Lab 6 – Observing Autoscaling on the Cloud

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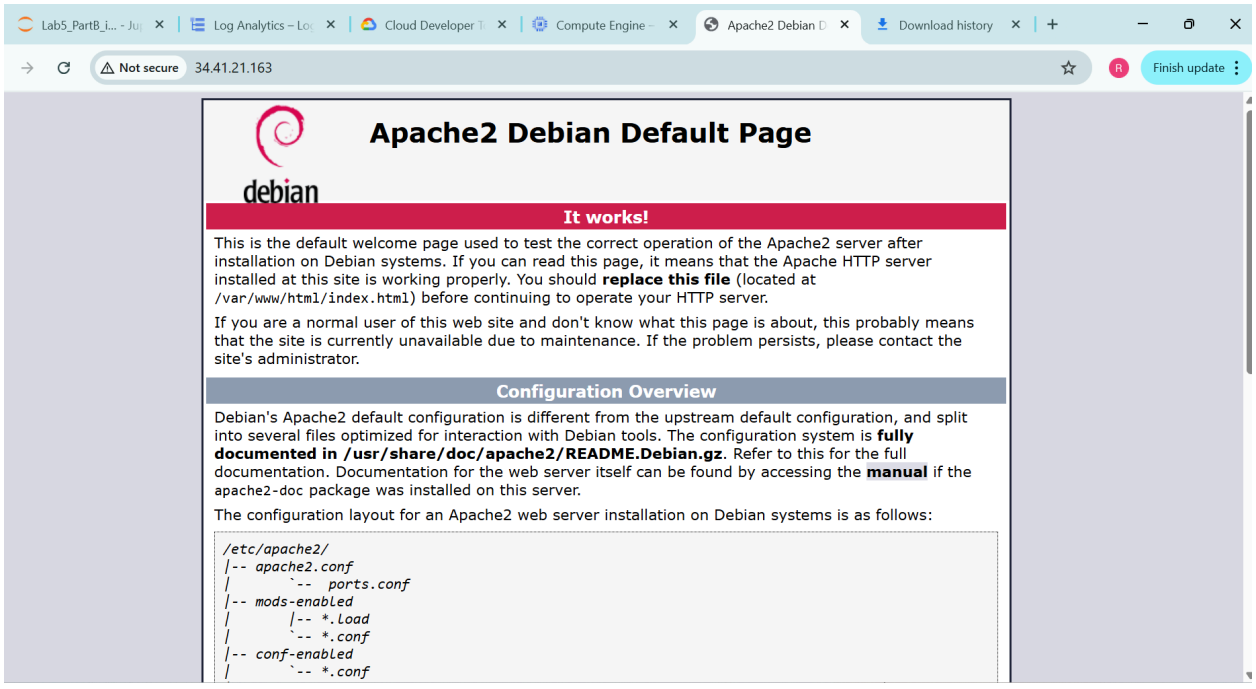
Steps Performed

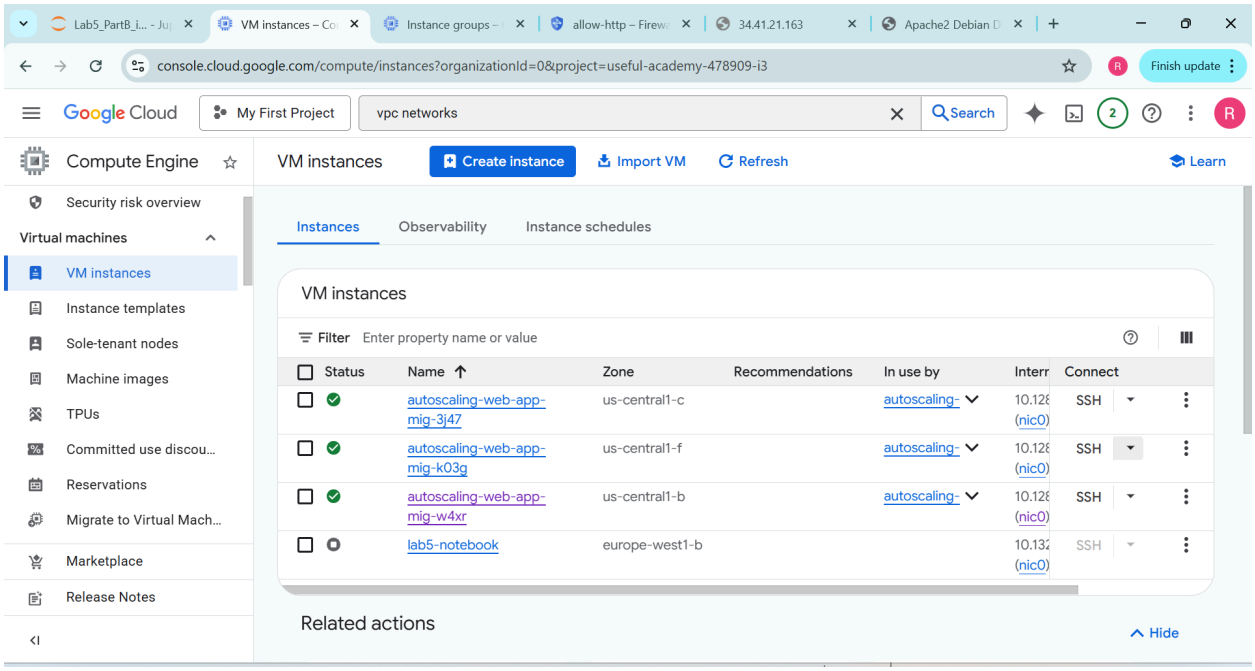
1. **Prerequisites and Setup**
   - Google Cloud project with billing enabled.
   - Compute Engine API active.
   - Necessary IAM permissions available.
2. **Instance Template Creation**
   - Created `autoscaling-web-app-template`.
   - Machine type: `e2-medium` (2 vCPU, 4 GB memory).
   - Boot disk: Debian GNU/Linux 12 (10 GB).
   - Enabled HTTP traffic in firewall rules.
   - Startup script installed Apache web server.
3. **Screenshot:** Apache default page verified



4. **Managed Instance Group (MIG) Creation**
   - Created `autoscaling-web-app-mig` using the template.

- Autoscaling enabled: min 1, max 3 instances.
- Target metric: CPU utilization (75%).

5. **Screenshot:** Autoscaling – 3 VM instances



6. **Testing Autoscaling**
   - Verified Apache default page loaded on external IP.
   - Observed automatic scale-out and scale-in based on CPU load.
7. **Logs Collection**
   - Opened **Logs Explorer** in GCP Console.
   - Exported scaling events as a **JSON file**. This file includes timestamps, instance IDs, and scaling actions.

Notes

- Only one VM was tested; no additional setup required.
- JSON file contains all recorded scaling events for the lab demonstration.