

# Virtual Private Networks (VPN)

## Overview

In this lab, you establish VPN tunnels between two networks in separate regions such that a VM in one network can ping a VM in the other network over its internal IP address.

### Steps

- **Create VPN gateways in each network**
- **Create VPN tunnels between the gateways**
- **Verify VPN connectivity**

### Task: Create the VPN gateway and tunnels

Reserve two static IP addresses

```
gcloud compute addresses create vpn-1-static-ip \
```

```
--global \
```

```
--ip-version IPV4
```

```
--region us-central1
```

```
gcloud compute addresses create vpn-2-static-ip \
```

```
--global \
```

```
--ip-version IPV4
```

```
--region europe-west1
```

### Task: Create the vpn-1 gateway and tunnel1to2

```
gcloud compute vpn-tunnels create tunnel1to2
```

```
--peer-address=vpn-network-1 --peer-external-address=VPN-2-static-IP
```

```
--peer-gcp-gateway-region + us-central1 --ike-version=gcprocks
```

```
--local-traffic-selector=10.1.3.0/24
```

```
=====
```

**Do the same** vpn-2 gateway and tunnel2to1

swap networks and set --region = europe-west1 and --local-traffic-selector =  
10.5.4.0/24

## Task 3: Verify VPN connectivity