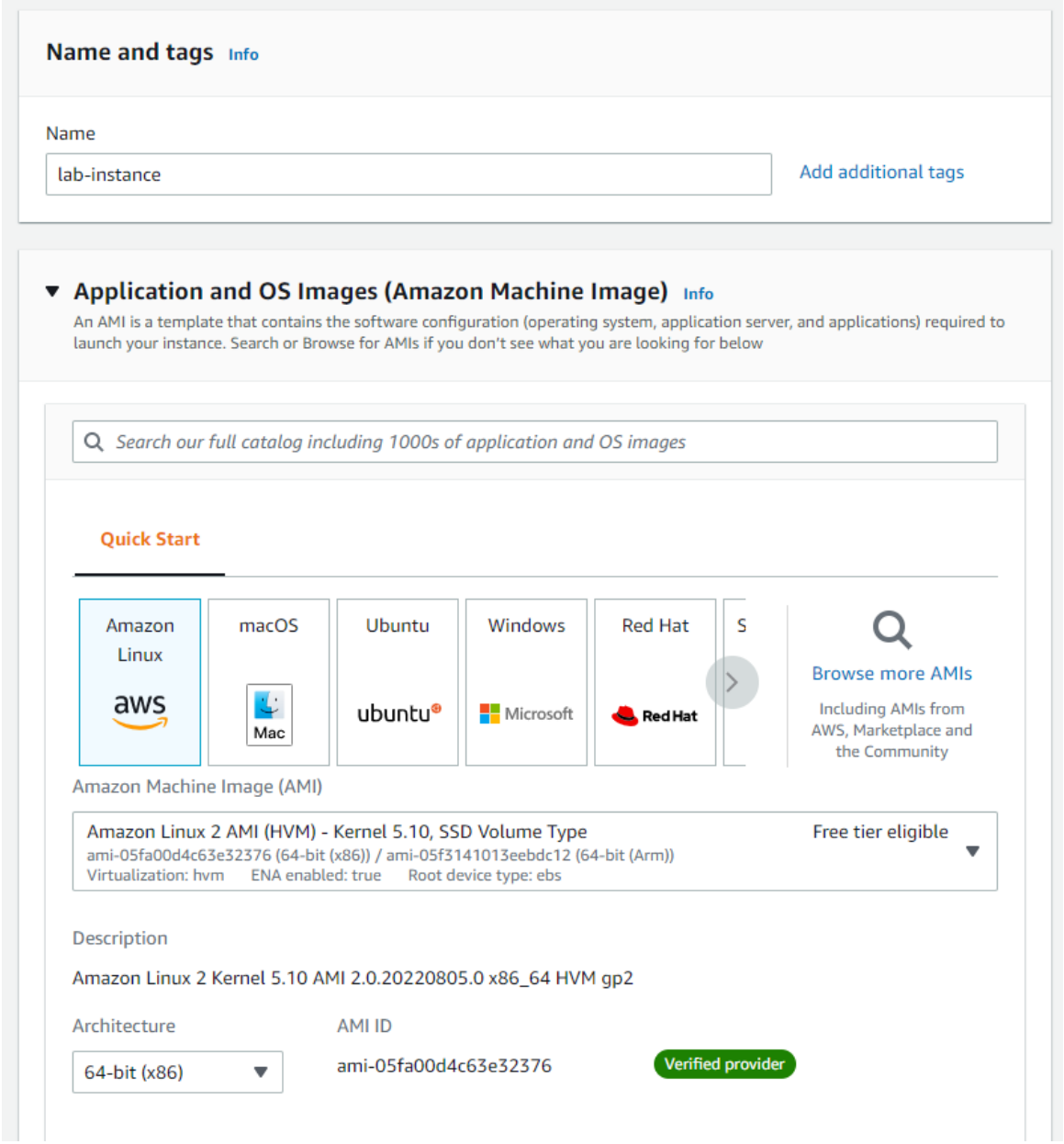



**Step 8:** Create a new instance with an instance profile. Launch a new instance by clicking "Launch instance".

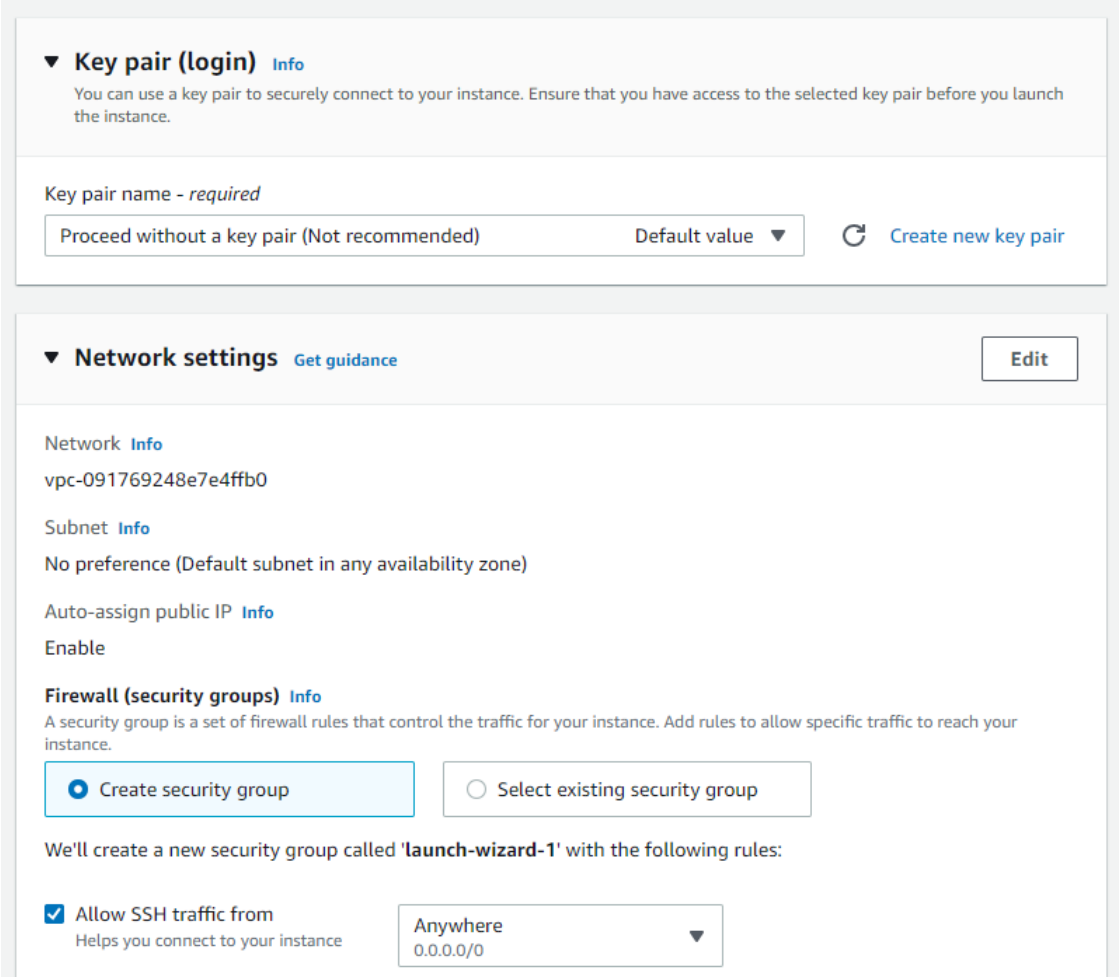



**Step 9:** Enter "lab-instance" as name and "Amazon Linux" as AMI.

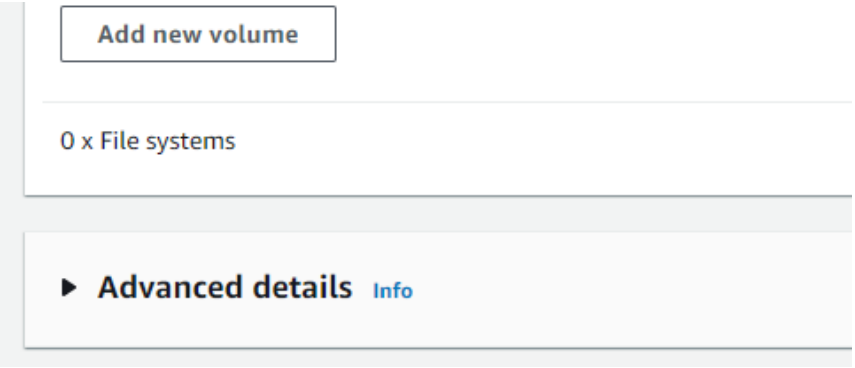
The Amazon Linux AMI is a supported and maintained Linux image provided by Amazon Web Services for use on Amazon Elastic Compute Cloud (Amazon EC2).




**Step 10:** Select “Proceed without a key pair” and select “Create security group”. By default these settings will allow port 22 so that we can connect with the instance.



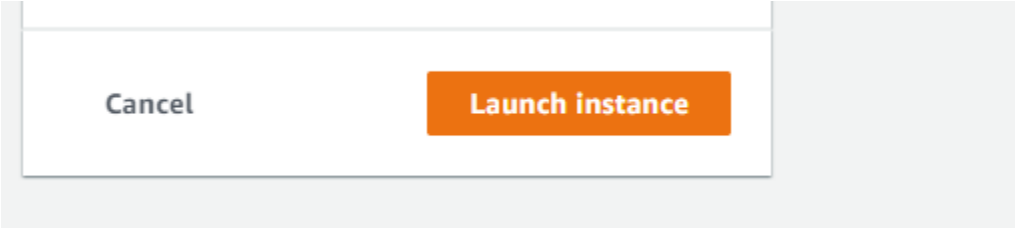

**Step 11:** Click on “Advanced details”.



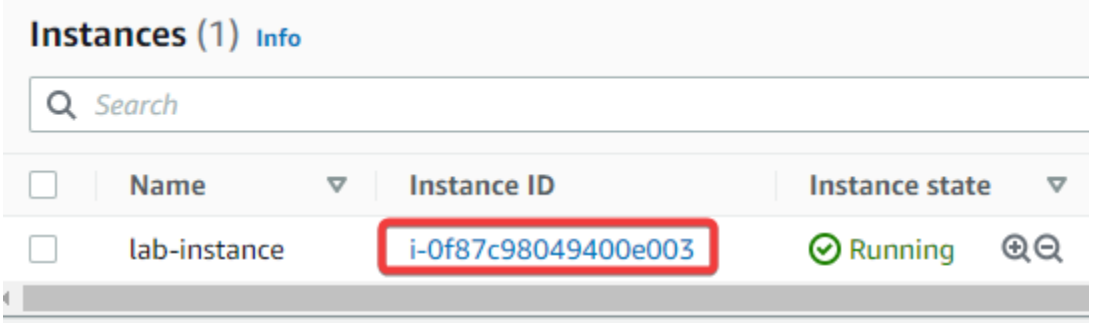
**Step 12:** Enable the Metadata for the instance. Choose “V1 and V2(token optional)” as the Metadata version.

Instance Metadata Service (IMDS) provides data about your instance that you can use to configure or manage the running instance. Instance metadata is divided into categories, for example, host name, events, and security groups. The temporary access credentials can be retrieved using the metadata.

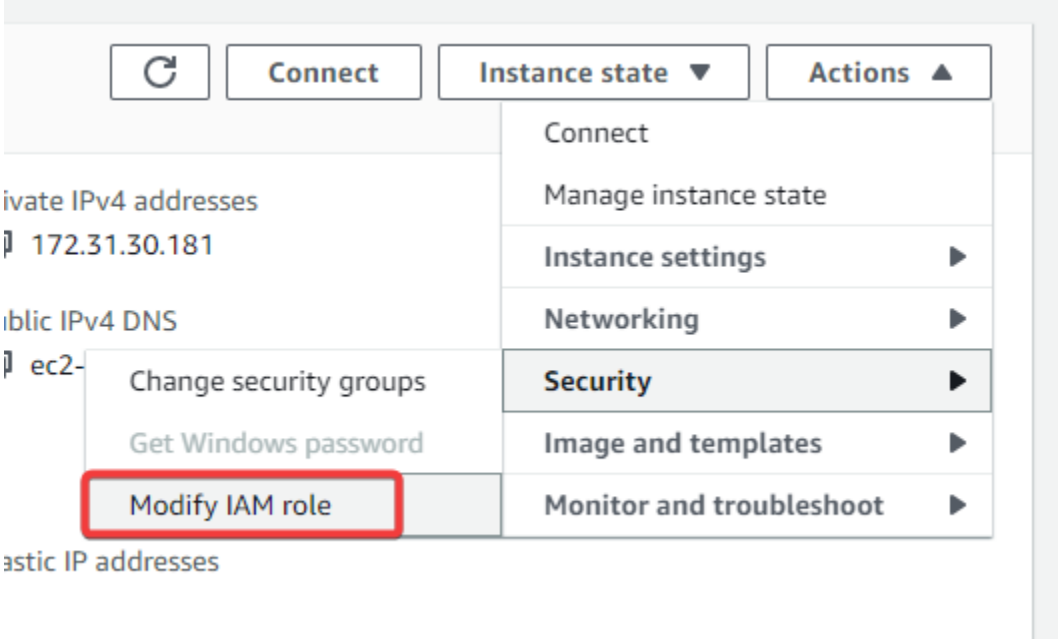

Click on “Launch instance”.



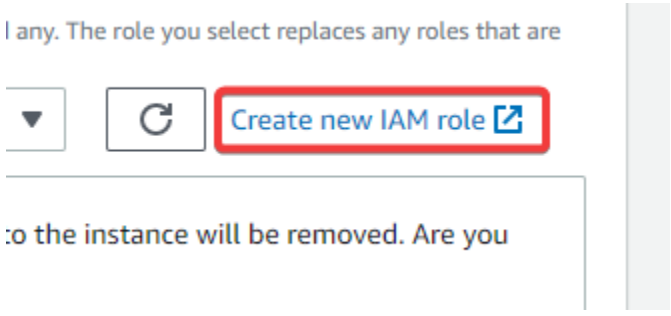

**Step 13:** Wait until the instance state changes to “Running”. After that click on the instance id.



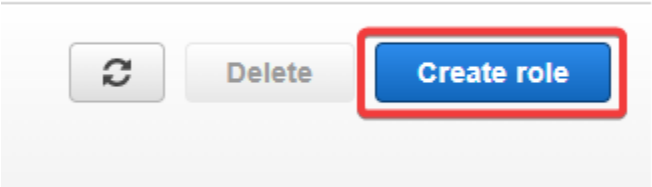

**Step 14:** Click on “Modify IAM role”.



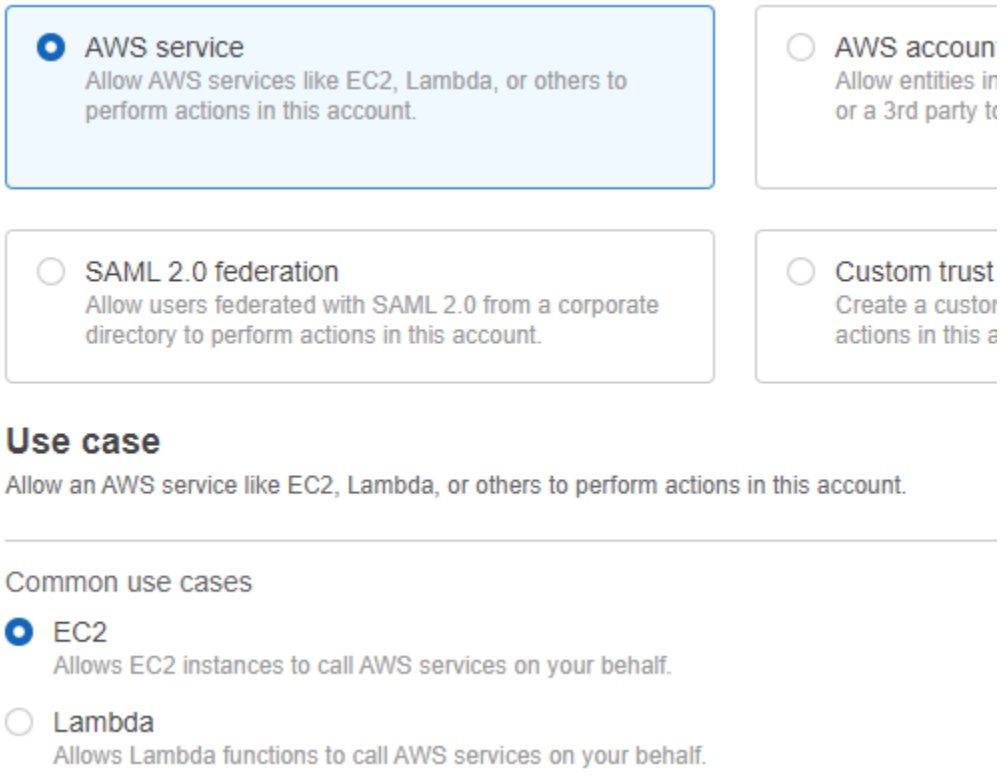

**Step 15:** Click on “Create new IAM role”.



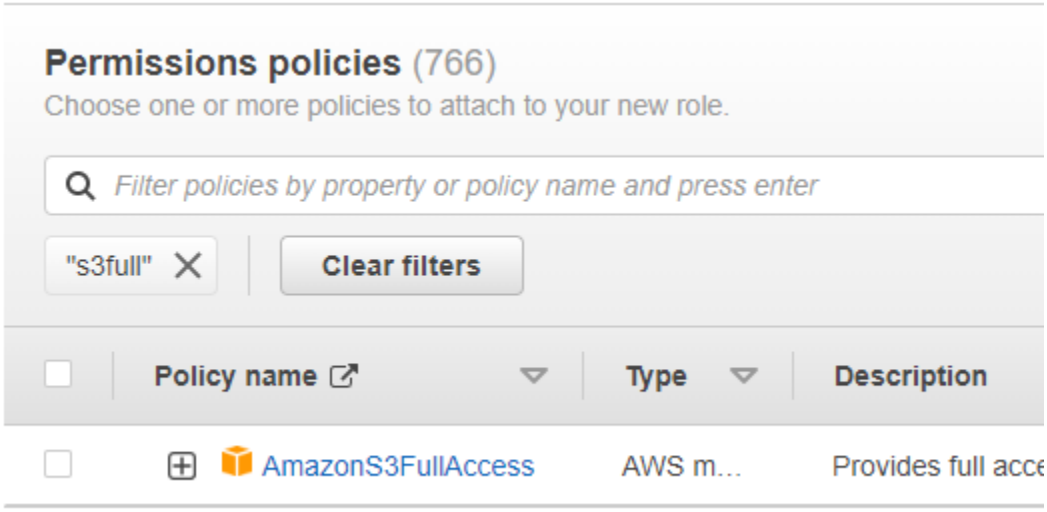

**Step 16:** Click on “Create role”.




**Step 17:** Select Trusted entity type as “AWS service” and use case as “EC2”.




**Step 18:** Search for “s3full” and select “AmazonS3FullAccess” policy and click “Next”.




**Step 19:** Set role name as “instance_role” and click on “Create role”.

## Role details

Role name
Enter a meaningful name to identify this role.

instance_role

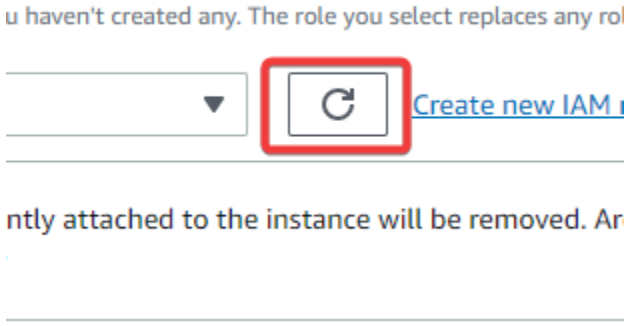
Maximum 64 characters. Use alphanumeric and '+=,.@-_' characters.

Description
Add a short explanation for this role.

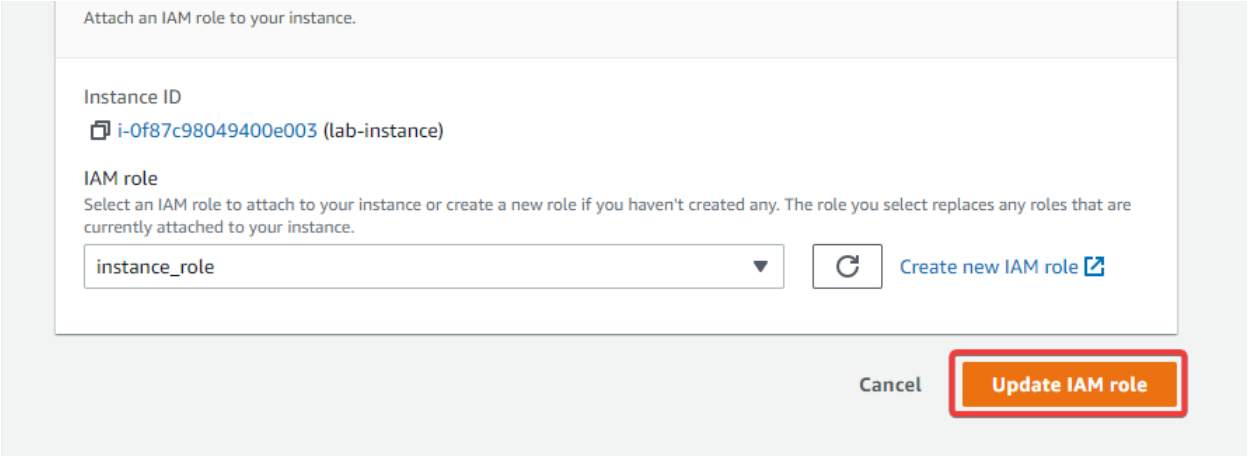
Allows EC2 instances to call AWS services on your behalf.

Maximum 1000 characters. Use alphanumeric and '+=,.@-_' characters.

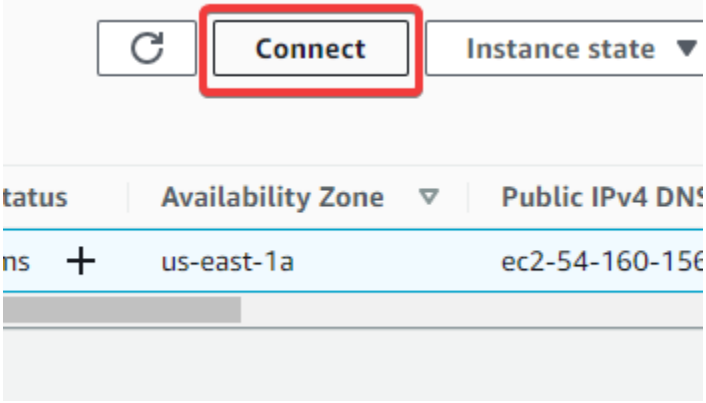
**Step 20:** Navigate back to the previous tab and attach a role with the EC2 instance. Click on the refresh button to load the new role.



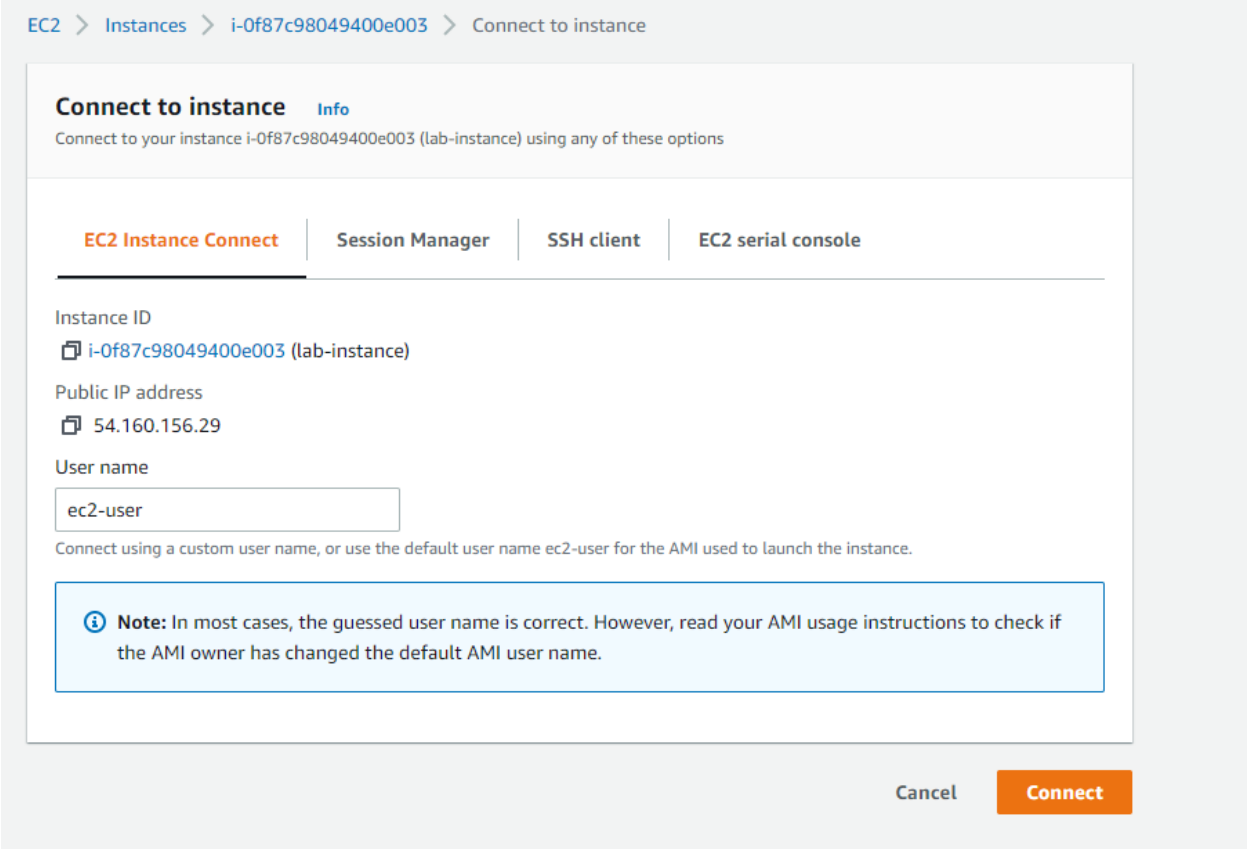

Now, click on “Update IAM role”.




**Step 21:** From the EC2 instance listing page , Select EC2 instance and click on “Connect”.




Use EC2 instance connect and click on “Connect”.




**Step 22:** Retrieve temporary credentials using metadata services version 1.

**Command:** curl http://169.254.169.254/latest/meta-data/iam/security-credentials/instance_role

```
[ec2-user@ip-172-31-30-181 ~]$ curl http://169.254.169.254/latest/meta-data/iam/security-credentials/instance_role
{
  "Code" : "Success",
  "LastUpdated" : "2022-08-29T17:55:04Z",
  "Type" : "AWS-HMAC",
  "AccessKeyId" : "ASIAQN5WWOQ42ET7C27U",
  "SecretAccessKey" : "Q/QBd9EoGVGTWr2zZQPvYjjDYmzIWO1iTNpze6+4",
  "Token" : "IQoJb3JpZ2luX2VjEKr//////////wEaCXVzLWVhc3QtMSJHMEUCIQDK0xfzobwL2g17Jb22uf645ESNxm6JGMI6mCpNscc4YgIgMwW0NexmxE
5MTEwNTMzNjkiDNWZmgGeTkzyAc2M3yqvBOuVelCyev9nASyi97ZS+SVdxWTRe/g8DXtQ6S6prKKL6+c+jCURooVBhoJ8nR3RrLl667xMbAKVMo3pzGW7Oekonv
ijYDe7UiS3eMkOwyNbBAC++hz0ShJtqMAIZKFKenvLi6MuQlmuF+a5Unn7DhBXty7+18KTczxWHEWVMrL9ORF/qWt5E+3AHukP3OdqdSmVmQbpJLpS4WlbqMHZE
n7ckWRMzrYhTutRW7rF28yDtjbKsBuIXyI3UGpU1tb23BdbCArBgFHsNI6UaV7mcGWHAj4cPq9NDIrdXrVEO0zLc1Af1sxK1xf1i8cBVO6ICiM5oV/lnPVoBy5y
3eld5cPjNdWp0mEBTQCC78Z+uzoORLlDIuGjiY0aTMuYJTnyjgaDV7NFoabORhJ1YkBu5BrPNeOGcvbNlM9KZp5Dn0oWOCpH3pI2bd5b+aZydI2xbqXXvdTcPCI
ZoNEn4FTVmgXNKdq+UvNMeIi8tHPeaflEE/XAYUHmyrNG8PsINHqaV2/R8ksjfsOUC6dRll7qsEroModBlk4LOCl+Qvgw4PqzmAY6qQEpkej7cbkDWK/3qnT84m
1PPxRRtFRUcUOMssJCwXMDTpx8qy66Dd0ra85lYjNc7FAMLbdgLc5Oc3fuaobVqIQDPgY9dUX/jIf58AWrujhyHOMaHUva9SpurlTOR9M+B/pg42MHPth9KfvH3
  "Expiration" : "2022-08-30T00:29:40Z"
}[ec2-user@ip-172-31-30-181 ~]$
```

**Step 23:** Set the required environment variable to allow AWS CLI to use the temporary access credentials. AWS CLI prioritizes the environment variable over the stored credentials.

**Command:**

```
export AWS_ACCESS_KEY_ID=ASIAQN5WWOQ42ET7C27U
export AWS_SECRET_ACCESS_KEY=Q/QBd9EoGVGTWr2zZQPvYjjDYmzIWO1iTNpze6+4
export
AWS_SESSION_TOKEN=IQoJb3JpZ2luX2VjEKr//////////wEaCXVzLWVhc3QtMSJHMEUCIQDK0xfzobwL2g17Jb22uf6
45ESNxm6JGMI6mCpNscc4YgIgMwW0NexmxEQ3SS0hrFtP+H9+nKhgj/yeSn0kLhOBbIgq0gQIMxAAGgwwMjk5MT
EwNTMzNjkiDNWZmgGeTkzyAc2M3yqvBOuVelCyev9nASyi97ZS+SVdxWTRe/g8DXtQ6S6prKKL6+c+jCURooVBho
J8nR3RrLl667xMbAKVMo3pzGW7OekonwHxWRjyUkPcPI7HcxiQrzQaghl6l0WsPG1u1aGvJla/DbN3b7fijYDe7UiS3e
MkOwyNbBAC++hz0ShJtqMAIZKFKenvLi6MuQlmuF+a5Unn7DhBXty7+18KTczxWHEWVMrL9ORF/qWt5E+3AHukP
3OdqdSmVmQbpJLpS4WlbqMHZRMrGP/KBlvR9bo5b+9B8p5NGPYF2twJh6XXmav8BD1oJDwyEEHn7ckWRMzrYh
TutRW7rF28yDtjbKsBuIXyI3UGpU1tb23BdbCArBgFHsNI6UaV7mcGWHAj4cPq9NDIrdXrVEO0zLc1Af1sxK1xf1i8cB
VO6ICiM5oV/lnPVoBy5yKSTiqSYxWz3jjDZfy/8TKSKbH2q9WVgKmANkjwADU8C0+Yz+w3eld5cPjNdWp0mEBTQC
C78Z+uzoORLlDIuGjiY0aTMuYJTnyjgaDV7NFoabORhJ1YkBu5BrPNeOGcvbNlM9KZp5Dn0oWOCpH3pI2bd5b+aZy
dI2xbqXXvdTcPC13DsYrZlJDKNkI1KvUMPZNnplo5Ai626oue29FwCSw6s098HI7ZoNEn4FTVmgXNKdq+UvNMeIi8t
HPeaflEE/XAYUHmyrNG8PsINHqaV2/R8ksjfsOUC6dRll7qsEroModBlk4LOCl+Qvgw4PqzmAY6qQEpkej7cbkDWK/3
qnT84mCRUc9sg/lO0w3Xy0AUSAJmayoLAgA5FYeYhSQYzu5S6OxmK0/1PPxRRtFRUcUOMssJCwXMDTpx8qy66
Dd0ra85lYjNc7FAMLbdgLc5Oc3fuaobVqIQDPgY9dUX/jIf58AWrujhyHOMaHUva9SpurlTOR9M+B/pg42MHPth9KfvH
36ODA++sNXD74xj92fZ5PfPWD/WMTVFZeYf
```

```
┌──(kali㉿kali)-[~/lab]
└─$ export AWS_ACCESS_KEY_ID=ASIAQN5WWOQ42ET7C27U
export AWS_SECRET_ACCESS_KEY=Q/QBd9EoGVGTWr2zZQPvYjjDYmzIWO1iTNpze6+4
export AWS_SESSION_TOKEN=IQoJb3JpZ2luX2VjEKr//////////wEaCXVzLWVhc3QtMSJHMEU
+H9+nKhgj/yeSn0kLhOBbIgq0gQIMxAAGgwwMjk5MTEwNTMzNjkiDNWZmgGeTkzyAc2M3yqvBOuV
AKVMo3pzGW7OekonwHxWRjyUkPcPI7HcxiQrzQaghl6l0WsPG1u1aGvJla/DbN3b7fijYDe7UiS3
rL9ORF/qWt5E+3AHukP3OdqdSmVmQbpJLpS4WlbqMHZRMrGP/KBlvR9bo5b+9B8p5NGPYF2twJh6
FHsNI6UaV7mcGWHAj4cPq9NDIrdXrVEO0zLc1Af1sxK1xf1i8cBVO6ICiM5oV/lnPVoBy5yKSTiq
zoORLlDIuGjiY0aTMuYJTnyjgaDV7NFoabORhJ1YkBu5BrPNeOGcvbNlM9KZp5Dn0oWOCpH3pI2b
I7ZoNEn4FTVmgXNKdq+UvNMeIi8tHPeaflEE/XAYUHmyrNG8PsINHqaV2/R8ksjfsOUC6dRll7qs
JmayoLAgA5FYeYhSQYzu5S6OxmK0/1PPxRRtFRUcUOMssJCwXMDTpx8qy66Dd0ra85lYjNc7FAML
h9KfvH36ODA++sNXD74xj92fZ5PfPWD/WMTVFZeYf
```

**Step 24:** Check the caller identity.

**Command:** aws sts get-caller-identity

```
┌──(kali㉿kali)-[~/lab]
└─$ aws sts get-caller-identity
{
    "UserId": "AROAQN5WWOQ4UDCIOSWRD:i-0f87c98049400e003",
    "Account": "029911053369",
    "Arn": "arn:aws:sts::029911053369:assumed-role/instance_role/i-0f87c98049400e003"
}
```

**Step 25:** Create an S3 bucket. Append account id with the name to make it unique.
**Command:**
aws s3api create-bucket \
  --bucket lab-bucket-029911053369 \
  --region us-east-1

```
┌──(kali㉿kali)-[~/lab]
└─$ aws s3api create-bucket \
    --bucket lab-bucket-029911053369 \
    --region us-east-1
{
    "Location": "/lab-bucket-029911053369"
}
```

**Step 26:** Fetch your public ip address.

**Command:** echo $(curl -s https://api.ipify.org)

```
┌──(kali㉿kali)-[~/lab]
└─$ echo $(curl -s https://api.ipify.org)
137.97.83.9
```

**Step 27:** Write this IP address to a plain text file and save it as “ip_list.txt” .

**Command:** echo “137.97.83.9” > ip_list.txt

```
┌──(kali㉿kali)-[~/lab]
└─$ echo "137.97.83.9" > ip_list.txt
```

**Step 28:** Upload the file “ip_list.txt” to the created bucket.

**Command:** aws s3 cp ip_list.txt s3://lab-bucket-029911053369/

```
┌──(kali㉿kali)-[~/lab]
└─$ aws s3 cp ip_list.txt s3://lab-bucket-029911053369/
upload: ./ip_list.txt to s3://lab-bucket-029911053369/ip_list.txt
```

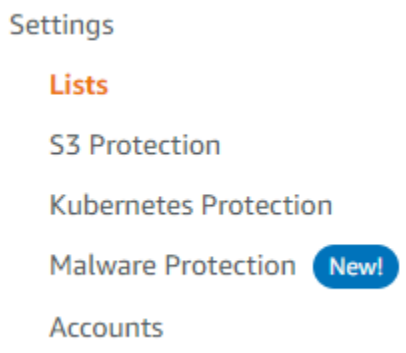
We got an S3 URI as an output. Convert the URI to an object URL using this syntax.

**Syntax:** https://<bucket-name>.s3.amazonaws.com/<object or key name>

So finally the object URL will be similar to the following one.

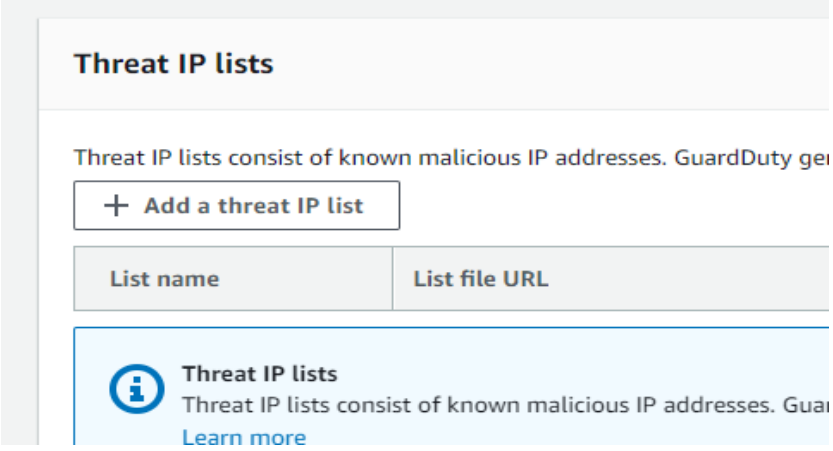
**Object URL:** https://lab-bucket-029911053369.s3.amazonaws.com/ip_list.txt

**Step 29:** Navigate back to GuardDuty dashboard and click on lists.

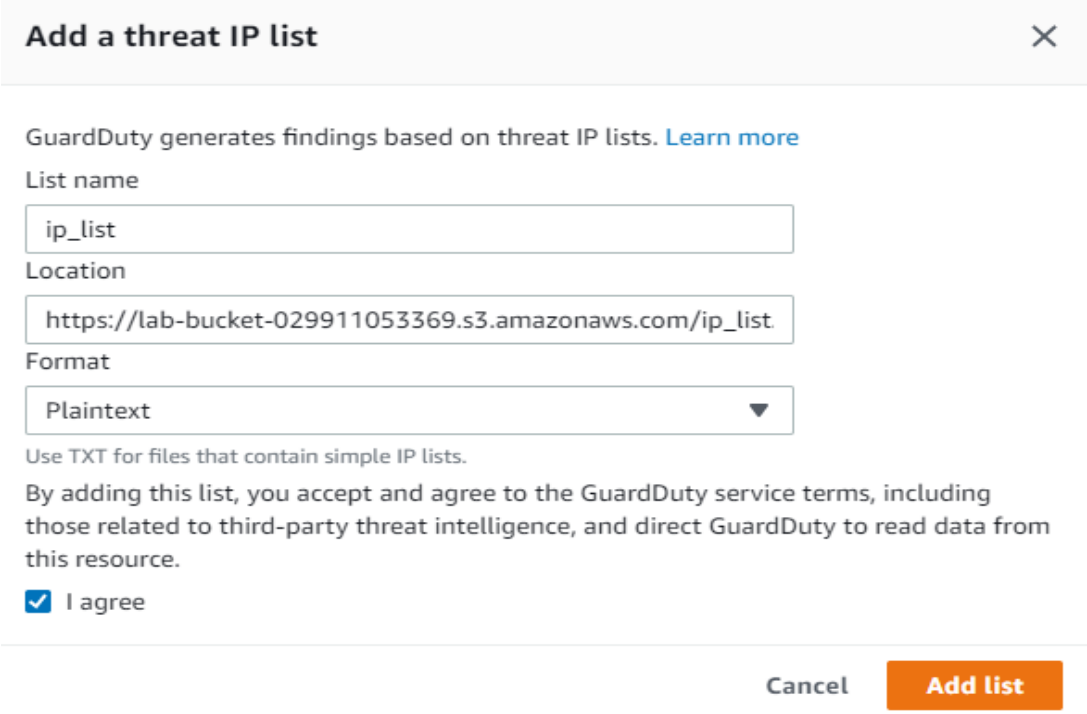



**Step 30:** Click on “Add a threat IP list”.

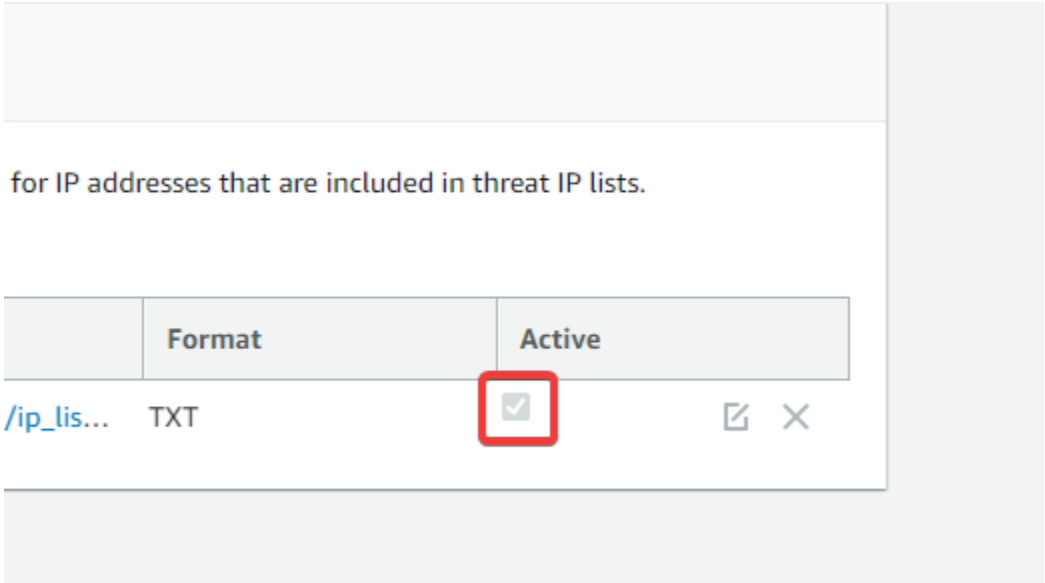
Threat lists consist of known malicious IP addresses. These lists can be supplied by third party threat intelligence or created specifically for your organization. GuardDuty generates findings based on threat lists. You can include a maximum of 250,000 IP addresses and CIDR ranges in a single threat list. GuardDuty only generates findings based on activity that involves IP addresses and CIDR ranges in your threat lists, findings will not be generated based on domain names. At any given time, you can have up to six uploaded threat lists per AWS account per Region.




Enter the “List name” as “ip_list”. Paste object URL in the “Location” field and choose “Plaintext” as format




**Step 31:** Make the created threat IP active.




**Step 32:** Interact with the resources so that it could make a finding. List S3 bucket.

**Command:** aws s3api list-objects --bucket lab-bucket-029911053369 --query 'Contents[].{Key: Key, Size: Size}'

```
┌──(kali㉿kali)-[~/lab]
└─$ aws s3api list-objects --bucket lab-bucket-029911053369 --query 'Contents[].{Key: Key, Size: Size}'
[
    {
        "Key": "ip_list.txt",
        "Size": 12
    }
]
```

**Step 33:** Download “ip_list.txt” file.

**Command:** aws s3api get-object --bucket lab-bucket-029911053369 --key ip_list.txt iplist.txt

```
┌──(kali㉿kali)-[~/lab]
└─$ aws s3api get-object --bucket lab-bucket-029911053369 --key ip_list.txt  iplist.txt
{
    "AcceptRanges": "bytes",
    "LastModified": "2022-08-29T18:01:20+00:00",
    "ContentLength": 12,
    "ETag": "\"61cdc372de5606a98e372d2b4cf3d865\"",
    "ContentType": "text/plain",
    "Metadata": {}
}
```

Navigate back to the GuardDuty dashboard and refresh the page.You will find findings similar to this.

**Note:** Listing all the findings might take some time.

| | Finding type | Resource |
|---|---|---|
| | UnauthorizedAccess:IAMUser/MaliciousIPCaller.Custom | student: ASIAQN5WWOQ4TTTVR4CD |
| | Recon:IAMUser/MaliciousIPCaller.Custom | student: ASIAQN5WWOQ4TTTVR4CD |
| | UnauthorizedAccess:IAMUser/InstanceCredentialExfiltration.OutsideAWS | S3 Bucket: lab-bucket-029911053369 |
| | PenTest:IAMUser/KaliLinux | instance_role: ASIAQN5WWOQ42ET7C27U |
| | UnauthorizedAccess:IAMUser/InstanceCredentialExfiltration.OutsideAWS | instance_role: ASIAQN5WWOQ42ET7C27U |
| | PenTest:IAMUser/KaliLinux | student: AKIAQN5WWOQ42ZAKYJV6 |

**Step 34:** Click on "UnauthorizedAccess:IAMUser/MaliciousIPCaller.Custom".

This finding informs you that an API operation was invoked from an IP address that is included on a threat list that you uploaded. In , a threat list consists of known malicious IP addresses. This can indicate unauthorized access to AWS resources within your environment.

**UnauthorizedAccess:IAMUser/MaliciousIPCaller.Custom**

Finding ID: 14c175690195ce7eaa130c1913639300

Feedback

Medium API GetFindingsStatistics was invoked from an IP address 137.97.83.9 on the custom threat list ip_list. Info

Investigate with Detective

| Overview | |
|---|---|
| Severity | MEDIUM |
| Region | us-east-1 |
| Count | 5 |
| Account ID | 029911053369 |
| Resource ID | No information available |
| Created at | 08-29-2022 23:46:48 (7 minutes ago) |
| Updated at | 08-29-2022 23:46:48 (7 minutes ago) |

| Resource affected | |
|---|---|
| Resource role | TARGET |
| Resource type | AccessKey |
| Access key ID | ASIAQN5WWOQ4TTTVR4CD |
| Principal ID | AIDAQN5WWOQ4Y2Y3YYTI7 |
| User type | IAMUser |
| User name | student |

Affected resources

| Action | |
|---|---|
| Action type | AWS_API_CALL |
| API | GetFindingsStatistics |
| Service name | guardduty.amazonaws.com |
| First seen | 08-29-2022 23:37:01 (17 minutes ago) |
| Last seen | 08-29-2022 23:37:39 (16 minutes ago) |

| Actor | |
|---|---|
| Caller type | Remote IP |
| IP address | 137.97.83.9 |

**Step 35:** Click on "Recon:IAMUser/MaliciousIPCaller.Custom".

This finding informs you that an API operation that can list or describe AWS resources in an account within your environment was invoked from an IP address that is included on a custom threat list. The threat list used will be listed in the finding's details. An attacker might use stolen credentials to perform this type of reconnaissance of your AWS resources in order to find more valuable credentials or determine the capabilities of the credentials they already have.

**Recon:IAMUser/MaliciousIPCaller.Custom**

Finding ID: 6ec1756901b23a8785c93023ae41dbfa

Feedback

Medium API ListPublishingDestinations, commonly used in reconnaissance attacks, was invoked from an IP address 137.97.83.9 on the custom threat list ip_list. Unauthorized actors perform such activity to gather information and discover resources like databases, S3 buckets etc., in order to further tailor the attack. Info

Investigate with Detective

| Overview | |
|---|---|
| Severity | MEDIUM |
| Region | us-east-1 |
| Count | 5 |
| Account ID | 029911053369 |
| Resource ID | No information available |
| Created at | 08-29-2022 23:46:48 (7 minutes ago) |
| Updated at | 08-29-2022 23:46:48 (7 minutes ago) |

| Resource affected | |
|---|---|
| Resource role | TARGET |
| Resource type | AccessKey |
| Access key ID | ASIAQN5WWOQ4TTTVR4CD |
| Principal ID | AIDAQN5WWOQ4Y2Y3YYTI7 |
| User type | IAMUser |
| User name | student |

Affected resources

| Action | |
|---|---|
| Action type | AWS_API_CALL |
| API | ListPublishingDestinations |
| Service name | guardduty.amazonaws.com |
| First seen | 08-29-2022 23:31:56 (22 minutes ago) |
| Last seen | 08-29-2022 23:32:04 (22 minutes ago) |

| Actor | |
|---|---|
| Caller type | Remote IP |
| IP address | 137.97.83.9 |

Location

**Step 36:** Click on "UnauthorizedAccess:IAMUser/InstanceCredentialExfiltration.OutsideAWS" of resource "S3 Bucket".

This finding informs you that a host outside of AWS has attempted to run AWS API operations using temporary AWS credentials that were created on an EC2 instance in your AWS environment. The listed EC2 instance might be compromised, and the temporary credentials from this instance might have been exfiltrated to a remote host outside of AWS. AWS does not recommend redistributing temporary credentials outside of the entity that created them (for example, AWS applications, EC2, or Lambda). However, authorized users can export credentials from their EC2 instances to make legitimate API calls. To rule out a potential attack and verify the legitimacy of the activity, validate if the use of instance credentials from the remote IP in the finding is expected.

**UnauthorizedAccess:IAMUser/InstanceCredentialExfiltration.OutsideAWS**

Finding ID: 72c175669bbb4894b3f01ff91d3f6c5c

Feedback

High Credentials created exclusively for an EC2 instance using instance role instance_role have been used from external IP address 137.97.83.9.
Learn More

Investigate with Detective

| Overview | |
|---|---|
| Severity | HIGH |
| Region | us-east-1 |
| Count | 1 |
| Account ID | 029911053369 |
| Resource ID | lab-bucket-029911053369 |
| Created at | 08-29-2022 23:41:33 (13 minutes ago) |
| Updated at | 08-29-2022 23:41:33 (13 minutes ago) |

| Resource affected | |
|---|---|
| Resource role | TARGET |
| Resource type | S3Bucket |
| Access key ID | ASIAQN5WWOQ42ET7C27U |
| Principal ID | AROAQN5WWOQ4UDCIOSWRD:i-0f87c98049400e003 |
| User type | AssumedRole |
| User name | instance_role |
| Instance details | |
| Instance ID | i-0f87c98049400e003 |

| Affected resources | |
|---|---|
| S3 buckets | |
| Destination: lab-bucket-029911053369 | |
| Name | lab-bucket-029911053369 |
| Type | Destination |
| ARN | arn:aws:s3:::lab-bucket-029911053369 |
| Effective permission | NOT_PUBLIC |
| Created at | 08-29-2022 17:59:03 UTC |
| Owner | |
| ID | b7776fcc401da4227c5559f478e673fa7509e4b12c1f2ae4b5ee8181c391c747 |

| **Action** | |
|---|---|
| Action type | AWS_API_CALL |
| API | PutObject |
| Service name | s3.amazonaws.com |
| First seen | 08-29-2022 23:31:19 (23 minutes ago) |
| Last seen | 08-29-2022 23:31:19 (23 minutes ago) |

| **Actor** | |
|---|---|
| Caller type | Remote IP |
| IP address | 137.97.83.9 |

**Step 37:** Click on "PenTest:IAMUser/KaliLinux" of resource "instance_role".

This finding informs you that a machine running Kali Linux is making API calls using credentials that belong to the listed AWS account in your environment. Here the affected resource is an instance role and the access credentials are set on the Kali Linux machine and invoked an API to create a new bucket.

**PenTest:IAMUser/KaliLinux**

Finding ID: 3ec17563731649274fd3678fa42fd4ad

Feedback

Medium API CreateBucket was invoked from a remote host with IP address 137.97.83.9 that is potentially running the Kali Linux penetration testing tool. Info

Investigate with Detective

| Overview | |
|---|---|
| Severity | MEDIUM |
| Region | us-east-1 |
| Count | 1 |
| Account ID | 029911053369 |
| Resource ID | i-0f87c98049400e003 |
| Created at | 08-29-2022 23:34:39 (22 minutes ago) |
| Updated at | 08-29-2022 23:34:39 (22 minutes ago) |

| Resource affected | |
|---|---|
| Resource role | TARGET |
| Resource type | AccessKey |
| Access key ID | ASIAQN5WWOQ42ET7C27U |
| Principal ID | AROAQN5WWOQ4UDCIOSWRD:i-0f87c98049400e003 |
| User type | AssumedRole |
| User name | instance_role |
| Instance details | |
| Instance ID | i-0f87c98049400e003 |

| Action | |
|---|---|
| Action type | AWS_API_CALL |
| API | CreateBucket |
| Service name | s3.amazonaws.com |
| First seen | 08-29-2022 23:29:02 (28 minutes ago) |
| Last seen | 08-29-2022 23:29:02 (28 minutes ago) |

| Actor | |
|---|---|
| Caller type | Remote IP |
| IP address | 137.97.83.9 |

**Step 38:** Click on "UnauthorizedAccess:IAMUser/InstanceCredentialExfiltration.OutsideAWS" of resource "instance_role".

.

This finding informs you that a host outside of AWS has attempted to run AWS API operations using temporary AWS credentials that were created on an EC2 instance in your AWS environment. The instance role credentials are set outside of the AWS environment and invoked an API to create a new bucket.

**UnauthorizedAccess:IAMUser/InstanceCredentialExfiltration.OutsideAWS**

Finding ID: 84c17566ae4fac54be6161cd7333ee84

Feedback

High Credentials created exclusively for an EC2 instance using instance role instance_role have been used from external IP address 137.97.83.9.
Learn More

Investigate with Detective

| Overview | |
|---|---|
| Severity | HIGH |
| Region | us-east-1 |
| Count | 1 |
| Account ID | 029911053369 |
| Resource ID | i-0f87c98049400e003 |
| Created at | 08-29-2022 23:41:43 (17 minutes ago) |
| Updated at | 08-29-2022 23:41:43 (17 minutes ago) |

| Resource affected | |
|---|---|
| Resource role | TARGET |
| Resource type | AccessKey |
| Access key ID | ASIAQN5WWOQ42ET7C27U |
| Principal ID | AROAQN5WWOQ4UDCIOSWRD:i-0f87c98049400e003 |
| User type | AssumedRole |
| User name | instance_role |
| Instance details | |
| Instance ID | i-0f87c98049400e003 |
| Affected resources | |

| Action | |
|---|---|
| Action type | AWS_API_CALL |
| API | CreateBucket |
| Service name | s3.amazonaws.com |
| First seen | 08-29-2022 23:29:02 (30 minutes ago) |
| Last seen | 08-29-2022 23:29:02 (30 minutes ago) |

| Actor | |
|---|---|
| Caller type | Remote IP |
| IP address | 137.97.83.9 |

**Step 39:** Click on "PenTest:IAMUser/KaliLinux" of resource "student".

This finding informs you that a machine running Kali Linux is making API calls using credentials that belong to the listed AWS account in your environment. Here the affected resource is an instance role and the access credentials are set on the Kali Linux machine and invoked an API to Update the user data.

**PenTest:IAMUser/KaliLinux**

Finding ID: a8c1755db9639f354b20b2a15c0a5d32

Feedback

Medium API UpdateUser was invoked from a remote host with IP address 137.97.83.9 that is potentially running the Kali Linux penetration testing tool. Info

Investigate with Detective

| Overview | |
|---|---|
| Severity | MEDIUM |
| Region | us-east-1 |
| Count | 6 |
| Account ID | 029911053369 |
| Resource ID | No information available |
| Created at | 08-29-2022 23:22:09 (37 minutes ago) |
| Updated at | 08-29-2022 23:24:19 (35 minutes ago) |

| Resource affected | |
|---|---|
| Resource role | TARGET |
| Resource type | AccessKey |
| Access key ID | AKIAQN5WWOQ42ZAKYJV6 |
| Principal ID | AIDAQN5WWOQ4Y2Y3YYTI7 |
| User type | IAMUser |
| User name | student |

Affected resources

| Action | |
|---|---|
| Action type | AWS_API_CALL |
| API | UpdateUser |
| Service name | iam.amazonaws.com |
| First seen | 08-29-2022 23:14:57 (44 minutes ago) |
| Last seen | 08-29-2022 23:17:59 (41 minutes ago) |

| Actor | |
|---|---|
| Caller type | Remote IP |
| IP address | 137.97.83.9 |

Thus GuardDuty generates a finding whenever it detects unexpected and potentially malicious activity in IAM operations.

**References:**


1. Amazon GuardDuty (https://docs.aws.amazon.com/guardduty/latest/ug/guardduty_settingup.html)