# Lab 10: Volume Management in Dashboard

## Objective 1.

Scope **demo**/**demo**.

**Create a New Volume**:

- Name: **demo-vol1**
- Description: **Database Volume for demo Project**
- Volume Source: **empty volume**
- Type: **no volume type**
- Size: **1**

Start the Instance **test-vm1**.

**Attach the Volume demo-vol1 to Instance test-vm1**.

---

## Objective 2.

Scope **demo**/**demo**.

Login to Console of Instance **test-vm1**.

**Create ext3** type **filesystem on newly attached Volume**:

```
sudo mkfs.ext3 /dev/vdb
```

Mount the Volume:

```
sudo mount /dev/vdb /mnt
```

Create a file with Instance "stamp":

```
hostname >> /mnt/file.txt
```

```
date >> /mnt/file.txt
```

Verify the file:

```
pg /mnt/file.txt
```

**Unmount the Volume** and **Detach from the Instance**.

---

## Objective 3.

Scope: **demo**/**demo**.

**Create a New Snapshot** **demo-vol1-snap1** **of the Volume** **demo-vol1**.

**Create a New Volume from the Snapshot**:

- Name: **demo-vol2**
- Volume Source: **Snapshot**
- Snapshot Source: **demo-vol1-snap1**

---

**Objective 4.**

Scope **lisa**/**crm-dev**.

**Create a Volume Type** **lvm-2** to enable Volume scheduling to Backend **LVM-2**.

---

**Objective 5.**

Scope **lisa**/**crm-dev**.

**Change Storage Quota** **snapshots** to **50** for Project **crm-dev**.

---

**Objective 6.**

Scope **demo**/**demo**.

**Create a New Volume from Image**:

- Name: **boot-vol3**
- Description: **Boot Volume Created from Image system-3.5**
- Volume Source: **image**
- Use image as source: **system-3.5**

**Launch a New Instance from Bootable Volume**:

- Name: **persistent-boot-vol**
- Description: **Instance Created from Bootable Volume boot-vol3**
- Boot Source: **Volume**
- Flavor: **m1.tiny**
- Network: **private**
- Security Groups: **default** and **demo_sg**

Attach a Volume **demo-vol2** to Instance **persistent-boot-vol** and mount it to **/mnt**.

Create an Instance "stamp" in the file **/mnt/file.txt**:

```
hostname >> /mnt/file.txt

date >> /mnt/file.txt
```

Verify the file:

```
pg /mnt/file.txt
```

Copy the file to Instance Volume:

```
cp /mnt/file.txt ~/history.txt
```

Unmount the Volume and Detach from the Instance.

Shutdown the Instance.

---

**Objective 7.**

Scope: **demo**/**demo**.

**Create a Volume Transfer** for **demo-vol2**.

Note down Transfer ID and Authorization ID.

---

**Objective 8.**

Scope: **lisa**/**crm-dev**.

**Accept the Volume Transfer**, using the Transfer ID and Authorization ID noted in Objective 7.

---

**Objective 9.**

Scope: **lisa**/**crm-dev**.

Create a Volume Type **LUKS-1** to accomodate Volume Encryption.

**Create Volume Encryption**:

- Provider: **nova.volume.encryptors.luks.LuksEncryptor**
- Control Location: **front-end**
- Cipher: **aes-xts-plain64**
- Key size: **256**

Create a New Volume **encrypted-vol1** of type **LUKS-1** and size **1**.

---

## Objective 10.

Scope **demo**/**demo**.

### Create a Backup of Volume **demo-vol1**.

Create a New Empty Volume:

- Name: **demo-vol4**
- Description: **Backup Restore Volume for demo Project**
- Volume Source: **empty volume**
- Type: **no volume type**
- Size: **1**

Restore Backup of **demo-vol1** to **demo-vol4**.

Start up the **test-vm1** Instance, Attach and mount the Volume **demo-vol4** in **/mnt2** directory.

Create a file with Instance "stamp":

```
hostname >> /mnt2/file.txt

date >> /mnt2/file.txt
```

Verify the file:

```
pg /mnt2/file.txt
```

Detach the Volume **demo-vol4** and Shutdown **test-vm1** Instance.

---