

<https://prometheus.io/download/>

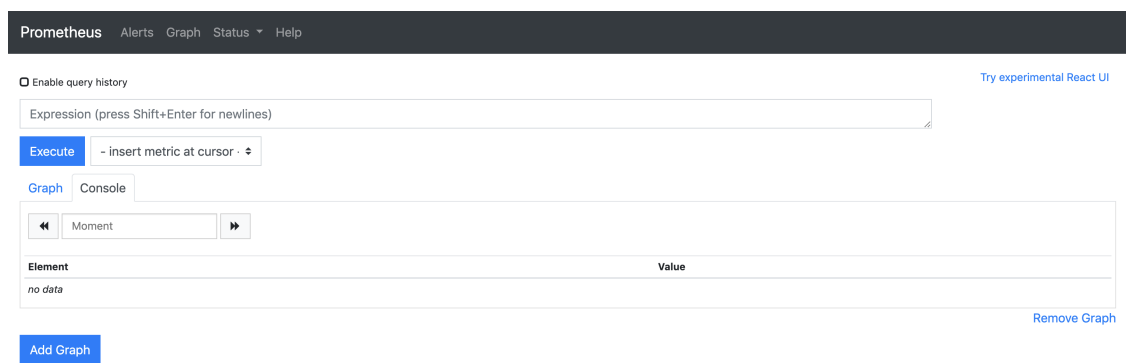
通过这个页面可以下载 prometheus

mac 上选择 darwin-amd64 版本

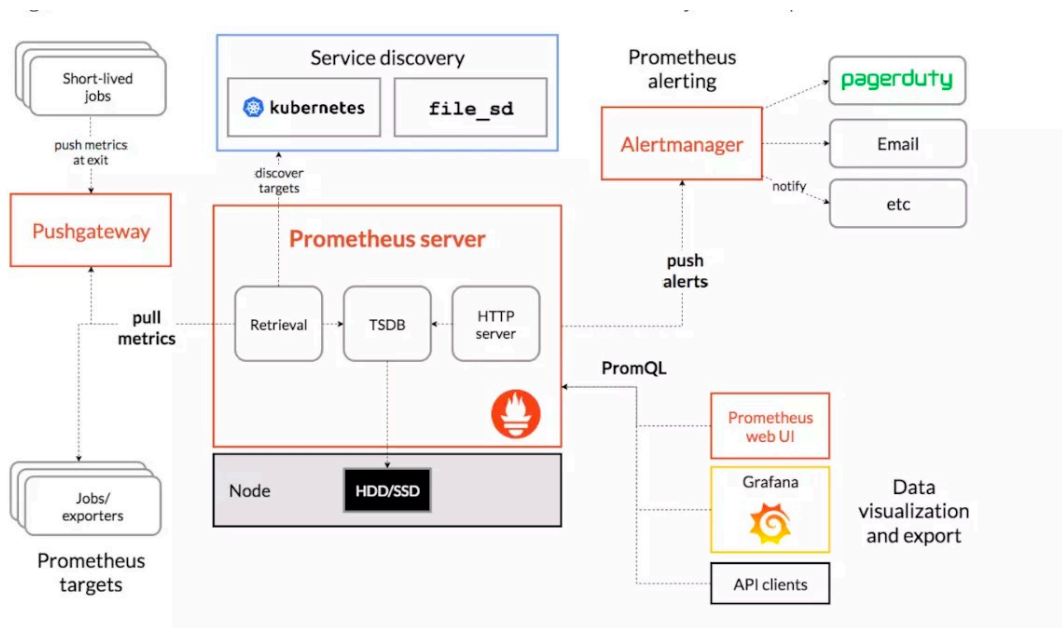
解压后直接运行 `./prometheus` 就可以启动 prometheus

```
+ ~ cd /usr/local/prometheus-2.14.0.darwin-amd64
+ prometheus-2.14.0.darwin-amd64 ls
LICENSE      NOTICE      console_libraries consoles      prometheus      prometheus.yml  promtool      tsdb
+ prometheus-2.14.0.darwin-amd64
+ prometheus-2.14.0.darwin-amd64
+ prometheus-2.14.0.darwin-amd64
+ prometheus-2.14.0.darwin-amd64 ll
total 272960
-rw-r--r--@ 1 zhisheng admin 11K 11 12 00:17 LICENSE
-rw-r--r--@ 1 zhisheng admin 3.1K 11 12 00:17 NOTICE
drwxr-xr-x@ 4 zhisheng admin 128B 11 12 00:17 console_libraries
drwxr-xr-x@ 9 zhisheng admin 288B 11 12 00:17 consoles
-rwxr-xr-x@ 1 zhisheng admin 76M 11 11 22:36 prometheus
-rw-r--r--@ 1 zhisheng admin 926B 11 12 00:17 prometheus.yml
-rwxr-xr-x@ 1 zhisheng admin 45M 11 11 22:38 promtool
-rwxr-xr-x@ 1 zhisheng admin 13M 11 11 22:38 tsdb
+ prometheus-2.14.0.darwin-amd64 ./prometheus
level=info ts=2019-11-14T10:58:17.537Z caller=main.go:296 msg="no time or size retention was set so using the default time retention" duration=15d
level=info ts=2019-11-14T10:58:17.537Z caller=main.go:332 msg="Starting Prometheus" version="(version=2.14.0, branch=HEAD, revision=ede77a44cbf745f1d8be4ea6f215e79e651bfe19)"
level=info ts=2019-11-14T10:58:17.537Z caller=main.go:333 build_context="(go=go1.13.4, user=root@df2327081015, date=20191111-14:34:50)"
level=info ts=2019-11-14T10:58:17.537Z caller=main.go:334 host_details=(darwin)
level=info ts=2019-11-14T10:58:17.537Z caller=main.go:335 fd_limits="(soft=256, hard=unlimited)"
level=info ts=2019-11-14T10:58:17.537Z caller=main.go:336 vm_limits="(soft=unlimited, hard=unlimited)"
level=info ts=2019-11-14T10:58:17.540Z caller=main.go:657 msg="Starting TSDB ..."
level=info ts=2019-11-14T10:58:17.540Z caller=web.go:496 component=web msg="Start listening for connections" address=0.0.0.0:9090
level=info ts=2019-11-14T10:58:17.543Z caller=head.go:535 component=tsdb msg="replaying WAL, this may take awhile"
level=info ts=2019-11-14T10:58:17.545Z caller=head.go:583 component=tsdb msg="WAL segment loaded" segment=0 maxSegment=0
level=info ts=2019-11-14T10:58:17.546Z caller=main.go:672 fs_type=18
level=info ts=2019-11-14T10:58:17.546Z caller=main.go:673 msg="TSDB started"
level=info ts=2019-11-14T10:58:17.546Z caller=main.go:743 msg="Loading configuration file" filename=prometheus.yml
level=info ts=2019-11-14T10:58:17.549Z caller=main.go:771 msg="Completed loading of configuration file" filename=prometheus.yml
level=info ts=2019-11-14T10:58:17.549Z caller=main.go:626 msg="Server is ready to receive web requests."
```

本地打开: <http://localhost:9090/>



prometheus 架构



prometheus 与 pushgateway 的关系？

下载 prometheus pushgateway

<https://prometheus.io/download/>

安装 prometheus pushgateway

在 prometheus.yml 中添加下面信息：

```
- job_name: 'pushgateway'
  scrape_interval: 10s
  honor_labels: true #加上此配置exporter节点上传数据中的一些标签将不会被
pushgateway节点的相同标签覆盖
  static_configs:
    - targets: ['localhost:9091']
      labels:
        instance: pushgateway
```

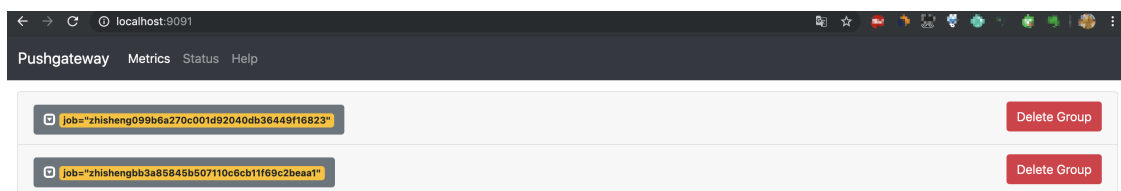
因为prometheus配置pushgateway 的时候,也会指定job和instance,但是它只表示pushgateway实例,不能真正表达收集数据的含义。所以配置pushgateway需要添加honor_labels:true,避免收集数据本身的job和instance被覆盖。

```
! prometheus.yml x
usr > local > prometheus-2.14.0.darwin-amd64 > ! prometheus.yml
3 | scrape_interval: 15s # Set the scrape interval to every 15 seconds. Default is every 1 minute.
4 | evaluation_interval: 15s # Evaluate rules every 15 seconds. The default is every 1 minute.
5 | # scrape_timeout is set to the global default (10s).
6 |
7 | # Alertmanager configuration
8 | alerting:
9 |   alertmanagers:
10 |     - static_configs:
11 |       - targets:
12 |         # - alertmanager:9093
13 |
14 | # Load rules once and periodically evaluate them according to the global 'evaluation_interval'.
15 | rule_files:
16 |   # - "first_rules.yml"
17 |   # - "second_rules.yml"
18 |
19 | # A scrape configuration containing exactly one endpoint to scrape:
20 | # Here it's Prometheus itself.
21 | scrape_configs:
22 |   # The job name is added as a label `job=<job_name>` to any timeseries scraped from this config.
23 |   - job_name: 'prometheus'
24 |
25 |     # metrics_path defaults to '/metrics'
26 |     # scheme defaults to 'http'.
27 |
28 |     static_configs:
29 |       - targets: ['localhost:9090']
30 |
31 |   - job_name: 'pushgateway'
32 |     scrape_interval: 10s
33 |     honor_labels: true #加上此配置exporter 节点上传数据中的一些标签将不会被pushgateway节点的相同标签覆盖
34 |     static_configs:
35 |       - targets: ['localhost:9091']
36 |         labels:
37 |           instance: pushgateway
```

启动 pushgateway

```
+ pushgateway-1.0.0.darwin-amd64 ./pushgateway
level=info ts=2019-11-14T11:50:20.160Z caller=main.go:81 msg="starting pushgateway" version="(version=1.0.0, branch=HEAD, revision=cc61f46971f5eb7a5be64e80c2ee03857ddb41a)"
level=info ts=2019-11-14T11:50:20.161Z caller=main.go:82 build_context="(go=go1.13.1, user=root@58be538fc30e, date=20191015-19:59:05)"
level=info ts=2019-11-14T11:50:20.162Z caller=main.go:142 listen_address=:9091
```

打开: <http://localhost:9091/>



配置好了上面的 prometheus 配置文件后, 接下来启动 prometheus。

从 <http://localhost:9090/targets> 可以看到新启动的 pushgateway 了

Targets

All Unhealthy

prometheus (1/1 up) [show less](#)

Endpoint	State	Labels	Last Scrape	Scrape Duration	Error
http://localhost:9090/metrics	UP	instance="localhost:9090" job="prometheus"	13.573s ago	6.915ms	

pushgateway (1/1 up) [show less](#)

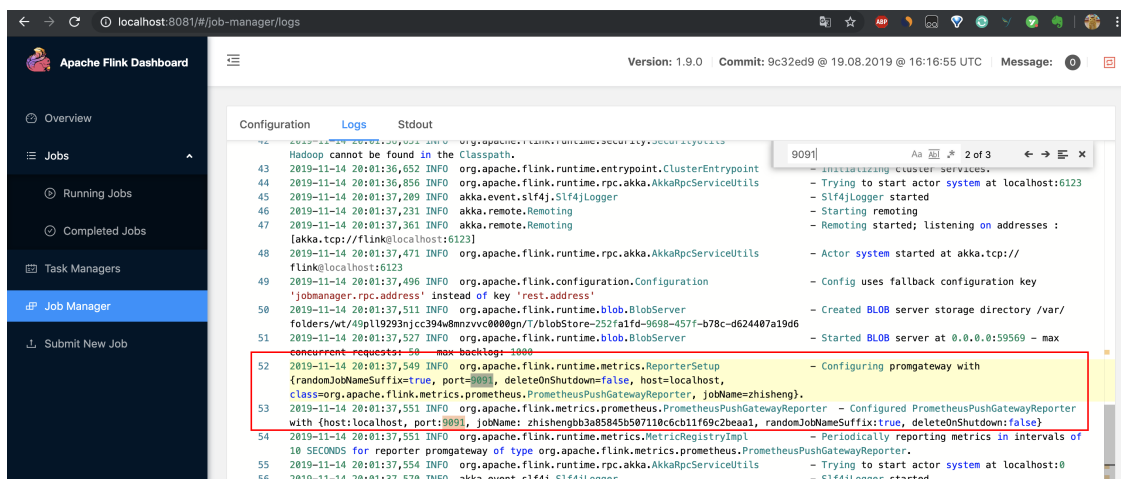
Endpoint	State	Labels	Last Scrape	Scrape Duration	Error
http://localhost:9091/metrics	UP	instance="pushgateway" job="pushgateway"	6.437s ago	2.798ms	

然后在 Flink 的配置文件中添加:

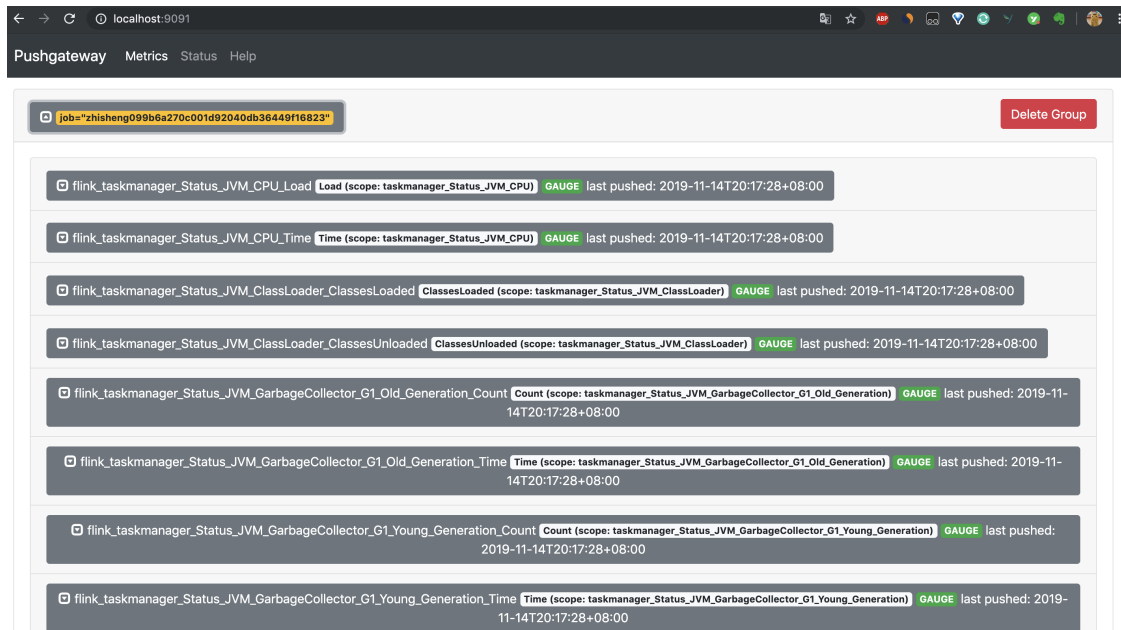
```
metrics.reporter.promgateway.class:
org.apache.flink.metrics.prometheus.PrometheusPushGatewayReporter
metrics.reporter.promgateway.host: localhost # promgateway 地址
metrics.reporter.promgateway.port: 9091
metrics.reporter.promgateway.jobName: zhisheng
metrics.reporter.promgateway.randomJobNameSuffix: true
metrics.reporter.promgateway.deleteOnShutdown: false
```

接着可以启动 Flink，然后看下启动日志：

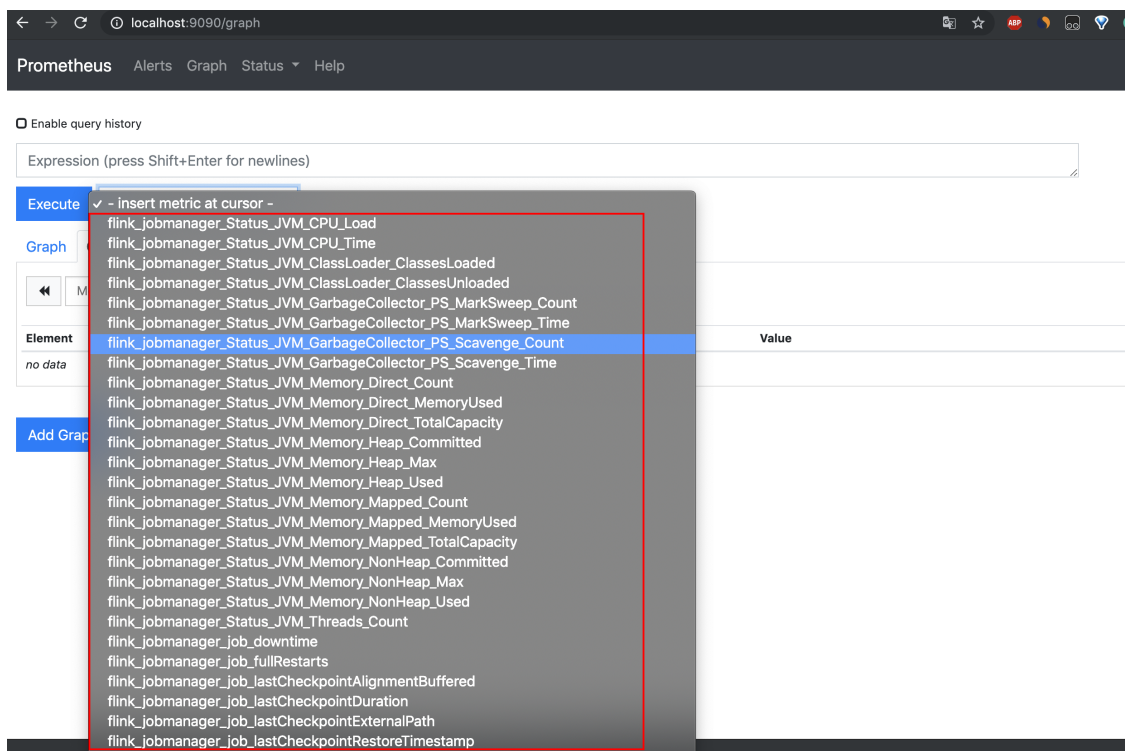
```
2019-11-14 20:01:37,549 INFO
org.apache.flink.runtime.metrics.ReporterSetup -
Configuring promgateway with {randomJobNameSuffix=true, port=9091,
deleteOnShutdown=false, host=localhost,
class=org.apache.flink.metrics.prometheus.PrometheusPushGatewayRepo
rter, jobName=zhisheng}.
2019-11-14 20:01:37,551 INFO
org.apache.flink.metrics.prometheus.PrometheusPushGatewayReporter
- Configured PrometheusPushGatewayReporter with {host:localhost,
port:9091, jobName: zhishengbb3a85845b507110c6cb11f69c2beaa1,
randomJobNameSuffix:true, deleteOnShutdown:false}
```



接着在 Flink UI 上提交一个 Flink 作业，接着就可以在 <http://localhost:9091/pushgateway> 上看到监控指标数据了。



然后在 prometheus <http://localhost:9090/graph> 上也可以看到监控指标数据了



如果你有安装 Grafana 的话，那么可以使用 Grafana 去读取 prometheus 中的数据，配置一下数据源、指标、数据展示方式等。

