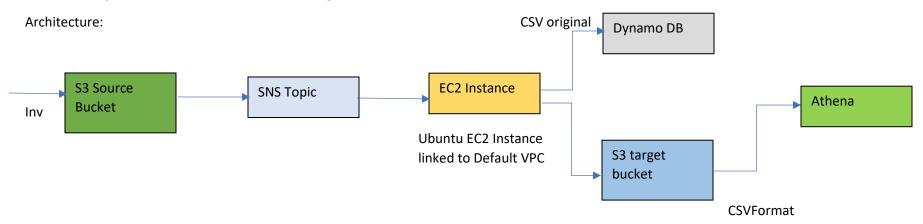
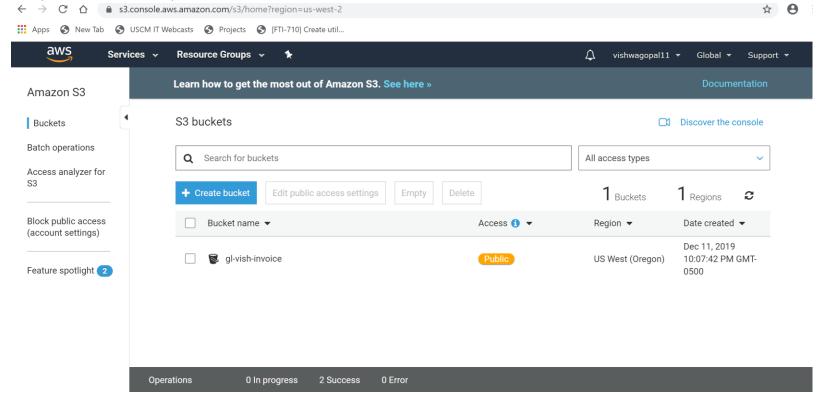
Project 2:

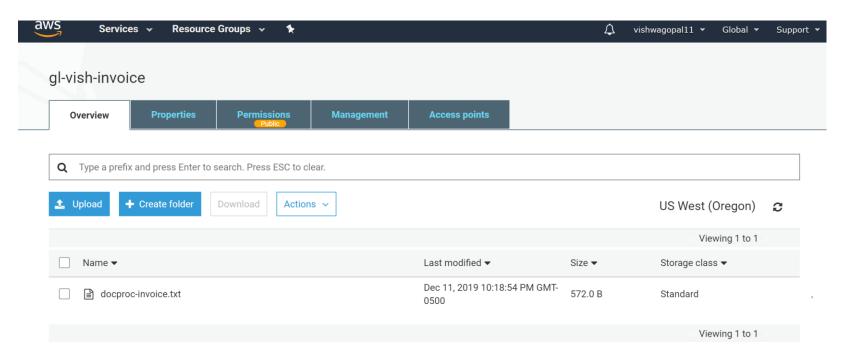
Project: Managed services in AWS - Vishwanaath Gopalakrishnan (12 Dec 2019)

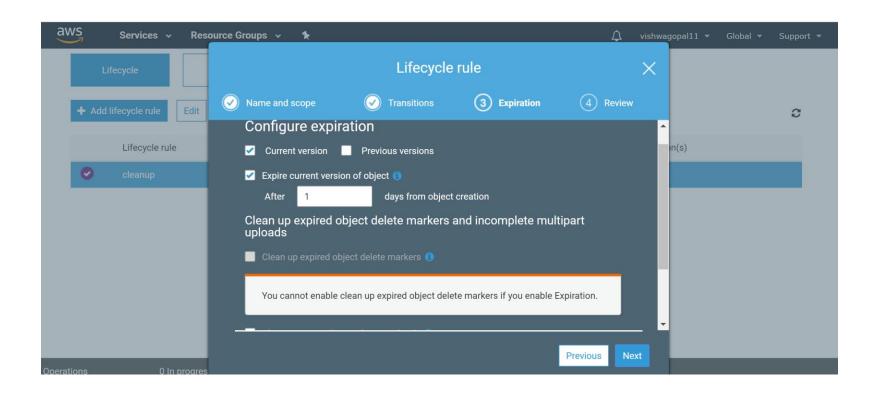


• Created an S3 bucket gl-vish-invoice and uploaded the Invoice data file (docproc-invoice.txt) into it the bucket and let up the lifecycle management rules to expire the file after 1 day from creation

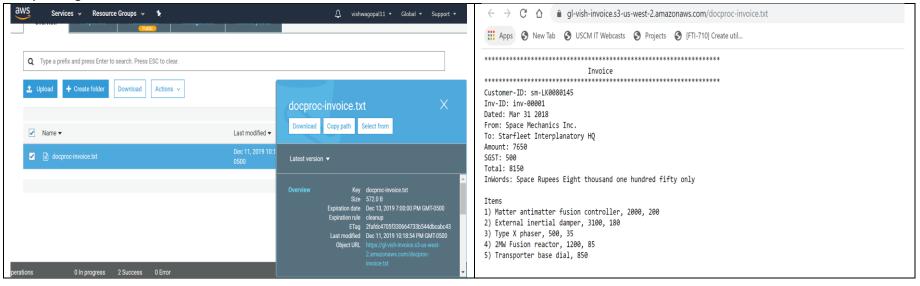


• Made the file Public for access and then set up a lifecycle management rule on the file to expire after 1 day from the date of creation in the bucket



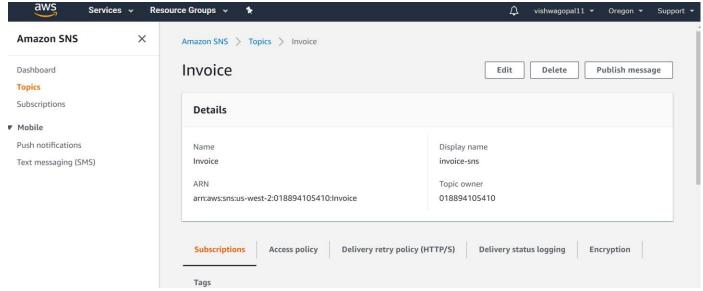


Verify through the ARN Link whether we are able to access the file online

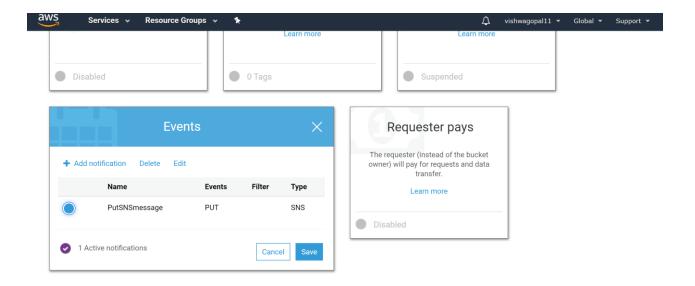


• Setup a PUT event in the S3 bucket and send to an SNS topic created that is invoice-sns (needs to be created)

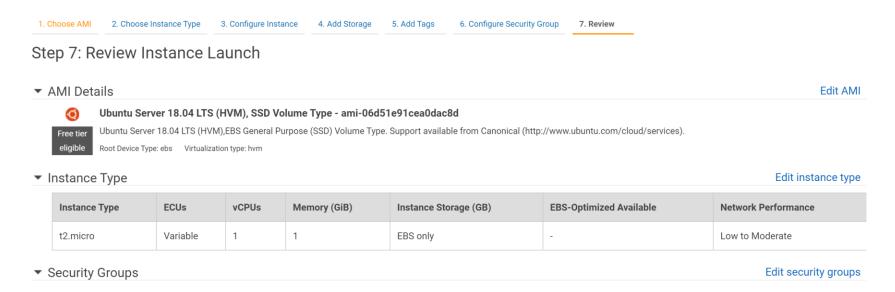
SNS Topic created: Subscription needs to be setup once the EC2 instance is created



S3 bucket event to the SNS topic link has been made



Launch an EC2 instance with the specifications as Ubuntu 18.04 LTS Default VPC AZ1 using the 7 step workflow



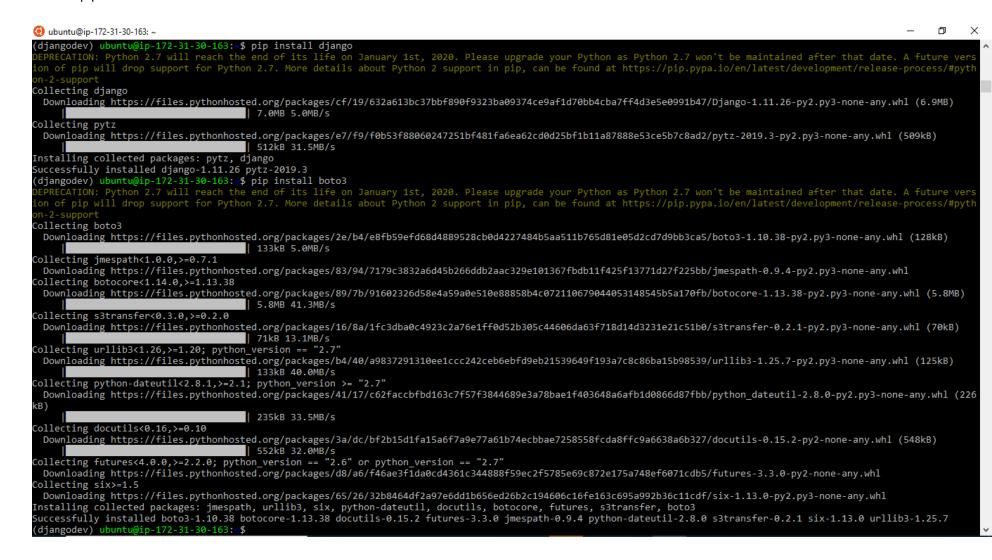
SSH Into the EC2 instance using Ubuntu CLI

```
root@DESKTOP-49DC5BB:/mnt/c/users/vishw/downloads# ssh -i gl-vish3.pem ubuntu@54.191.179.20
The authenticity of host '54.191.179.20 (54.191.179.20)' can't be established.
ECDSA key fingerprint is SHA256:EZO68QolDCe+3tPrj6HxRm2y0v3FoYo/Oma1HGhgOe8.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '54.191.179.20' (ECDSA) to the list of known hosts.
Welcome to Ubuntu 18.04.3 LTS (GNU/Linux 4.15.0-1051-aws x86 64)
 * Documentation: https://help.ubuntu.com
* Management:
                  https://landscape.canonical.com
                  https://ubuntu.com/advantage
 * Support:
 System information as of Fri Dec 13 01:20:25 UTC 2019
 System load: 0.0
                                 Processes:
                                                      86
 Usage of /: 17.3% of 7.69GB Users logged in:
                                IP address for eth0: 172.31.30.163
 Memory usage: 16%
 Swap usage: 0%
* Overheard at KubeCon: "microk8s.status just blew my mind".
    https://microk8s.io/docs/commands#microk8s.status
68 packages can be updated.
41 updates are security updates.
The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.
Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo root" for details.
ubuntu@ip-172-31-30-163:~$
```

• Run the commands provided after successful SSH into the EC2 instance

sudo apt update

sudo apt install python-pip -y
python -m pip install --upgrade pip setuptools
sudo apt install virtualenv -y
virtualenv ~/.virtualenvs/djangodev
source ~/.virtualenvs/djangodev/bin/activate
pip install django
pip install boto3



sudo chown ubuntu:ubuntu -R /opt cd /opt/

Goto root downloads folder and execute the below command

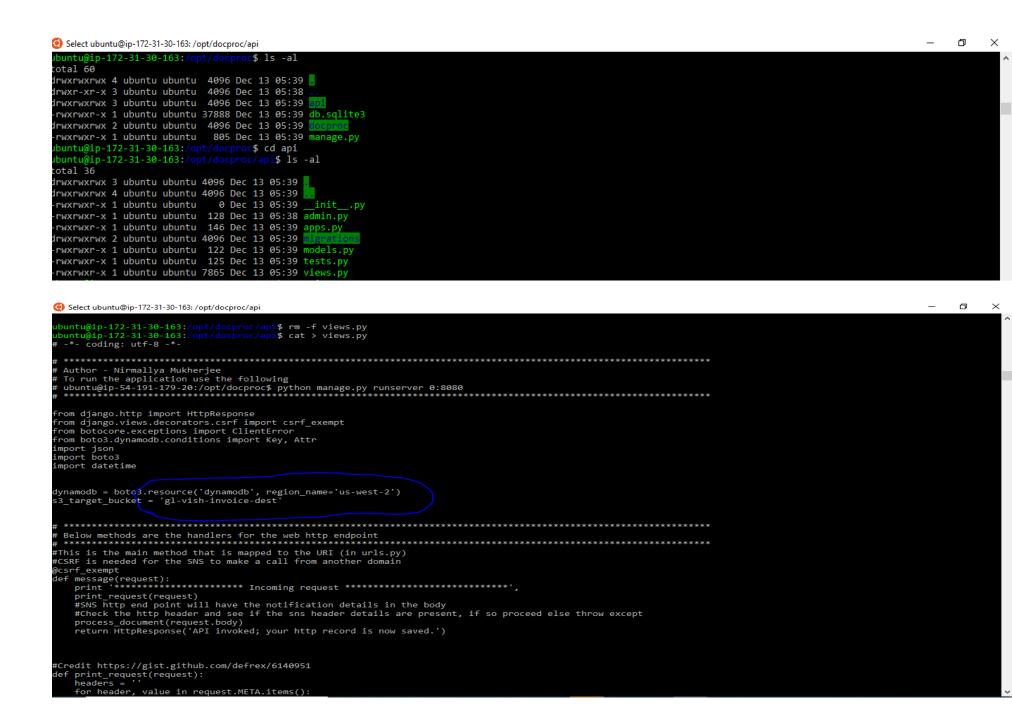
COPY the source file directory from local laptop to cloud ubuntu using the below command scp -i <pem> -r ./docproc ubuntu@<ip>:/opt/

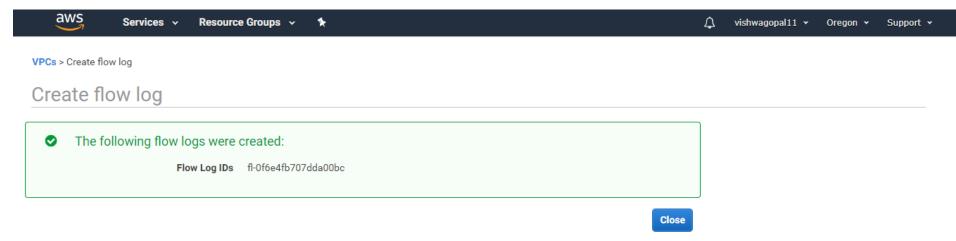
Select ubuntu@ip-172-31-30-163: /opt/docproc/api

```
ls: cannot access '-': No such file or directory
ls: cannot access 'al': No such file or directory
gl-vish3.pem gl.pem 'glpem1 (1).pem' 'glpem1 (2).pem'
                                                               greatlearning.pem
                                                                                    owncloud.pem
root@DESKTOP-49DC5BB:/mnt/c/users/vishw/downloads# ls -l *.pem
-r-xr-xr-x 1 ubuntu ubuntu 1696 Dec 12 02:48 gl-vish3.pem
-r-xr-xr-x 1 ubuntu ubuntu 1692 Nov 17 15:09 gl.pem
rwxrwxrwx 1 ubuntu ubuntu 1692 Nov 16 07:17 'glpem1 (1).pem'
rwxrwxrwx 1 ubuntu ubuntu 1692 Nov 16 07:23 'glpem1 (2).pem'
-r-xr-xr-x 1 ubuntu ubuntu 1692 Nov 16 11:53 greatlearning.pem
-r-xr-xr-x 1 ubuntu ubuntu 1696 Nov 17 21:13 owncloud.pem
oot@DESKTOP-49DC5BB:/mnt/c/users/vishw/downloads# ssh -i gl-vish3.pem ubuntu@54.191.179.20
Welcome to Ubuntu 18.04.3 LTS (GNU/Linux 4.15.0-1051-aws x86 64)
 * Documentation: https://help.ubuntu.com
                   https://landscape.canonical.com
 * Management:
                   https://ubuntu.com/advantage
 * Support:
 System information as of Fri Dec 13 05:28:39 UTC 2019
 System load: 0.0
                                   Processes:
                                                         87
 Usage of /:
                22.3% of 7.69GB
                                  Users logged in:
 Memory usage: 18%
                                   IP address for eth0: 172.31.30.163
 Swap usage:
 * Overheard at KubeCon: "microk8s.status just blew my mind".
    https://microk8s.io/docs/commands#microk8s.status
68 packages can be updated.
41 updates are security updates.
Last login: Fri Dec 13 01:20:26 2019 from 73.61.110.39
ubuntu@ip-172-31-30-163:~$ sudo chown ubuntu:ubuntu -R /opt
ubuntu@ip-172-31-30-163:~$ cd /opt/
```

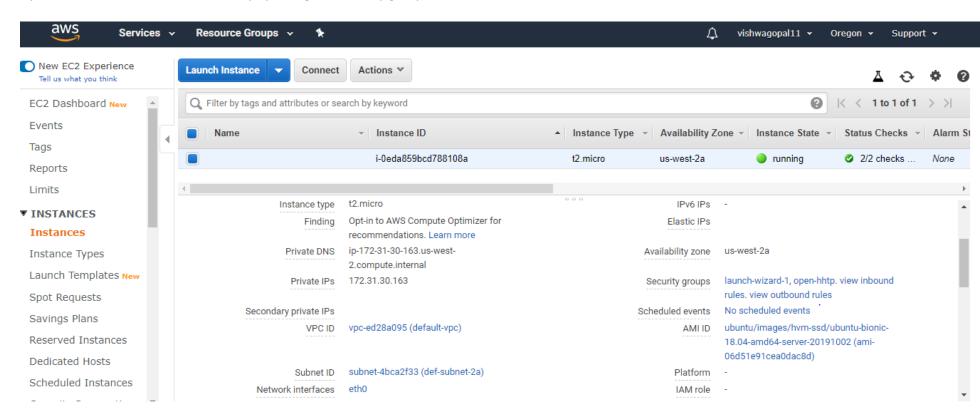
```
root@DESKTOP-49DC5BB:/mnt/c/users/vishw/downloads# sudo chown ubuntu:ubuntu -R /opt
 oot@DESKTOP-49DC5BB:/mnt/c/users/vishw/downloads# cd /opt/
root@DESKTOP-49DC5BB:/opt# scp -i gl-vish3.pem -r ./docproc ubuntu@54.191.179.20:/opt/
Warning: Identity file gl-vish3.pem not accessible: No such file or directory.
ubuntu@54.191.179.20: Permission denied (publickey).
lost connection
root@DESKTOP-49DC5BB:/opt# cd ..
root@DESKTOP-49DC5BB:/# scp -i gl-vish3.pem -r ./docproc ubuntu@54.191.179.20:/opt/
Warning: Identity file gl-vish3.pem not accessible: No such file or directory.
ubuntu@54.191.179.20: Permission denied (publickey).
lost connection
root@DESKTOP-49DC5BB:/# pwd
root@DESKTOP-49DC5BB:/# cd /mnt/c/users/vishw/downloads
root@DESKTOP-49DC5BB:/mnt/c/users/vishw/downloads# scp -i gl-vish3.pem -r ./docproc ubuntu@54.191.179.20:/opt/
admin.py
                                                                                                                                    100% 128
                                                                                                                                                 1.2KB/s
                                                                                                                                                           00:00
apps.py
                                                                                                                                    100% 146
                                                                                                                                                 1.4KB/s
 _init__.py
                                                                                                                                    100% 0
                                                                                                                                                 0.0KB/s
                                                                                                                                                           00:00
models.py
                                                                                                                                    100% 122
                                                                                                                                                 1.1KB/s
                                                                                                                                                           00:00
tests.py
                                                                                                                                    100% 125
                                                                                                                                                 1.2KB/s
                                                                                                                                                           00:00
views.py
                                                                                                                                    100% 7865
                                                                                                                                                 68.9KB/s
                                                                                                                                                           00:00
 _init__.py
                                                                                                                                    100%
                                                                                                                                           0
                                                                                                                                                 0.0KB/s
                                                                                                                                                           00:00
db.sqlite3
                                                                                                                                    100%
                                                                                                                                          37KB 169.8KB/s
                                                                                                                                                           00:00
                                                                                                                                    100% 3129
                                                                                                                                                 29.1KB/s
                                                                                                                                                           00:00
settings.py
urls.py
                                                                                                                                    100% 798
                                                                                                                                                 7.5KB/s
                                                                                                                                                           00:00
                                                                                                                                    100% 392
                                                                                                                                                 3.7KB/s
                                                                                                                                                           00:00
wsgi.py
 init__.py
                                                                                                                                                 0.0KB/s
                                                                                                                                                           00:00
                                                                                                                                    100% 0
manage.py
                                                                                                                                    100% 805
                                                                                                                                                 7.5KB/s
                                                                                                                                                           00:00
root@DESKTOP-49DC5BB:/mnt/c/users/vishw/downloads# ssh -i gl-vish3.pem ubuntu@54.191.179.20
Welcome to Ubuntu 18.04.3 LTS (GNU/Linux 4.15.0-1051-aws x86 64)
 * Documentation: https://help.ubuntu.com
                  https://landscape.canonical.com
  Management:
  Support:
                  https://ubuntu.com/advantage
 System information as of Fri Dec 13 05:46:35 UTC 2019
 System load: 0.0
                                                      86
                                 Processes:
 Usage of /: 22.3% of 7.69GB Users logged in:
 Memory usage: 18%
                                 IP address for eth0: 172.31.30.163
 Swap usage: 0%
  Overheard at KubeCon: "microk8s.status just blew my mind".
```

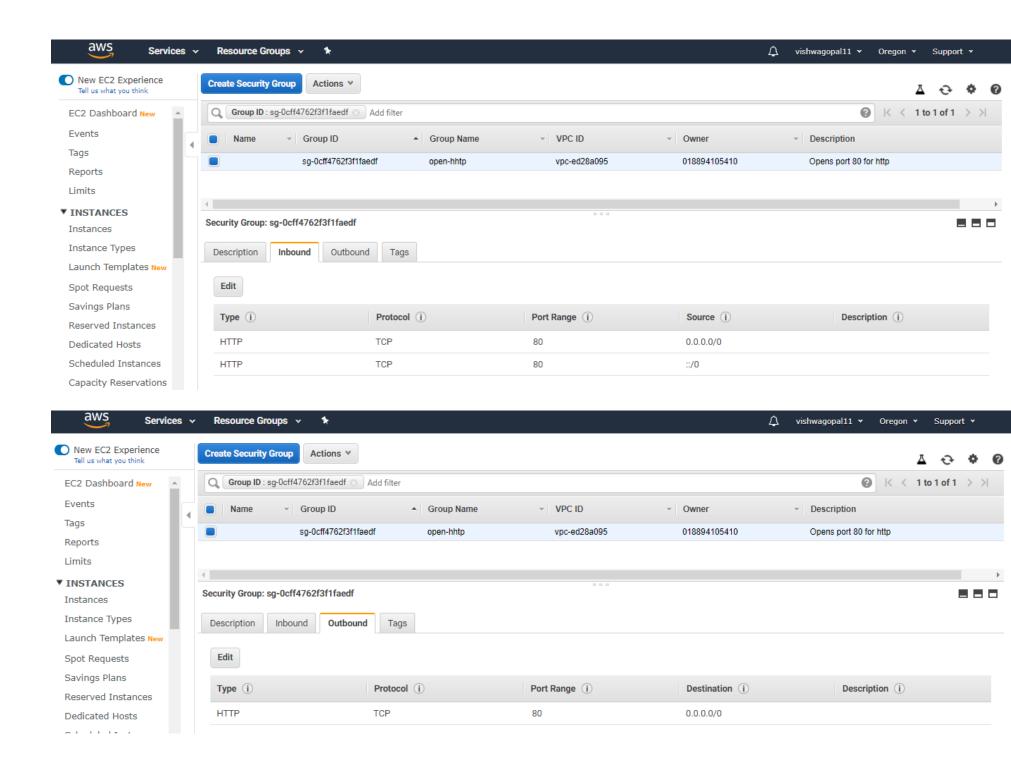
Modify the manage.py file as needed for the dynamo DB and region details and the target S3 bucket



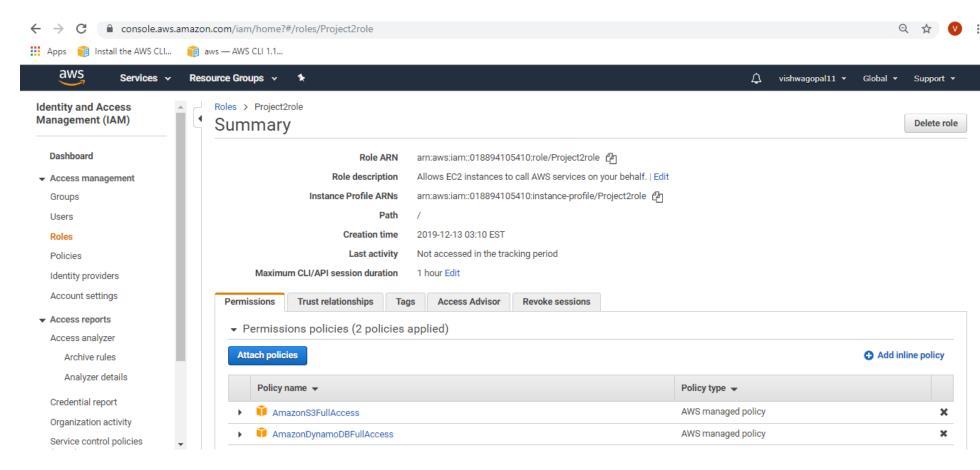


Open HTTP Port on the EC2 instance by updating the Security group



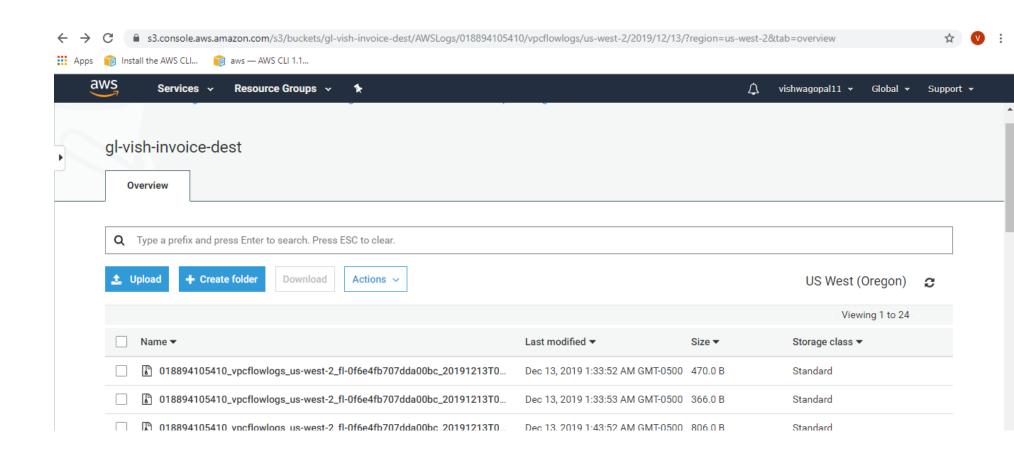


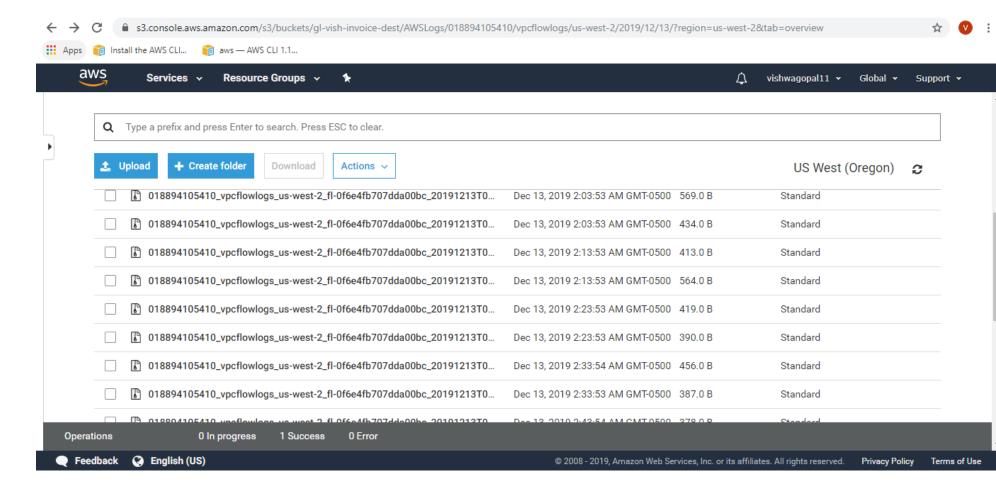
Setup IAM roles for S3 and Dynamo DB in IAM screen and have them attached to the EC2 instance



```
ubuntu@ip-172-31-30-163: /opt/docproc
   RECATION: Python 2.7 will reach the end of its life on January 1st, 2020. Please upgrade your Python as Python 2.7 won't be maintained after that date. A future vers of pip will drop support for Python 2.7. More details about Python 2 support in pip, can be found at https://pip.pypa.io/en/latest/development/release-process/#pyth
Requirement already satisfied: django in /home/ubuntu/.virtualenvs/djangodev/lib/python2.7/site-packages (1.11.26)
Requirement already satisfied: pytz in /home/ubuntu/.virtualenvs/djangodev/lib/python2.7/site-packages (from django) (2019.3)
(djangodev) ubuntu@ip-172-31-30-163:/opt/docproc$ pip install boto3
  PRECATION: Python 2.7 will reach the end of its life on January 1st, 2020. Please upgrade your Python as Python 2.7 won't be maintained after that date. A future vers in of pip will drop support for Python 2.7. More details about Python 2 support in pip, can be found at https://pip.pypa.io/en/latest/development/release-process/#pyth
Requirement already satisfied: boto3 in /home/ubuntu/.virtualenvs/djangodev/lib/python2.7/site-packages (1.10.38)
Requirement already satisfied: jmespath<1.0.0,>=0.7.1 in /home/ubuntu/.virtualenvs/djangodev/lib/python2.7/site-packages (from boto3) (0.9.4)
 equirement already satisfied: botocore<1.14.0,>=1.13.38 in /home/ubuntu/.virtualenvs/djangodev/lib/python2.7/site-packages (from boto3) (1.13.38)
Requirement already satisfied: s3transfer<0.3.0,>=0.2.0 in /home/ubuntu/.virtualenvs/djangodev/lib/python2.7/site-packages (from boto3) (0.2.1)
Requirement already satisfied: urllib3<1.26,>=1.20; python_version == "2.7" in /home/ubuntu/.virtualenvs/djangodev/lib/python2.7/site-packages (from botocore<1.14.0,>=1
.13.38->boto3) (1.25.7)
Requirement already satisfied: python-dateutil<2.8.1,>=2.1; python_version >= "2.7" in /home/ubuntu/.virtualenvs/djangodev/lib/python2.7/site-packages (from botocore<1.
14.0,>=1.13.38->boto3) (2.8.0)
Requirement already satisfied: docutils<0.16,>=0.10 in /home/ubuntu/.virtualenvs/djangodev/lib/python2.7/site-packages (from botocore<1.14.0,>=1.13.38->boto3) (0.15.2)
Requirement already satisfied: futures<4.0.0,>=2.2.0; python_version == "2.6" or python_version == "2.7" in /home/ubuntu/.virtualenvs/djangodev/lib/python2.7/site-packa
ges (from s3transfer<0.3.0,>=0.2.0->boto3) (3.3.0)
Requirement already satisfied: six>=1.5 in /home/ubuntu/.virtualenvs/djangodev/lib/python2.7/site-packages (from python-dateutil<2.8.1,>=2.1; python version >= "2.7"->b
otocore<1.14.0,>=1.13.38->boto3) (1.13.0)
(djangodev) ubuntu@ip-172-31-30-163:/opt/d
                                                ocproc$ sudo chown ubuntu:ubuntu -R /opt
(djangodev) ubuntu@ip-172-31-30-163:/opt/docproc$ cd /opt/
(djangodev) ubuntu@ip-172-31-30-163:/opt$ cd docproc/
(djangodev) ubuntu@ip-172-31-30-163:/opt/docproc$ (djangodev) ubuntu@ip-172-31-30-163:/opt/docproc$ ls -al
total 60
drwxrwxrwx 4 ubuntu ubuntu 4096 Dec 13 05:39
drwxr-xr-x 3 ubuntu ubuntu 4096 Dec 13 05:38
drwxrwxrwx 3 ubuntu ubuntu 4096 Dec 13 05:57 📷
-rwxrwxr-x 1 ubuntu ubuntu 37888 Dec 13 05:39 db.sqlite3
drwxrwxrwx 2 ubuntu ubuntu 4096 Dec 13 05:39
-rwxrwxr-x 1 ubuntu ubuntu 805 Dec 13 05:39 manage.py
(djangodev) ubuntu@ip-172-31-30-163:/opt/docproc$ python manage.py runserver 0:8080
Performing system checks...
System check identified no issues (0 silenced).
December 13, 2019 - 07:40:40
Django version 1.11.26, using settings 'docproc.settings'
Starting development server at http://0:8080/
Quit the server with CONTROL-C.
```

Got the output in the Destination gueue:





All the files are being sent to the target S3 bucket as requested.