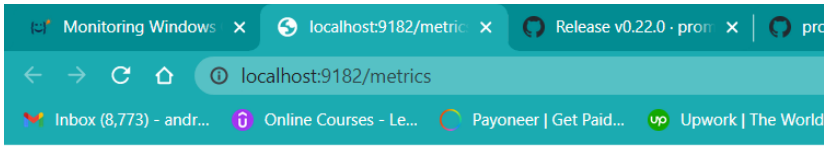
# Monitoring Windows OS with Prometheus

Installing Windows Exporter:

windows_exporter-0.22.0-amd64.msi

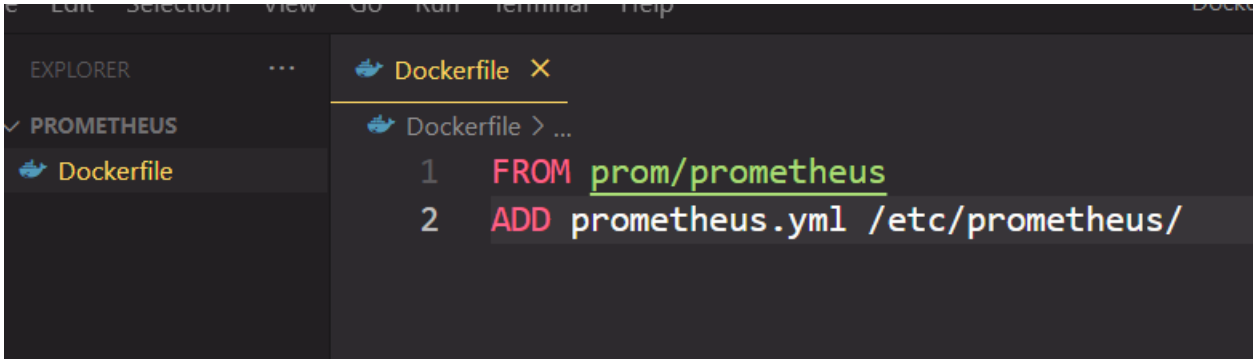
The Windows Exporter is running:




```
# HELP go_gc_duration_seconds A summary of the pause duration of garbage collection
# TYPE go_gc_duration_seconds summary
go_gc_duration_seconds{quantile="0"} 0
go_gc_duration_seconds{quantile="0.25"} 0
go_gc_duration_seconds{quantile="0.5"} 0
go_gc_duration_seconds{quantile="0.75"} 0
go_gc_duration_seconds{quantile="1"} 0.0135381
go_gc_duration_seconds_sum 0.0142953
go_gc_duration_seconds_count 30
# HELP go_goroutines Number of goroutines that currently exist.
# TYPE go_goroutines gauge
go_goroutines 14
# HELP go_info Information about the Go environment.
# TYPE go_info gauge
go_info{version="go1.20.2"} 1
# HELP go_memstats_alloc_bytes Number of bytes allocated and still in use.
# TYPE go_memstats_alloc_bytes gauge
go_memstats_alloc_bytes 5.06548e+06
# HELP go_memstats_alloc_bytes_total Total number of bytes allocated, even if freed
# TYPE go_memstats_alloc_bytes_total counter
go_memstats_alloc_bytes_total 9.4716064e+07
# HELP go_memstats_buck_hash_sys_bytes Number of bytes used by the profiling bucket
# TYPE go_memstats_buck_hash_sys_bytes gauge
go_memstats_buck_hash_sys_bytes 1.469187e+06
# HELP go_memstats_frees_total Total number of frees.
# TYPE go_memstats_frees_total counter
go_memstats_frees_total 118086
# HELP go_memstats_gc_sys_bytes Number of bytes used for garbage collection system
# TYPE go_memstats_gc_sys_bytes gauge
go_memstats_gc_sys_bytes 7.442968e+06
# HELP go_memstats_heap_alloc_bytes Number of heap bytes allocated and still in use
# TYPE go_memstats_heap_alloc_bytes gauge
go_memstats_heap_alloc_bytes 5.06548e+06
# HELP go_memstats_heap_idle_bytes Number of heap bytes waiting to be used.
# TYPE go_memstats_heap_idle_bytes gauge
go_memstats_heap_idle_bytes 8.986624e+06
# HELP go_memstats_heap_inuse_bytes Number of heap bytes that are in use.
# TYPE go_memstats_heap_inuse_bytes gauge
go_memstats_heap_inuse_bytes 7.49568e+06
# HELP go_memstats_heap_objects Number of allocated objects.
# TYPE go_memstats_heap_objects gauge
go_memstats_heap_objects 25070
# HELP go_memstats_heap_released_bytes Number of heap bytes released to OS.
# TYPE go_memstats_heap_released_bytes gauge
go_memstats_heap_released_bytes 8.339456e+06
# HELP go_memstats_heap_sys_bytes Number of heap bytes obtained from system
```

Adding Windows Exporter to Prometheus:

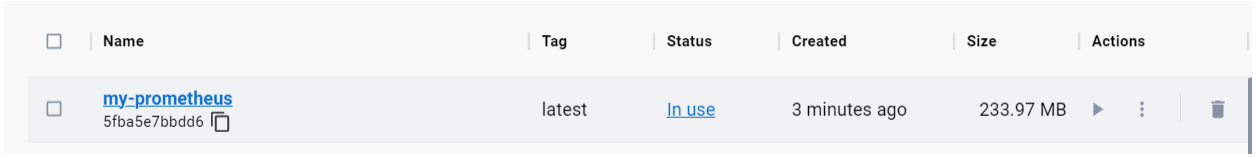
1. Creating a Dockerfile with the following content:



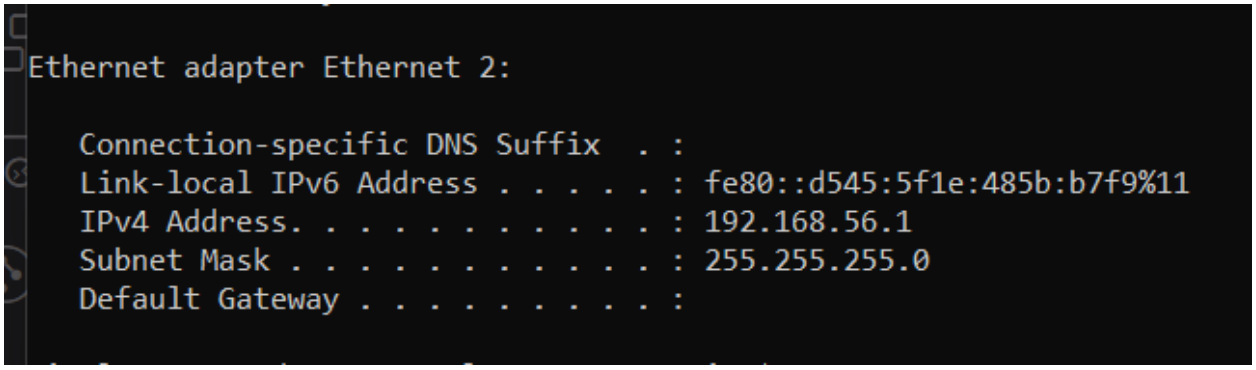

Running Prometheus on port 9090:

```
PS C:\Users\hp\Desktop\prometheus> docker run -p 9090:9090 -v /path/to/prometheus.yml:/etc/prometheus/prometheus.yml prom/prometheus
docker: Error response from daemon: failed to create shim task: OCI runtime create failed: runc create failed: unable to start container process: error during c
ontainer init: error mounting "/path/to/prometheus.yml" to rootfs at "/etc/prometheus/prometheus.yml": mount /path/to/prometheus.yml:/etc/prometheus/prometheus.
yml (via /proc/self/fd/14), flags: 0x5000: not a directory: unknown: Are you trying to mount a directory onto a file (or vice-versa)? Check if the specified hos
t path exists and is the expected type.
PS C:\Users\hp\Desktop\prometheus> docker build -t my-prometheus .
[+] Building 2.5s (7/7) FINISHED
 => [internal] load build definition from Dockerfile                                                                                                    0.1s
 => => transferring dockerfile: 94B                                                                                                                     0.0s
 => [internal] load .dockerignore                                                                                                                       0.1s
 => => transferring context: 2B                                                                                                                         0.0s
 => [internal] load metadata for docker.io/prom/prometheus:latest                                                                                       0.0s
 => [internal] load build context                                                                                                                       0.2s
 => => transferring context: 977B                                                                                                                       0.0s
 => [1/2] FROM docker.io/prom/prometheus                                                                                                                1.7s
ts=2023-05-04T13:13:36.486Z caller=main.go:572 level=info vm_limits="(soft=unlimited, hard=unlimited)"
ts=2023-05-04T13:13:36.509Z caller=web.go:561 level=info component=web msg="Start listening for connections" address=0.0.0.0:9090
ts=2023-05-04T13:13:36.521Z caller=main.go:1005 level=info msg="Starting TSDB ..."
ts=2023-05-04T13:13:36.538Z caller=tls_config.go:232 level=info component=web msg="Listening on" address=[::]:9090
ts=2023-05-04T13:13:36.544Z caller=tls_config.go:235 level=info component=web msg="TLS is disabled." http2=false address=[::]:9090
ts=2023-05-04T13:13:36.572Z caller=head.go:587 level=info component=tsdb msg="Replaying on-disk memory mappable chunks if any"
ts=2023-05-04T13:13:36.573Z caller=head.go:658 level=info component=tsdb msg="On-disk memory mappable chunks replay completed" duration=504.448µs
ts=2023-05-04T13:13:36.573Z caller=head.go:664 level=info component=tsdb msg="Replaying WAL, this may take a while"
ts=2023-05-04T13:13:36.581Z caller=head.go:735 level=info component=tsdb msg="WAL segment loaded" segment=0 maxSegment=0
ts=2023-05-04T13:13:36.581Z caller=head.go:772 level=info component=tsdb msg="WAL replay completed" checkpoint_replay_duration=669.94µs wal_replay_duration=7.18
3815ms wbl_replay_duration=74ns total_replay_duration=8.556007ms
ts=2023-05-04T13:13:36.586Z caller=main.go:1026 level=info fs_type=EXT4_SUPER_MAGIC
ts=2023-05-04T13:13:36.586Z caller=main.go:1029 level=info msg="TSDB started"
ts=2023-05-04T13:13:36.586Z caller=main.go:1209 level=info msg="Loading configuration file" filename=/etc/prometheus/prometheus.yml
ts=2023-05-04T13:13:36.602Z caller=main.go:1246 level=info msg="Completed loading of configuration file" filename=/etc/prometheus/prometheus.yml totalDuration=1
```

We have a Prometheus image installed in Docker:

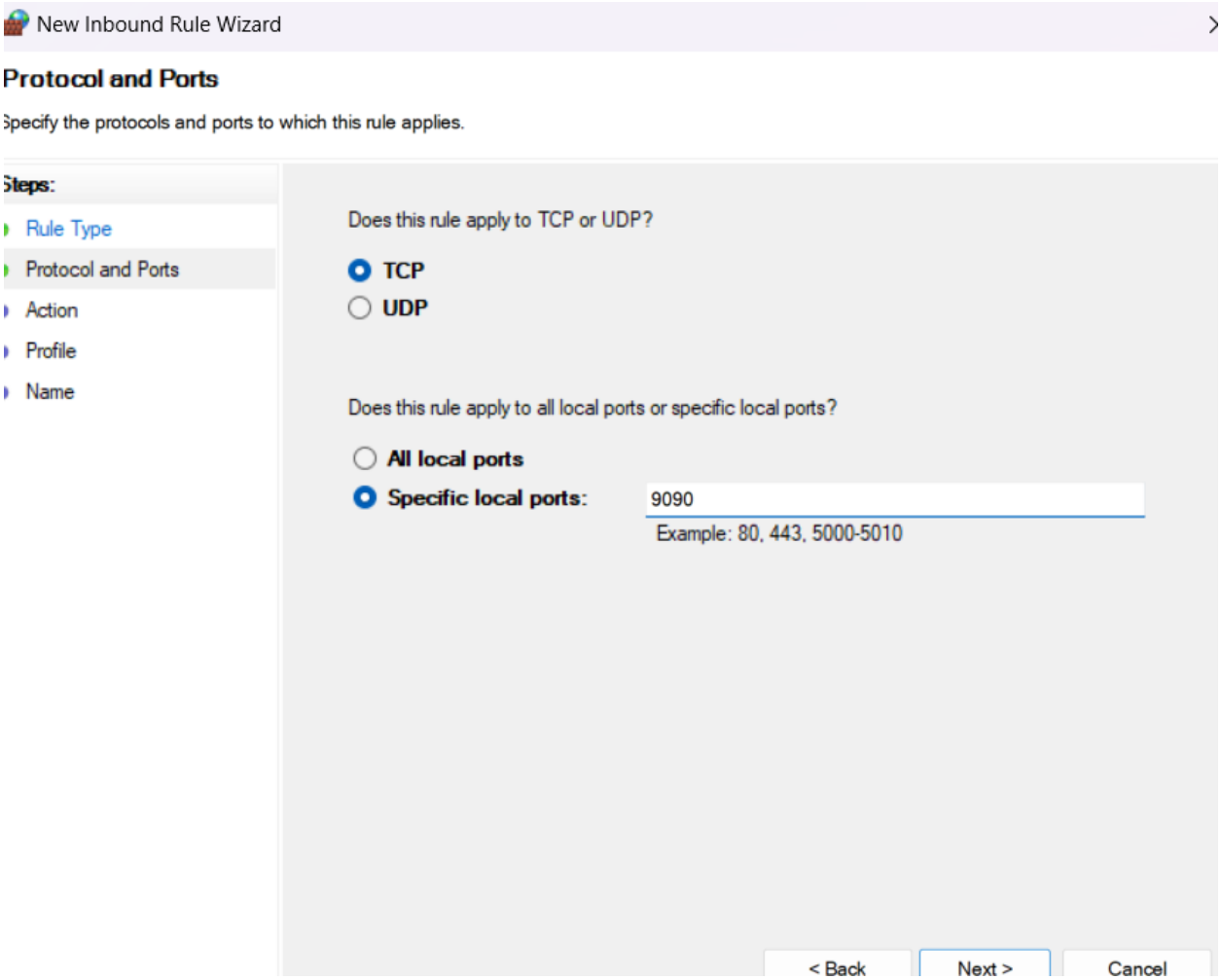


Checking the IP Address where Prometheus was installed with the **ipconfig** command:

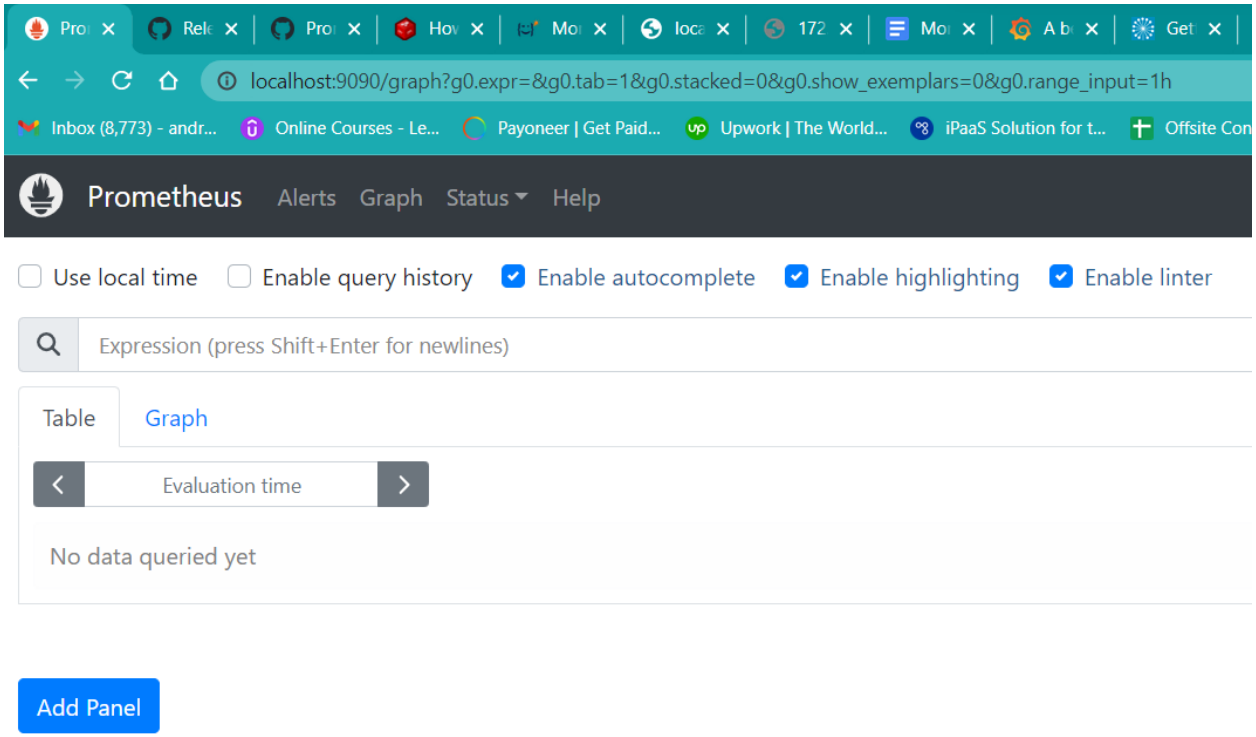



- My IP address is 192.168.56.1
- I need to enter this address in the prometheus.yml file so the connection can be established

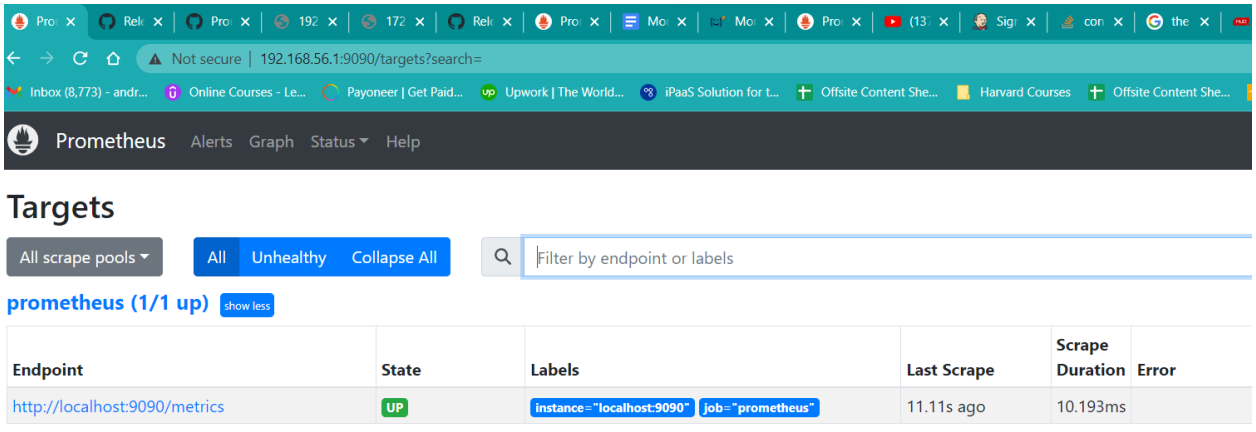
Adding an inbound rule for the 9090 port to be opened - I had to enable 9090 port in my Firewall so that I can open the monitoring metrics in the web browser



Success!




We can also access the monitoring metrics by typing in 192.168.56.1:9090/targets, which is my PC IP address:



And we have the win10 running:

**win10 (1/1 up)** show less

| Endpoint | State | Labels | Last Scrape | Scrape Duration | Error |
|---|---|---|---|---|---|
| http://192.168.56.1:9182/metrics | UP | instance="192.168.56.1:9182" job="win10" | 8.779s ago | 1.342s | |

Monitoring the download speed: