

Monitoring Task

Task Description:

Install Prometheus and Grafana on a Linux EC2 machine, connect Prometheus to Grafana, and create a dashboard to view metrics.

EC2 instance:

The screenshot shows the AWS EC2 Instances page. The left sidebar includes sections for Dashboard, EC2 Global View, Events, Instances (selected), Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, Dedicated Hosts, Capacity Reservations, Capacity Manager, Images, AMIs, AMI Catalog, Elastic Block Store, Volumes, Snapshots, Lifecycle Manager, Network & Security, Security Groups, Elastic IPs, Placement Groups, Key Pairs, and Network Interfaces. The main content area displays a table titled 'Instances (1/1) Info' with one row for the 'monitoring-server' instance. The instance details include: Name: monitoring-server, Instance ID: i-0b938401116a65286, Instance state: Running, Instance type: t2.micro, Status check: Initializing, Alarm status: None, Availability Zone: us-east-1c, Public IPv4 DNS: ec2-13-221-243-48.compute-1.amazonaws.com, and Public IPv4 IP: 13.221.243.48. Below the table, the 'Details' tab of the 'i-0b938401116a65286 (monitoring-server)' instance summary is selected, showing fields like Instance ID, IPv6 address, Hostname type, Answer private resource DNS name, Instance type, and VPC ID. A tooltip for the 'Public IPv4 address copied' button is visible. The bottom right corner of the page contains links for CloudShell, Feedback, Privacy, Terms, and Cookie preferences.

Prometheus Status:

```
ubuntu@ip-172-31-82-13:~/node_exporter-1.8.2.linux-amd64$ systemctl status prometheus
● prometheus.service - Prometheus
   Loaded: loaded (/etc/systemd/system/prometheus.service; enabled; preset: enabled)
   Active: active (running) since Thu 2025-10-30 05:35:09 UTC; 10min ago
     Main PID: 15634 (prometheus)
       Tasks: 6 (limit: 1121)
      Memory: 28.5M (peak: 40.9M)
        CPU: 0.03ms
       CGroup: /system.slice/prometheus.service
              └─15634 /opt/prometheus/prometheus --config.file=/opt/prometheus/prometheus.yml --storage.tsdb.path=/opt/prometheus/data

Oct 30 05:35:09 ip-172-31-82-13 prometheus[15634]: ts=2025-10-30T05:35:09.258Z caller=head.go:698 level=info component=tedb msg="Replaying WAL, this may take a while"
Oct 30 05:35:09 ip-172-31-82-13 prometheus[15634]: ts=2025-10-30T05:35:09.266Z caller=head.go:761 level=info component=tedb msg="WAL segment loaded" segment=0 maxSegment=1
Oct 30 05:35:09 ip-172-31-82-13 prometheus[15634]: ts=2025-10-30T05:35:09.266Z caller=head.go:761 level=info component=tedb msg="WAL segment loaded" segment=1 maxSegment=1
Oct 30 05:35:09 ip-172-31-82-13 prometheus[15634]: ts=2025-10-30T05:35:09.266Z caller=head.go:798 level=info component=tedb msg="WAL replay completed" checkpoint_replay_duration=44.144us wal_replay_dura...
Oct 30 05:35:09 ip-172-31-82-13 prometheus[15634]: ts=2025-10-30T05:35:09.269Z caller=main.go:1045 level=info fs_type=EXT4 SUPER_MAGIC
Oct 30 05:35:09 ip-172-31-82-13 prometheus[15634]: ts=2025-10-30T05:35:09.269Z caller=main.go:1045 level=info msg="TSDB started"
Oct 30 05:35:09 ip-172-31-82-13 prometheus[15634]: ts=2025-10-30T05:35:09.269Z caller=main.go:1229 level=info msg="Loading configuration file" filename=/opt/prometheus/prometheus.yml
Oct 30 05:35:09 ip-172-31-82-13 prometheus[15634]: ts=2025-10-30T05:35:09.275Z caller=main.go:1268 level=info msg="Completed loading of configuration file" filename=/opt/prometheus/prometheus.yml total...
Oct 30 05:35:09 ip-172-31-82-13 prometheus[15634]: ts=2025-10-30T05:35:09.275Z caller=main.go:1069 level=info msg="Server is ready to receive web requests."
Oct 30 05:35:09 ip-172-31-82-13 prometheus[15634]: ts=2025-10-30T05:35:09.275Z caller=manager.go:1012 level=info component="rule manager" msg="Starting rule manager..."
1 lines, 1-28/28 (END)
```

Prometheus Target:

The screenshot shows the Prometheus Targets page. At the top, there are tabs for All, Unhealthy, and Collapse All. A search bar is present, and there are checkboxes for Unknown, Unhealthy, and Healthy. Two targets are listed:

Endpoint	State	Labels	Last Scrape	Scrape Duration	Error
http://localhost:9100/metrics	UP	instance="localhost:9100" job="node_exporter"	3.73s ago	12.276ms	

Endpoint	State	Labels	Last Scrape	Scrape Duration	Error
http://localhost:9090/metrics	UP	instance="localhost:9090" job="prometheus"	1.95s ago	5.855ms	

Node Exporter Status:

```
ubuntu@ip-172-31-82-13:~/node_exporter-1.8.2.linux-amd64$ systemctl status node_exporter
● node_exporter.service - Node Exporter
   Loaded: loaded (/etc/systemd/system/node_exporter.service; enabled; preset: enabled)
   Active: active (running) since Thu 2025-10-30 04:50:43 UTC; 56min ago
     Main PID: 13420 (node_exporter)
       Tasks: 3 (limit: 1121)
      Memory: 18.1M (peak: 18.5M)
        CPU: 585ms
      CGroup: /system.slice/node_exporter.service
              └─13420 /usr/local/bin/node_exporter

Oct 30 04:50:44 ip-172-31-82-13 node_exporter[13420]: ts=2025-10-30T04:50:43.9992 caller=node_exporter.go:117 level=info collector=thermal_zone
Oct 30 04:50:44 ip-172-31-82-13 node_exporter[13420]: ts=2025-10-30T04:50:43.9992 caller=node_exporter.go:117 level=info collector=utime
Oct 30 04:50:44 ip-172-31-82-13 node_exporter[13420]: ts=2025-10-30T04:50:43.9992 caller=node_exporter.go:117 level=info collector=utime
Oct 30 04:50:44 ip-172-31-82-13 node_exporter[13420]: ts=2025-10-30T04:50:43.9992 caller=node_exporter.go:117 level=info collector=udp_queues
Oct 30 04:50:44 ip-172-31-82-13 node_exporter[13420]: ts=2025-10-30T04:50:43.9992 caller=node_exporter.go:117 level=info collector=username
Oct 30 04:50:44 ip-172-31-82-13 node_exporter[13420]: ts=2025-10-30T04:50:43.9992 caller=node_exporter.go:117 level=info collector=vnstat
Oct 30 04:50:44 ip-172-31-82-13 node_exporter[13420]: ts=2025-10-30T04:50:43.9992 caller=node_exporter.go:117 level=info collector=xfs
Oct 30 04:50:44 ip-172-31-82-13 node_exporter[13420]: ts=2025-10-30T04:50:43.9992 caller=node_exporter.go:117 level=info collector=zfs
Oct 30 04:50:44 ip-172-31-82-13 node_exporter[13420]: ts=2025-10-30T04:50:43.9992 caller=tls_config.go:274 level=info msg="Listening on" address=[::]:9100
Oct 30 04:50:44 ip-172-31-82-13 node_exporter[13420]: ts=2025-10-30T04:50:43.9992 caller=tls_config.go:277 level=info msg="TLS is disabled." http2=false address=[::]:9100
ubuntu@ip-172-31-82-13:~/node_exporter-1.8.2.linux-amd64$
```

Grafana:

The screenshot shows the Grafana Dashboards page. On the left, there is a sidebar with navigation links: Home, Bookmarks, Starred, Dashboards (which is selected), Explore, Drilldown, Alerting, Connections, Add new connection, Data sources, Administration, Provisioning, General, Stats and license, Default preferences, and Help.

The main area displays a list of dashboards:

Name	Tags
New Dashboard!	
Node Exporter Full	linux

