

# Monitoring Network Endpoints

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# Overview



## **Availability of network endpoints**

- Use cases for this monitoring

## **Blackbox exporter**

- What it monitors
- Install and configure

# Running a Network Service



**Is service available to users?**

- Internal vs external checks

**External monitor helps determine availability**

# Monitoring Endpoints



Monitor from different  
geographic locations



Complete picture of  
endpoint health



View in one system



# Endpoint Probe Options

HTTP(S), TCP, DNS,  
ICMP

Service status  
(up / down)

HTTP latency

DNS lookup latency

SSL certificate  
expiration



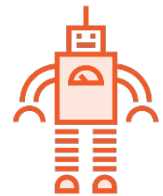
# Blackbox Exporter



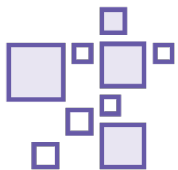
Standalone tool - set up anywhere - outside view of service



Define jobs in Prometheus



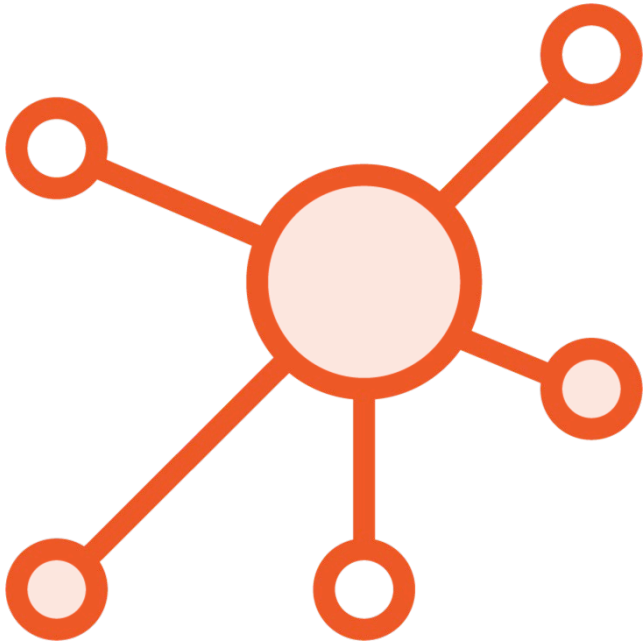
Prometheus automates requests and stores response information



Monitor multiple endpoints with a single Blackbox exporter



# Blackbox Exporter



**Download .tar file**

**Modules defined in blackbox.yml**

**Create job in prometheus.yml**

- Module, target(s), and customizations

**[https://prometheus.io/download/#blackbox\\_exporter](https://prometheus.io/download/#blackbox_exporter)**



```
wget https://github.com/  
prometheus/blackbox_exporter/releas  
es/download/v*/blackbox_exporter-  
*.*.linux-amd64.tar.gz
```

```
tar xvfz blackbox_exporter-*.*-  
amd64.tar.gz
```

```
cd blackbox_exporter-*.*-amd64
```

```
./blackbox_exporter > blackbox.out  
2>&1
```

```
curl http://localhost:9115/metrics
```

◀ Get the exporter tar

◀ Unpack the tar

◀ Move into folder

◀ Start the exporter

◀ Check that metrics are publishing





```
modules:
```

```
  http_2xx:
```

```
    prober: http
```

```
    http:
```

```
      preferred_ip_protocol: "ip4"
```

# blackbox.yml Configuration

## Several predefined modules

### IPv6 by default for probe success

- Change to IPv4 with preferred\_ip\_protocol setting

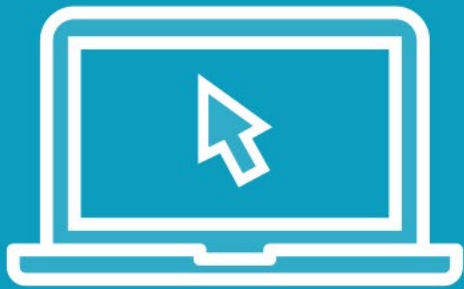
[https://github.com/prometheus/blackbox\\_exporter/blob/master/CONFIGURATION.md](https://github.com/prometheus/blackbox_exporter/blob/master/CONFIGURATION.md)

```
- job_name: 'blackbox'
  metrics_path: /probe
  params:
    module: [http_2xx]
  static_configs:
    - targets:
      ['https://www.pluralsight.com',
      'http://www.prometheus.io']
  relabel_configs:
    - source_labels: [__address__]
      target_label: __param_target
    - source_labels: [__param_target]
      target_label: instance
    - target_label: __address__
      replacement: 172.31.27.103:9115
```

- ◀ Create a job
- ◀ Endpoint where exporter listens
- ◀ Specify Blackbox module
- ◀ Target URLs to probe
- ◀ Prometheus sends information as URL parameters when calls exporter
- ◀ Address and port of Blackbox exporter



# Demo



## Blackbox Exporter

- Install and configure on Linux machine

**View results in Prometheus**



# Summary



## **Use cases for network monitoring**

- HTTP and DNS lookup latency

## **Check service availability**

- Success or failure

## **Blackbox exporter install and config**

Up Next:

Monitoring Kubernetes Clusters

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