

# Cloud Computing Laboratory

Week No: 1

SRN: PES1201801580

## Task b Outputs:

**Step 7: Review Instance Launch**  
Please review your instance launch details. You can go back to edit changes for each section. Click **Launch** to assign a key pair to your instance and complete the launch process.

**Warning:** Improve your instances' security. Your security group, **launch-wizard-2**, is open to the world. You instances may be accessible from any IP address. We recommend that you update your security group rules to allow access from known IP addresses only. You can also open additional ports in your security group to facilitate access to the application or service you're running, e.g., HTTP (80) for web servers. [Edit security groups](#)

**Free Tier usage information**  
You've used all of your free Linux instance hours for this month (as at 2021-01-23 01:07:41 UTC). For information about the Free Tier limits, see [AWS Free Tier](#). To generate a report of all your EC2-related resources in all Regions, use the [AWS Support ListEC2Resources automation document](#). [Don't show me this again](#)

**AMI Details** [Edit AMI](#)  
**Ubuntu Server 20.04 LTS (HVM), SSD Volume Type - ami-0885b1f6bd170450c**  
Ubuntu Server 20.04 LTS (HVM), EBS General Purpose (SSD) Volume Type. Support available from Canonical (<http://www.ubuntu.com/cloud/services>).  
Root Device Type: ebs Virtualization type: hvm

**Instance Type** [Edit instance type](#)

| Instance Type | ECUs | vCPUs | Memory (GiB) | Instance Storage (GB) | EBS-Optimized Available | Network Performance |
|---------------|------|-------|--------------|-----------------------|-------------------------|---------------------|
| t2.micro      | -    | 1     | 1            | EBS only              | -                       | Low to Moderate     |

[Cancel](#) [Previous](#) [Launch](#)

**Step 7: Review Instance Launch**

| Instance Type | ECUs | vCPUs | Memory (GiB) | Instance Storage (GB) | EBS-Optimized Available | Network Performance |
|---------------|------|-------|--------------|-----------------------|-------------------------|---------------------|
| t2.micro      | -    | 1     | 1            | EBS only              | -                       | Low to Moderate     |

**Security Groups** [Edit security groups](#)

**Security group name** launch-wizard-2  
**Description** launch-wizard-2 created 2021-01-24T14:03:40.178+05:30

| Type | Protocol | Port Range | Source    | Description |
|------|----------|------------|-----------|-------------|
| SSH  | TCP      | 22         | 0.0.0.0/0 |             |
| SSH  | TCP      | 22         | :::0      |             |

**Instance Details** [Edit instance details](#)  
**Storage** [Edit storage](#)  
**Tags** [Edit tags](#)

[Cancel](#) [Previous](#) [Launch](#)

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Instances (1/1) Info

Filter instances

| Name          | Instance ID         | Instance state | Instance type | Status check | Alarm status | Availability Zone | Public IPv4 DNS         | Public IPv4 ... |
|---------------|---------------------|----------------|---------------|--------------|--------------|-------------------|-------------------------|-----------------|
| PES1201801580 | i-002e4699e7558745c | Running        | t2.micro      | -            | No alarms    | us-east-1d        | ec2-54-174-101-213.c... | 54.174.101.21   |

Instance: i-002e4699e7558745c (PES1201801580)

Details Security Networking Storage Status Checks Monitoring Tags

Instance summary info

|  |  |   |
|--|--|---|
| Instance ID<br>i-002e4699e7558745c (PES1201801580) | Public IPv4 address<br>54.174.101.213   open address                         | Private IPv4 addresses<br>172.31.21.191           |
| Instance state<br>Running                          | Public IPv4 DNS<br>ec2-54-174-101-213.compute-1.amazonaws.com   open address | Private IPv4 DNS<br>ip-172-31-21-191.ec2.internal |
| Instance type<br>t2.micro                          | Elastic IP addresses   | VPC ID  |

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```
ubuntu@ip-172-31-21-191: ~
ubuntu@ip-172-31-21-191:~$ cat hello-world.c
#include<stdio.h>
int main()
{
    printf("C program on an AWS EC2 instance! (SRN: PES1201801580)\n");
}
ubuntu@ip-172-31-21-191:~$ gcc hello-world.c
ubuntu@ip-172-31-21-191:~$ ./a.out
C program on an AWS EC2 instance! (SRN: PES1201801580)
ubuntu@ip-172-31-21-191:~$
```

## Task c Outputs:

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AMIs

Elastic Block Store

Volumes

Snapshots

Lifecycle Manager

Network & Security

Security Groups

Elastic IPs

Placement Groups

Key Pairs

Network Interfaces

Load Balancing

Load Balancers

Target Groups

Auto Scaling

Launch Configurations

Auto Scaling Groups

Create Volume Actions

Filter by tags and attributes or search by keyword

| Name              | Volume ID             | Size   | Volume Type | IOPS | Throughput | Snapshot       | Created                | Availability Zone | State     | Alarm |
|-------------------|-----------------------|--------|-------------|------|------------|----------------|------------------------|-------------------|-----------|-------|
| PES1201801580_etc | vol-0f1a2e251eab7b3c4 | 10 GiB | gp2         | 100  | -          | nap-0846ce4... | January 24, 2021 at... | us-east-1d        | available | Non   |
|                   | vol-056fa0d0d...      | 8 GiB  | gp2         | 100  | -          | nap-0846ce4... | January 24, 2021 at... | us-east-1d        | in-use    | Non   |

Volumes: vol-0f1a2e251eab7b3c4 (PES1201801580\_etc)

Description Status Checks Monitoring Tags

|                   |                       |                        |   |
|-------------------|-----------------------|------------------------|---|
| Volume ID         | vol-0f1a2e251eab7b3c4 | Outposts ARN           | -                                       |
| Alarm status      | None                  | Size                   | 10 GiB                                  |
| Snapshot          | -                     | Created                | January 24, 2021 at 2:24:50 PM UTC+5:30 |
| Availability Zone | us-east-1d            | State                  | available                               |
| Encryption        | Not Encrypted         | Attachment information | -                                       |

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**AWS Management Console - Instances**

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Instances (1/1) Info

Filter instances

| Name          | Instance ID         | Instance state | Instance type | Status check   | Alarm status | Availability Zone | Public IPv4 D |
|---------------|---------------------|----------------|---------------|----------------|--------------|-------------------|---------------|
| PES1201801580 | i-002e4699e7558745c | Running        | t2.micro      | 2/2 checks ... | 1 alarm...   | us-east-1d        | ec2-54-174-11 |

Root device details

| Root device name | Root device type | EBS optimization |
|------------------|------------------|------------------|
| /dev/sda1        | EBS              | disabled         |

Block devices (2)

Filter block devices

| Volume ID             | Device name | Volume size (GiB) | Attachment status | Attachment time              | Encrypted | KMS key ID |
|-----------------------|-------------|-------------------|-------------------|------------------------------|-----------|------------|
| vol-056fad0d31d982c00 | /dev/sda1   | 8                 | Attached          | Sun Jan 24 2021 14:08:35 ... | No        | -          |
| vol-0f1a2e251eab7b3c4 | /dev/sdf    | 10                | Attached          | Sun Jan 24 2021 14:27:15 ... | No        | -          |

```
ubuntu@ip-172-31-21-191:~$ df -h
Filesystem      Size  Used Avail Use% Mounted on
/dev/root        7.7G  1.6G  6.2G  21% /
devtmpfs        486M    0  486M   0% /dev
tmpfs           490M    0  490M   0% /dev/shm
tmpfs           98M    0   98M   0% /run
tmpfs           5.0M    0   5.0M   0% /run/lock
tmpfs           490M    0  490M   0% /sys/fs/cgroup
/dev/loop0      98M    0   98M  100% /snap/core/10185
/dev/loop1      56M    0   56M  100% /snap/core18/1885
/dev/loop2      71M    0   71M  100% /snap/lxd/16922
/dev/loop3      29M    0   29M  100% /snap/amazon-ssm-agent/2012
tmpfs           98M    0   98M   0% /run/user/1000
/dev/xvdf       9.8G  37M  9.3G   1% /mnt/data-store
ubuntu@ip-172-31-21-191:~$ SRN: PES1201801580
```

**AWS Management Console - Snapshots**

Create Snapshot Actions

Owned By Me Filter by tags and attributes or search by keyword

| Name                  | Snapshot ID            | Size   | Description           | Status    | Started                         | Progress         | Encryption    | KMS Key |
|-----------------------|------------------------|--------|-----------------------|-----------|---------------------------------|------------------|---------------|---------|
| Snapshot of my volume | snap-0229001eb08ed346f | 10 GiB | Snapshot of my volume | completed | January 24, 2021 at 2:34:10 ... | available (100%) | Not Encrypted |         |

Snapshot: snap-0229001eb08ed346f

Description Permissions Tags

| Property    | Value                  |
|-------------|------------------------|
| Snapshot ID | snap-0229001eb08ed346f |
| Status      | completed              |
| Volume      | vol-0f1a2e251eab7b3c4  |
| Progress    | 100%                   |
| Capacity    | 10 GiB                 |
| Encryption  | Not Encrypted          |

**AWS Management Console - Elastic Block Store**

Create Volume Actions

Filter by tags and attributes or search by keyword

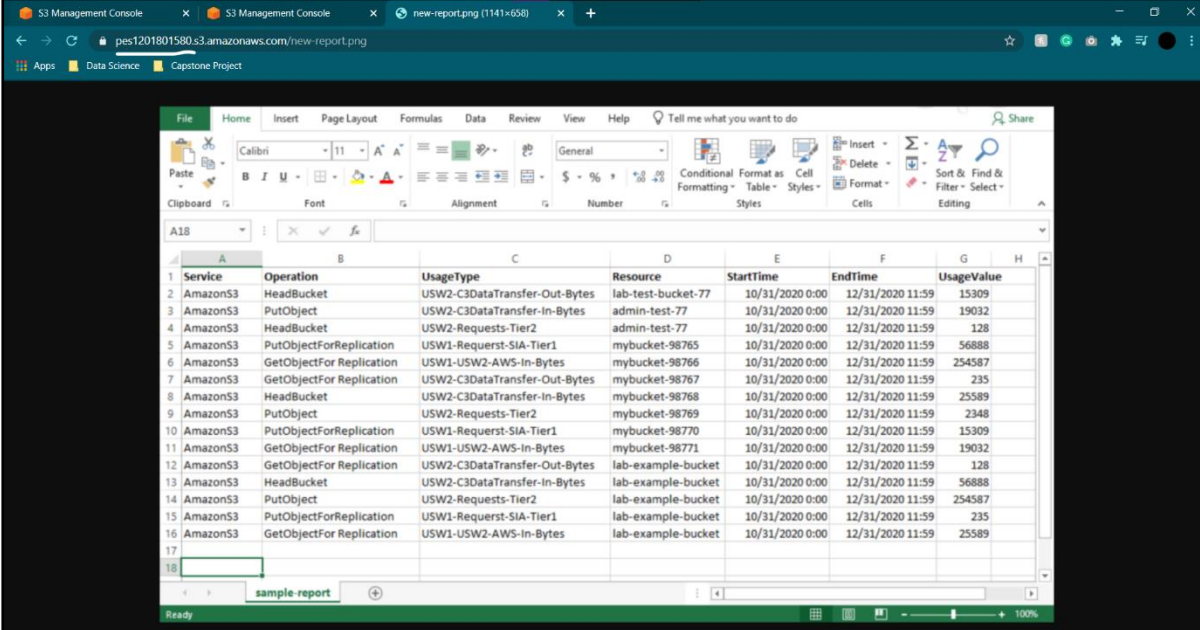
| Name              | Volume ID             | Size   | Volume Type | IOPS | Throughput | Snapshot        | Created                 | Availability Zone | State     | Alarm |
|-------------------|-----------------------|--------|-------------|------|------------|-----------------|-------------------------|-------------------|-----------|-------|
| SNAPSHOT          | vol-0d379b5fc4a694f08 | 10 GiB | gp2         | 100  | -          | snap-0229001... | January 24, 2021 at ... | us-east-1d        | available | Non   |
| PES1201801580_etc | vol-0f1a2e251eab7b3c4 | 10 GiB | gp2         | 100  | -          |                 | January 24, 2021 at ... | us-east-1d        | in-use    | Non   |
|                   | vol-056fad0d31d982c00 | 8 GiB  | gp2         | 100  | -          | snap-0846ce4... | January 24, 2021 at ... | us-east-1d        | in-use    | Non   |

Volumes: vol-0d379b5fc4a694f08 (SNAPSHOT)

Description Status Checks Monitoring Tags

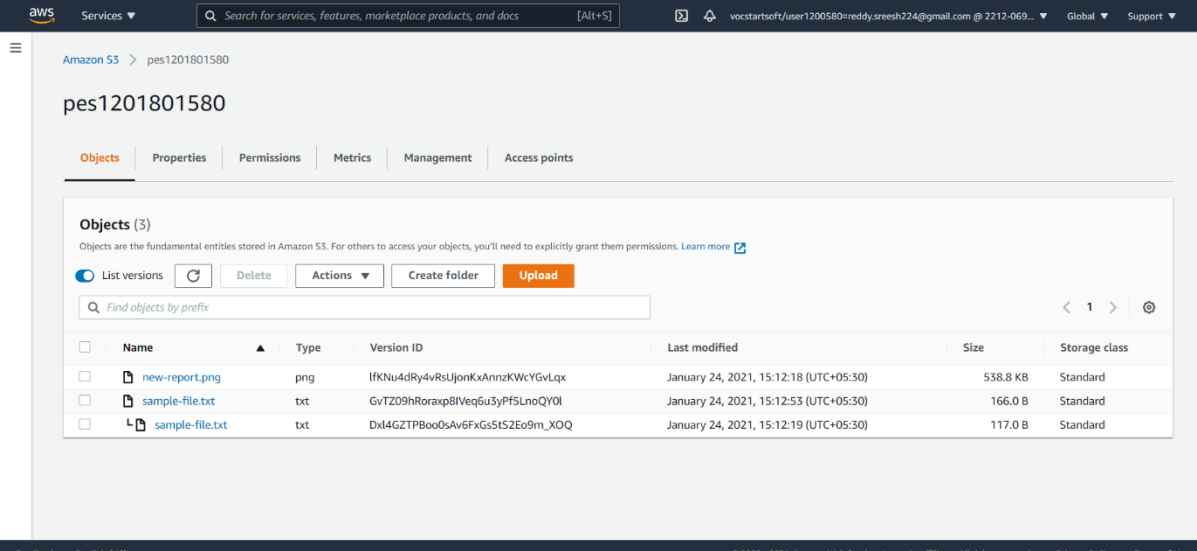
| Property               | Value                                   |
|------------------------|---|
| Volume ID              | vol-0d379b5fc4a694f08                   |
| Alarm status           | None                                    |
| Snapshot               | snap-0229001eb08ed346f                  |
| Availability Zone      | us-east-1d                              |
| Encryption             | Not Encrypted                           |
| Outposts ARN           | -                                       |
| Size                   | 10 GiB                                  |
| Created                | January 24, 2021 at 2:36:28 PM UTC+5:30 |
| State                  | available                               |
| Attachment information | -                                       |

## Task d Outputs:



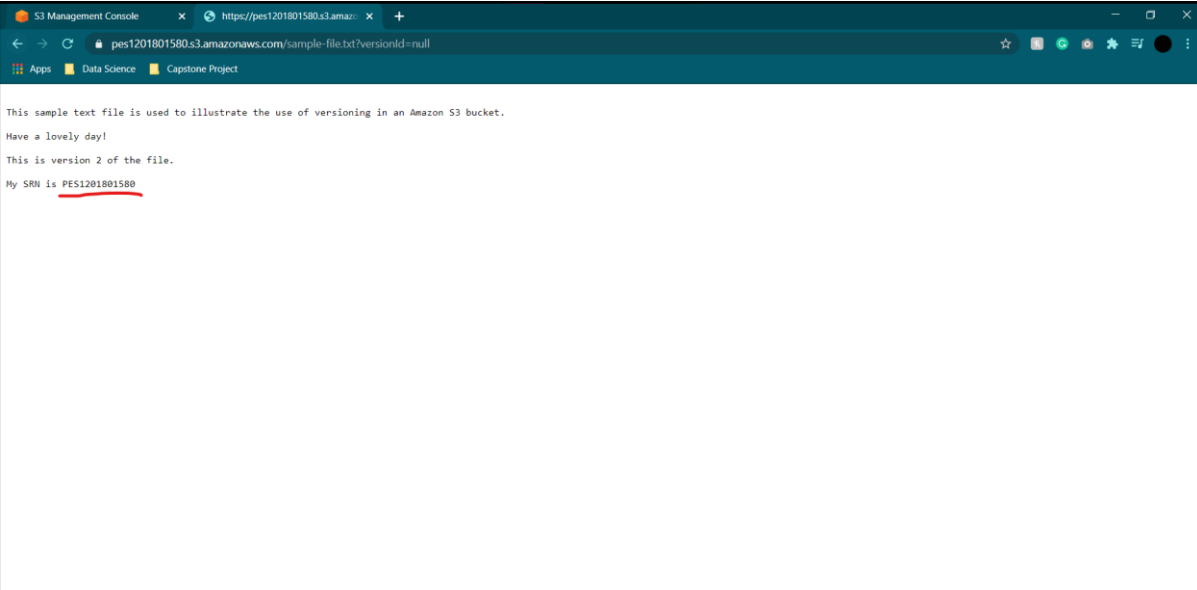
The screenshot shows an Excel spreadsheet with the following data:

| Service  | Operation               | UsageType                     | Resource           | StartTime       | EndTime          | UsageValue |
|----------|-------------------------|-------------------------------|--------------------|-----------------|------------------|------------|
| AmazonS3 | HeadBucket              | USW2-C3DataTransfer-Out-Bytes | lab-test-bucket-77 | 10/31/2020 0:00 | 12/31/2020 11:59 | 15309      |
| AmazonS3 | PutObject               | USW2-C3DataTransfer-In-Bytes  | admin-test-77      | 10/31/2020 0:00 | 12/31/2020 11:59 | 19032      |
| AmazonS3 | HeadBucket              | USW2-Requests-Tier2           | admin-test-77      | 10/31/2020 0:00 | 12/31/2020 11:59 | 128        |
| AmazonS3 | PutObjectForReplication | USW1-Request-SIA-Tier1        | mybucket-98765     | 10/31/2020 0:00 | 12/31/2020 11:59 | 56888      |
| AmazonS3 | GetObjectForReplication | USW1-USW2-AWS-In-Bytes        | mybucket-98766     | 10/31/2020 0:00 | 12/31/2020 11:59 | 254587     |
| AmazonS3 | GetObjectForReplication | USW2-C3DataTransfer-Out-Bytes | mybucket-98767     | 10/31/2020 0:00 | 12/31/2020 11:59 | 235        |
| AmazonS3 | HeadBucket              | USW2-C3DataTransfer-In-Bytes  | mybucket-98768     | 10/31/2020 0:00 | 12/31/2020 11:59 | 25589      |
| AmazonS3 | PutObject               | USW2-Requests-Tier2           | mybucket-98769     | 10/31/2020 0:00 | 12/31/2020 11:59 | 2348       |
| AmazonS3 | PutObjectForReplication | USW1-Request-SIA-Tier1        | mybucket-98770     | 10/31/2020 0:00 | 12/31/2020 11:59 | 15309      |
| AmazonS3 | GetObjectForReplication | USW1-USW2-AWS-In-Bytes        | mybucket-98771     | 10/31/2020 0:00 | 12/31/2020 11:59 | 19032      |
| AmazonS3 | GetObjectForReplication | USW2-C3DataTransfer-Out-Bytes | lab-example-bucket | 10/31/2020 0:00 | 12/31/2020 11:59 | 128        |
| AmazonS3 | HeadBucket              | USW2-C3DataTransfer-In-Bytes  | lab-example-bucket | 10/31/2020 0:00 | 12/31/2020 11:59 | 56888      |
| AmazonS3 | PutObject               | USW2-Requests-Tier2           | lab-example-bucket | 10/31/2020 0:00 | 12/31/2020 11:59 | 254587     |
| AmazonS3 | PutObjectForReplication | USW1-Request-SIA-Tier1        | lab-example-bucket | 10/31/2020 0:00 | 12/31/2020 11:59 | 235        |
| AmazonS3 | GetObjectForReplication | USW1-USW2-AWS-In-Bytes        | lab-example-bucket | 10/31/2020 0:00 | 12/31/2020 11:59 | 25589      |



The screenshot shows the Amazon S3 console for bucket **pes1201801580**. The **Objects** tab is selected, showing a list of 3 objects:

| Name            | Type | Version ID                       | Last modified                          | Size     | Storage class |
|-----------------|------|----------------------------------|--|----------|---------------|
| new-report.png  | png  | lfKNu4dRy4vRsUjonKxAnnzKWcYGVlQx | January 24, 2021, 15:12:18 (UTC+05:30) | 538.8 KB | Standard      |
| sample-file.txt | txt  | GvTZ09hRoraxp8lVeq6u3yPf5LnoQY0l | January 24, 2021, 15:12:53 (UTC+05:30) | 166.0 B  | Standard      |
| sample-file.txt | txt  | Dxl4GZTPBoo0sAv6FxGs5t5Eo9m_XOQ  | January 24, 2021, 15:12:19 (UTC+05:30) | 117.0 B  | Standard      |



The screenshot shows the content of the **sample-file.txt** object in the Amazon S3 console. The text displayed is:

This sample text file is used to illustrate the use of versioning in an Amazon S3 bucket.  
Have a lovely day!  
This is version 2 of the file.  
My SRN is PES1201801580