

一、PrometheusRule

- PrometheusRule是Prometheus的operator 提供的
- 查看PrometheusRule

```
[root@k8s-master01 ~]# kubectl get PrometheusRule -n monitoring
NAME                      AGE
prometheus-k8s-rules      13d
```

- 查看具体写法

```
# kubectl get prometheusrule -n monitoring node-exporter-rules -oyaml
apiVersion: monitoring.coreos.com/v1
kind: PrometheusRule
...
spec:
  groups:
  - name: node-exporter
    rules:
  - alert: NodeFilesystemSpaceFillingUp
    annotations:
      description: Filesystem on {{ $labels.device }} at {{ $labels.instance
}}
      has only {{ printf "%.2f" $value }}% available space left and is
filling
      up.
      runbook_url: https://github.com/prometheus-operator/kube-
prometheus/wiki/nodefilesystemspacefillingup
      summary: Filesystem is predicted to run out of space within the next 24
hours.
    expr: |
      (
        node_filesystem_avail_bytes{job="node-exporter",fstype!=""} /
node_filesystem_size_bytes{job="node-exporter",fstype!=""} * 100 < 40
        and
        predict_linear(node_filesystem_avail_bytes{job="node-
exporter",fstype!=""}[6h], 24*60*60) < 0
        and
        node_filesystem_readonly{job="node-exporter",fstype!=""} == 0
      )
    for: 1h
    labels:
      severity: warning
```

- Ø alert: 告警策略的名称
- Ø annotations: 告警注释信息，一般写为告警信息
- Ø expr: 告警表达式
- Ø for: 评估等待时间，告警持续多久才会发送告警数据
- Ø labels: 告警的标签，用于告警的路由

二、域名访问延迟告警

- 假设需要对域名访问延迟进行监控，访问延迟大于1秒进行告警，此时可以创建一个 PrometheusRule如下：
- 当然也可以写一个MySQL的告警规则

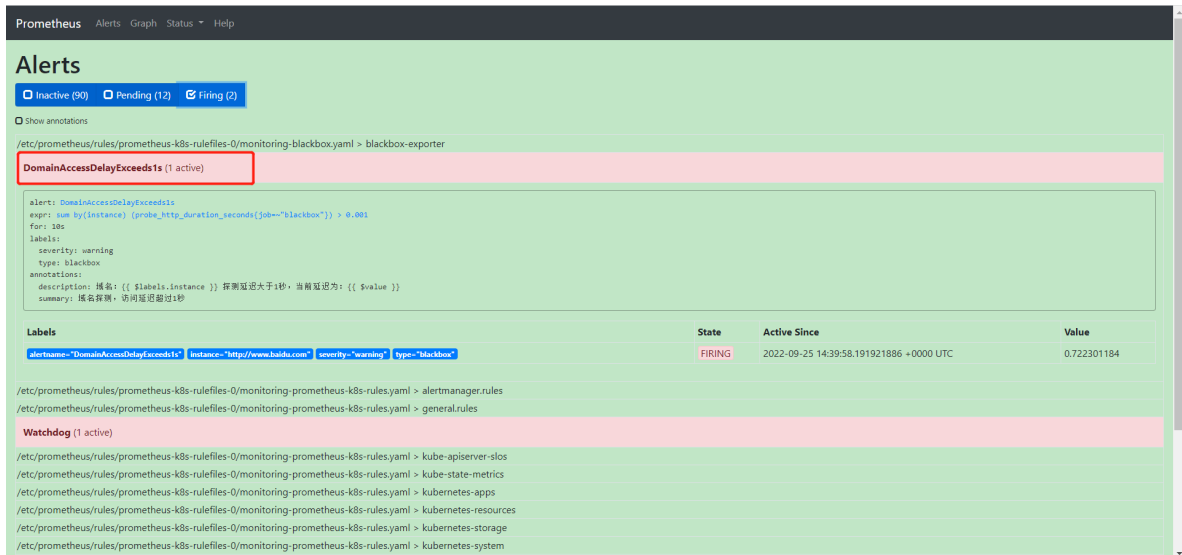
```
[root@k8s-master01 blackbox-exporter-黑盒监控]# cat blackbox.yaml
apiVersion: monitoring.coreos.com/v1
kind: PrometheusRule
metadata:
  labels:
    app.kubernetes.io/component: exporter
    app.kubernetes.io/name: blackbox-exporter
    prometheus: k8s
    role: alert-rules
  name: blackbox
  namespace: monitoring
spec:
  groups:
    - name: blackbox-exporter
      rules:
        - alert: DomainAccessDelayExceeds1s
          annotations:
            description: 域名: {{ $labels.instance }} 探测延迟大于1秒，当前延迟为: {{
              $value }}
            summary: 域名探测，访问延迟超过1秒
            # 实验的时候可以改小一些这个延迟 > 0.1
            expr: sum(probe_http_duration_seconds{job=~"blackbox"}) by (instance) > 1
            for: 10s
            labels:
              severity: warning
              type: blackbox
```

```
[root@k8s-master01 blackbox-exporter-黑盒监控]# kubectl apply -f blackbox.yaml
prometheusrule.monitoring.coreos.com/blackbox created
[root@k8s-master01 blackbox-exporter-黑盒监控]# kubectl get -f blackbox.yaml
NAME          AGE
blackbox      6s
```

- [Prometheus](#) web IP查看规则

Prometheus Alerts Graph Status Help				
Rules				
blackbox-exporter			21.351s ago	334.4us
Rule	State	Error	Last Evaluation	Evaluation Time
alert: DomainAccessDelayExceeds1s expr: sum by(instance) (probe_http_duration_seconds{job=~"blackbox"}) > 1 for: 10s labels: severity: warning type: blackbox annotations: description: 域名: {{ \$labels.instance }} 探测延迟大于1秒，当前延迟为: {{ \$value }} summary: 域名探测，访问延迟超过1秒	OK		21.4s ago	323.6us
alertmanager.rules			1.013s ago	1.94ms
Rule	State	Error	Last Evaluation	Evaluation Time
alert: AlertmanagerFailedReload expr: max_over_time(alertmanager_config_last_reload_successful{job="alertmanager-main",namespace="monitoring"}[5m]) == 0 for: 10m labels: severity: critical annotations: description: Configuration has failed to load for {{ \$labels.namespace }}/{{ \$labels.pod }}. runbook_url: https://github.com/prometheus-operator/kube-prometheus/wiki/alertmanagerfailedreload summary: Reload failed: an Alertmanager configuration has failed	OK		1.013s ago	356.5us

- 如果探测延迟有超过1s的域名，就会触发告警，如图所示：



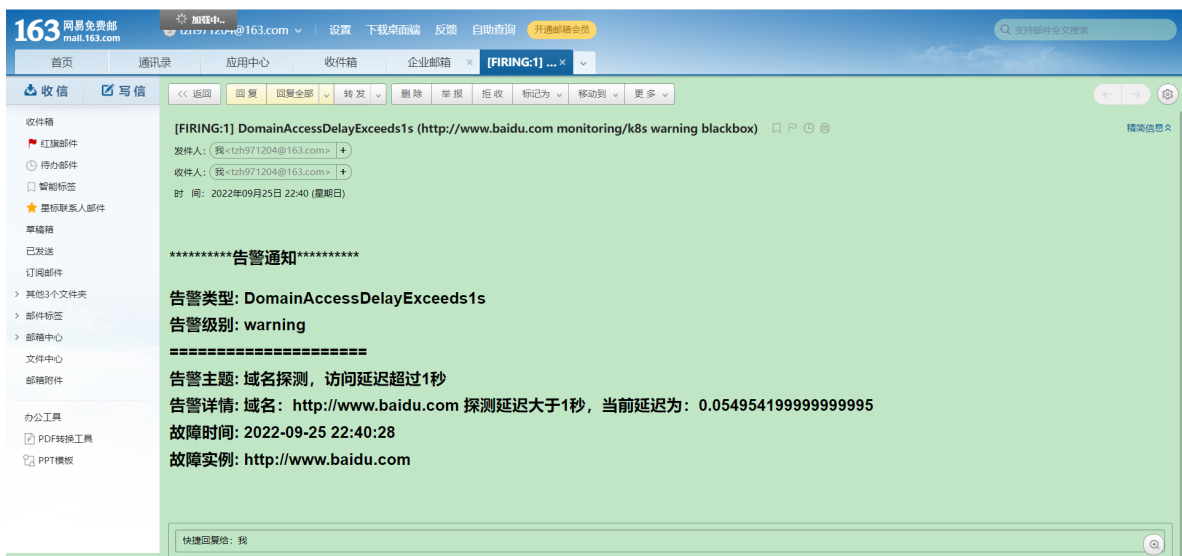
- 如果有告警就发送给指定的人，编辑配置文件【/root/kube-prometheus/manifests/alertmanager-secret.yaml】

```

- "match":
    "type": "blackbox"          # 匹配规则
    "receiver": "Default"       # 发送给谁
    "resolve_timeout": "30s"    #
# 在上面加上几个配置文件
type: Opaque
  
```

```
[root@k8s-master01 ~]# kubectl replace -f /root/kube-prometheus/manifests/alertmanager-secret.yaml -n monitoring
```

- 查看告警



三、告警规则不会写怎么搞

- 百度：Prometheus MySQL告警规则
- Grafana模板的展示，有编写好的语法，拿来告警即可【删除包含\$符号的信息】