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:
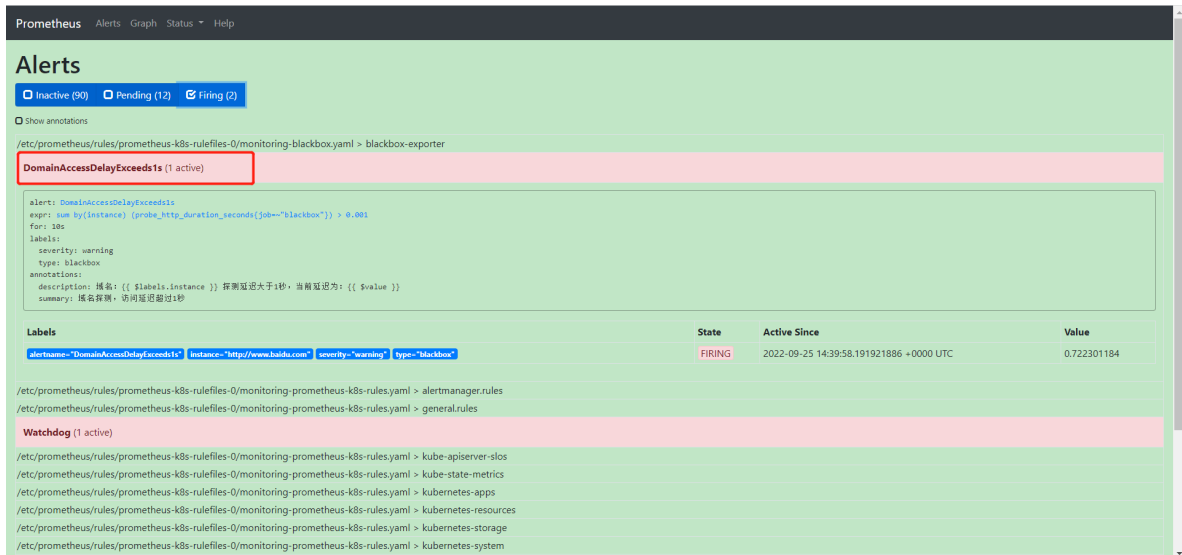- 当然也可以写一个MySQL的告警规则

```
[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

- 如果探测延迟有超过1s的域名，就会触发告警，如图所示：
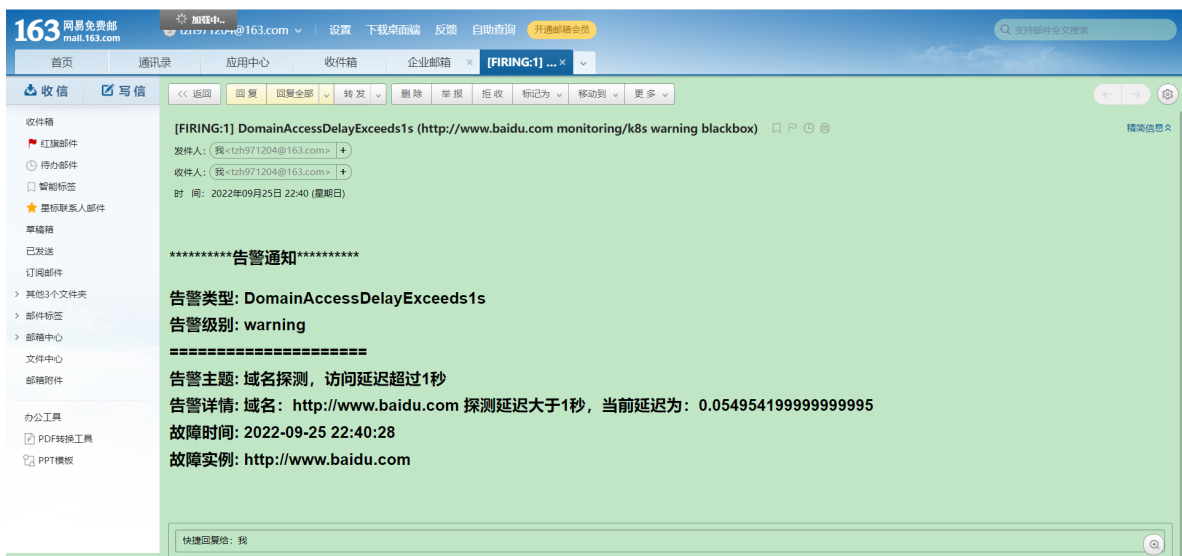

- 如果有告警就发送给指定的人，编辑配置文件【/root/kube-prometheus/manifests/alertmanager-secret.yaml】

```
- "match":
      "type": "blackbox"        # 匹配规则
    "receiver": "Default"        # 发生给谁
    "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】