Intro:

Background/experience

Tech stack

Cloud Computing familiarity

Movies/series

Req -

Storage

Processing

Network

Power

Heat dissipation

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Creating a VM & hosting apache web distribution manually

1. Go to Compute Engine > VM instances > Create
2. Specs:
    a. Name - machine name preferred
    b. Region - us-central1 zone - us-central1-a
    c. Machine series: N1 Type n1-std-1
    d. Boot disk:
        i. OS: Ubuntu
        ii. Version: 18.04 (x86 based)
    e. Create VM
3. Wait for the VM to have running status. Locate ssh button besides VM name.
4. Click on ssh button to connect with vm.
5. Execute following commands:
    a. sudo apt update
    b. sudo apt install apache2 -y
6. Go back to GCP console. Locate “External IP” in the VM entry. Copy the external IP and paste in any browser tab to access apache webpage. You should get a page not found error.
   {If you’re not able to locate external IP, click on three slider icon towards the right top corner of VM entry. This option is **column-display-options**. Select external IP & internal IP from the options.}
7. Go back to GCP console > locate “Internal IP”. Go to the ssh command window and execute command:
    a. curl http://[internal-ip]
8. You should see an html code. Take a screenshot of this as last step.
9. **Delete** the VM instance resource.

Creating a VPC

1. Go to VPC Networks > Create VPC
    a. Name: john-web
    b. Mode of Creation: custom
    c. Subnet name: john-sub
    d. Range: select a relevant cidr range
    e. Region: us-central1 (feel free to change)
    f. Create subnet
    g. Firewall rules: select all entries
    h. Create VPC
2. Once VPC is created, go to firewall rules
    a. Create firewall rule
    b. Name: vpc-allow-http
    c. Network: select your vpc from dropdown
    d. Target: input a target tag (http-john, spider-man)
    e. Source Filter: 0.0.0.0/0
    f. Protocol: TCP - 80
3. Visit compute engine > create instance
    a. Ensure all settings as earlier exec
    b. Click on Advanced > Networking
    c. Select your vpc name from network drop-down > Done
    d. Click on Automation > Startup script
    e. Input startup script as follows:
        i. apt update
        ii. apt -y install apache2
        iii. cat <<EOF > /var/www/html/index.html
        iv. <html><body> Linux startup script from a local file. </body></html>
        v. EOF
    f. Create Instance

    CLI way -

        - For creating instance: gcloud compute instances create vm-name --machine-type=n1-standard-1 --zone=us-central1-a --network=vpcname --subnet=subnetname
        - For accessing the vm - gcloud compute ssh vm-name --zone=us-central1-a
        - After accessing the vm, execute following commands:
            - sudo apt update
            - sudo apt install apache2 -y
4. Visit External IP of instance to check if apache2 hosted webpage is available.
5. For consistent failed page loads, go to firewall rule > click on the firewall rule you have recently created > edit > target: change to “all instances in the network” > save
6. Retry accessing the external IP.