

Module 8: Prometheus and Grafana

edureka!

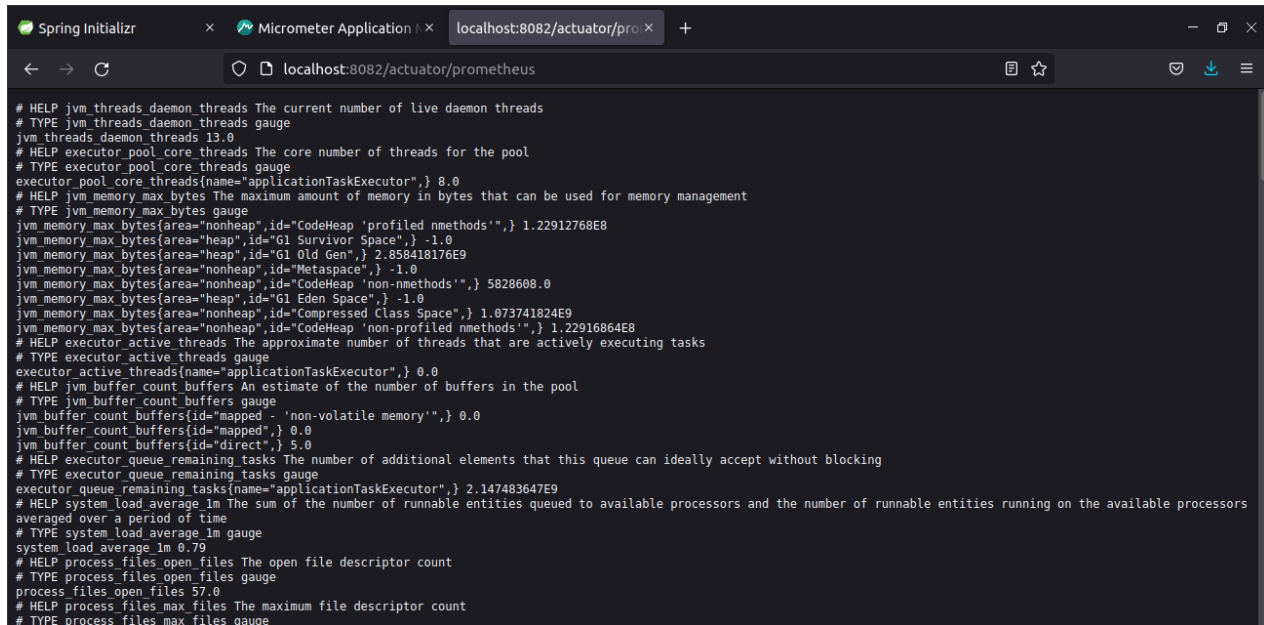
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Demo 2: Prometheus and Grafana

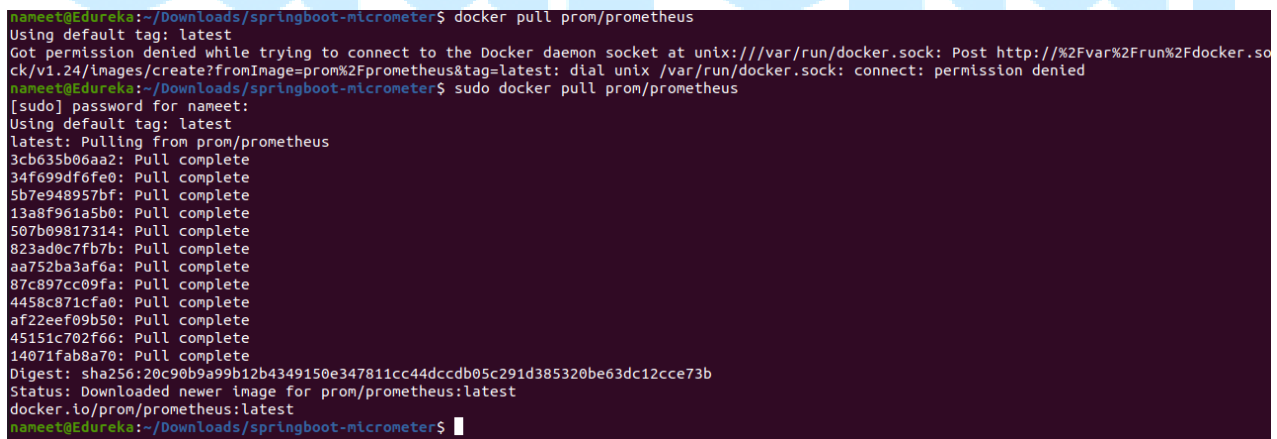
1. Run the application make sure prometheus.yml file is present in resources folder

In browser type: localhost:8080/actuator and localhost:8080/actuator/Prometheus



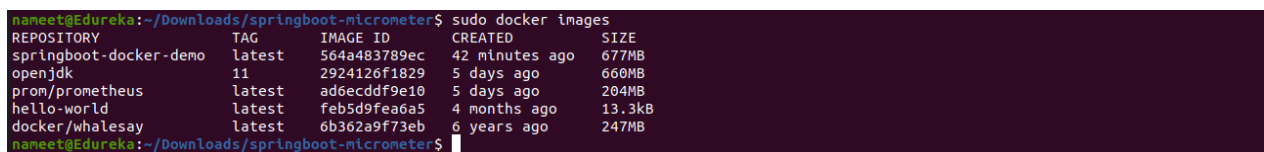
```
# HELP jvm_threads_daemon_threads The current number of live daemon threads
# TYPE jvm_threads_daemon_threads gauge
jvm_threads_daemon_threads 13.0
# HELP executor_pool_core_threads The core number of threads for the pool
# TYPE executor_pool_core_threads gauge
executor_pool_core_threads{name="applicationTaskExecutor",} 8.0
# HELP jvm_memory_max_bytes The maximum amount of memory in bytes that can be used for memory management
# TYPE jvm_memory_max_bytes gauge
jvm_memory_max_bytes{area="nonheap",id="CodeHeap 'profiled nmethods'",} 1.22912768E8
jvm_memory_max_bytes{area="heap",id="G1 Survivor Space",} -1.0
jvm_memory_max_bytes{area="heap",id="G1 Old Gen",} 2.858418176E9
jvm_memory_max_bytes{area="nonheap",id="Metaspace",} -1.0
jvm_memory_max_bytes{area="nonheap",id="CodeHeap 'non-nmethods'",} 5828608.0
jvm_memory_max_bytes{area="heap",id="G1 Eden Space",} -1.0
jvm_memory_max_bytes{area="nonheap",id="Compressed Class Space",} 1.073741824E9
jvm_memory_max_bytes{area="nonheap",id="CodeHeap 'non-profiled nmethods'",} 1.22916864E8
# HELP executor_active_threads The approximate number of threads that are actively executing tasks
# TYPE executor_active_threads gauge
executor_active_threads{name="applicationTaskExecutor",} 0.0
# HELP jvm_buffer_count_buffers An estimate of the number of buffers in the pool
# TYPE jvm_buffer_count_buffers gauge
jvm_buffer_count_buffers{id="mapped - 'non-volatile memory'",} 0.0
jvm_buffer_count_buffers{id="mapped",} 0.0
jvm_buffer_count_buffers{id="direct",} 5.0
# HELP executor_queue_remaining_tasks The number of additional elements that this queue can ideally accept without blocking
# TYPE executor_queue_remaining_tasks gauge
executor_queue_remaining_tasks{name="applicationTaskExecutor",} 2.147483647E9
# HELP system_load_average_1m The sum of the number of runnable entities queued to available processors and the number of runnable entities running on the available processors averaged over a period of time
# TYPE system_load_average_1m gauge
system_load_average_1m 0.79
# HELP process_files_open_files The open file descriptor count
# TYPE process_files_open_files gauge
process_files_open_files 57.0
# HELP process_files_max_files The maximum file descriptor count
# TYPE process_files_max_files gauge
```

2. Open terminal in Application folder type: sudo docker pull prom/prometheus



```
nameet@Edureka:~/Downloads/springboot-micrometer$ docker pull prom/prometheus
Using default tag: latest
Got permission denied while trying to connect to the Docker daemon socket at unix:///var/run/docker.sock: Post http://%2Fvar%2Frun%2Fdocker.sock/v1.24/images/create?fromImage=prom%2Fprometheus&tag=latest: dial unix /var/run/docker.sock: connect: permission denied
nameet@Edureka:~/Downloads/springboot-micrometer$ sudo docker pull prom/prometheus
[sudo] password for nameet:
Using default tag: latest
latest: Pulling from prom/prometheus
3cb635b06aa2: Pull complete
34f699df6fe0: Pull complete
5b7e948957bf: Pull complete
13a8f961a5b0: Pull complete
507b09817314: Pull complete
823ad0c7fb7b: Pull complete
aa752ba3af6a: Pull complete
87c897cc09fa: Pull complete
4458c871cfa0: Pull complete
af22eef09b50: Pull complete
45151c702f66: Pull complete
14071fab8a70: Pull complete
Digest: sha256:20c90b9a99b12b4349150e347811cc44dccb05c291d385320be63dc12cce73b
Status: Downloaded newer image for prom/prometheus:latest
docker.io/prom/prometheus:latest
nameet@Edureka:~/Downloads/springboot-micrometer$
```

3. Check images



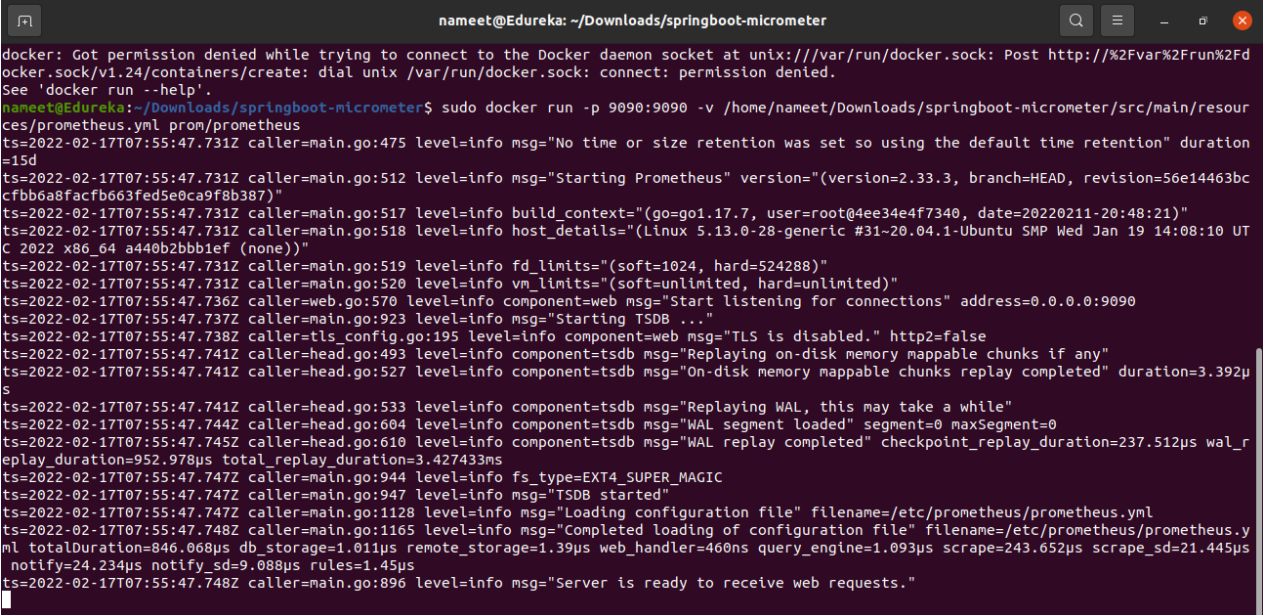
```
nameet@Edureka:~/Downloads/springboot-micrometer$ sudo docker images
REPOSITORY          TAG         IMAGE ID      CREATED       SIZE
springboot-docker-deno latest      564a483789ec 42 minutes ago 677MB
openjdk             11         2924126f1829 5 days ago   660MB
prom/prometheus     latest     ad6ecdff9e10 5 days ago   204MB
hello-world         latest     feb5d9fea6a5 4 months ago 13.3kB
docker/whalesay     latest     6b362a9f73eb 6 years ago  247MB
nameet@Edureka:~/Downloads/springboot-micrometer$
```

4. Run Prometheus image via 2 cmds

```
docker run -d -p 9090:9090 -v
<PATH_TO_prometheus.yml_FILE>:/etc/prometheus/prometheus.yml
prom/Prometheus
```

or

```
docker run -p 9090:9090 -v
<PATH_TO_prometheus.yml_FILE>:/etc/prometheus/prometheus.yml
prom/prometheus
```

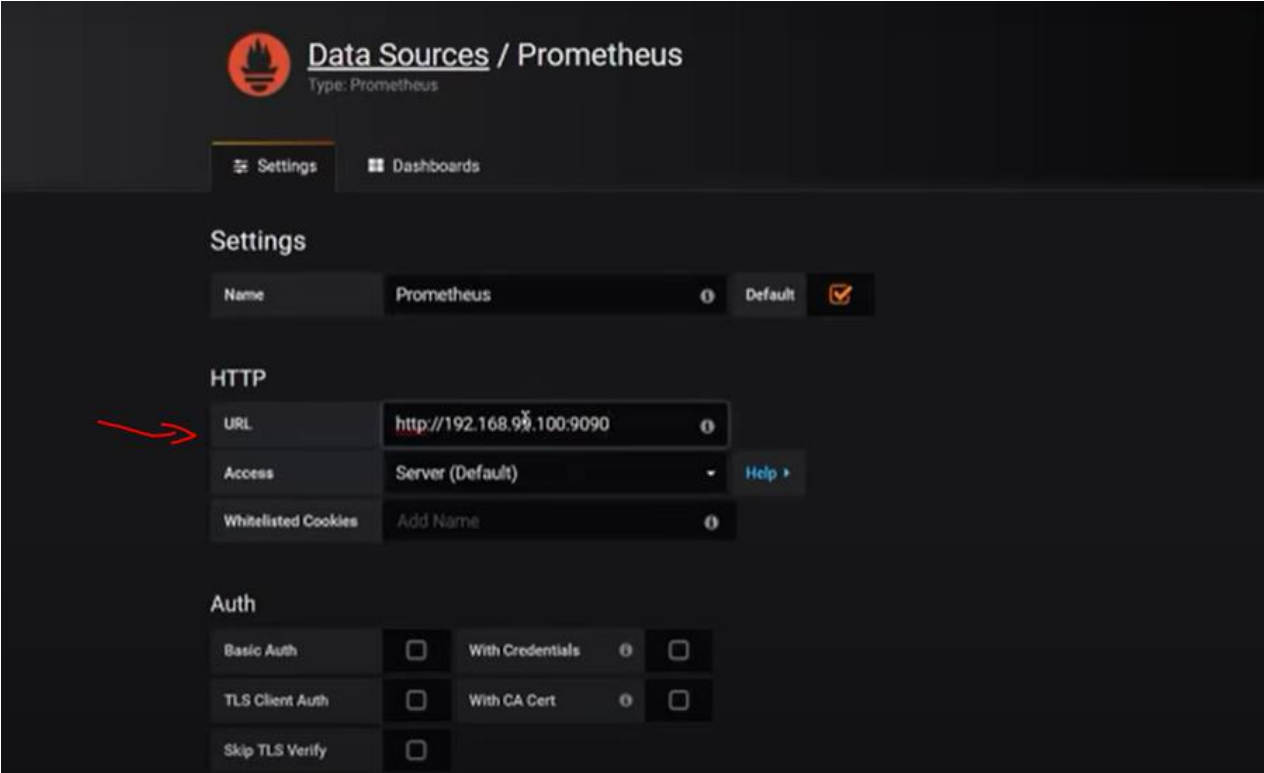


```
nameet@Edureka: ~/Downloads/springboot-micrometer
docker: Got permission denied while trying to connect to the Docker daemon socket at unix:///var/run/docker.sock: Post http://%2Fvar%2Frun%2Fdocker.sock/v1.24/containers/create: dial unix /var/run/docker.sock: connect: permission denied.
See 'docker run --help'.
nameet@Edureka:~/Downloads/springboot-micrometer$ sudo docker run -p 9090:9090 -v /home/nameet/Downloads/springboot-micrometer/src/main/resources/prometheus.yml prom/prometheus
ts=2022-02-17T07:55:47.731Z caller=main.go:475 level=info msg="No time or size retention was set so using the default time retention" duration=15d
ts=2022-02-17T07:55:47.731Z caller=main.go:512 level=info msg="Starting Prometheus" version="(version=2.33.3, branch=HEAD, revision=56e14463bcfbb6a8facfb663fed5e0ca9f8b387)"
ts=2022-02-17T07:55:47.731Z caller=main.go:517 level=info build_context="(go=go1.17.7, user=root@4ee34e4f7340, date=20220211-20:48:21)"
ts=2022-02-17T07:55:47.731Z caller=main.go:518 level=info host_details="(Linux 5.13.0-28-generic #31-20.04.1-Ubuntu SMP Wed Jan 19 14:08:10 UTC 2022 x86_64 a440b2bbb1ef (none))"
ts=2022-02-17T07:55:47.731Z caller=main.go:519 level=info fd_limits="(soft=1024, hard=524288)"
ts=2022-02-17T07:55:47.731Z caller=main.go:520 level=info vm_limits="(soft=unlimited, hard=unlimited)"
ts=2022-02-17T07:55:47.736Z caller=web.go:570 level=info component=web msg="Start listening for connections" address=0.0.0.0:9090
ts=2022-02-17T07:55:47.737Z caller=main.go:923 level=info msg="Starting TSDB ..."
ts=2022-02-17T07:55:47.738Z caller=tls_config.go:195 level=info component=web msg="TLS is disabled." http2=false
ts=2022-02-17T07:55:47.741Z caller=head.go:493 level=info component=tsdb msg="Replaying on-disk memory mappable chunks if any"
ts=2022-02-17T07:55:47.741Z caller=head.go:527 level=info component=tsdb msg="On-disk memory mappable chunks replay completed" duration=3.392µs
ts=2022-02-17T07:55:47.741Z caller=head.go:533 level=info component=tsdb msg="Replaying WAL, this may take a while"
ts=2022-02-17T07:55:47.744Z caller=head.go:604 level=info component=tsdb msg="WAL segment loaded" segment=0 maxSegment=0
ts=2022-02-17T07:55:47.745Z caller=head.go:610 level=info component=tsdb msg="WAL replay completed" checkpoint_replay_duration=237.512µs wal_replay_duration=952.978µs total_replay_duration=3.427433ms
ts=2022-02-17T07:55:47.747Z caller=main.go:944 level=info fs_type=EXT4_SUPER_MAGIC
ts=2022-02-17T07:55:47.747Z caller=main.go:947 level=info msg="TSDB started"
ts=2022-02-17T07:55:47.747Z caller=main.go:1128 level=info msg="Loading configuration file" filename=/etc/prometheus/prometheus.yml
ts=2022-02-17T07:55:47.748Z caller=main.go:1165 level=info msg="Completed loading of configuration file" filename=/etc/prometheus/prometheus.yml totalDuration=846.068µs db_storage=1.011µs remote_storage=1.39µs web_handler=460ns query_engine=1.093µs scrape=243.652µs scrape_sd=21.445µs notify=24.234µs notify_sd=9.088µs rules=1.45µs
ts=2022-02-17T07:55:47.748Z caller=main.go:896 level=info msg="Server is ready to receive web requests."
```

5. For Grafana type:

```
nameet@Edureka:~/Downloads/springboot-micrometer$ sudo docker run -d --name=grafana99 -p 3000:3000 grafana/grafana
[sudo] password for nameet:
```

Output: 192.168.99.100:9090



192.168.99.100:3000

