

# istio配置服务访问速率限制

1、创建名为requestcount的quota实例（instance），quota的dimensions定义速率限制的维度标识。名为requestcount的quota定义了source，sourceVersion，destination，destinationVersion四个维度标识。开发人员还可以配置多个自定义的标识。例如，可以多加一个

```
path: request.path | "unknown"
```

可以将速率配额限定粒度到url级别。

```
apiVersion: config.istio.io/v1alpha2
kind: quota
metadata:
  name: requestcount
  namespace: istio-system
spec:
  dimensions:
    source: source.labels["app"] | source.service | "unknown"
    sourceVersion: source.labels["version"] | "unknown"
    destination: destination.labels["app"] | destination.service | "unknown"
    destinationVersion: destination.labels["version"] | "unknown"
```

2、配置速率限制的类型为memquota的适配器

memquota配置定义了quota作用的服务的速率限制为1天5000次请求，并且标志了由v2版本的reviews服务到ratings服务的访问速率限制为1天100次请求。

在overrides下有个dimensions，里面的子项便是根据requestcount.quota.istio-system（即名为requestcount的quota）中dimensions声明的。

```
apiVersion: config.istio.io/v1alpha2
kind: memquota
metadata:
  name: handler
  namespace: istio-system
spec:
  quotas:
    - name: requestcount.quota.istio-system
      # default rate limit is 5000qps
```

```
maxAmount: 5000
validDuration: 86400s
# The first matching override is applied.
# A requestcount instance is checked against override dimensions.
overrides:
# The following override applies to traffic from 'reviews' version v2,
# destined for the ratings service. The destinationVersion dimension is ignored.
- dimensions:
    destination: ratings
    source: reviews
    sourceVersion: v2
  maxAmount: 100
  validDuration: 86400s
```

3、创建rule把quota实例应用到memquota的适配器。

```
---
apiVersion: config.istio.io/v1alpha2
kind: rule
metadata:
  name: quota
  namespace: istio-system
spec:
  actions:
  - handler: handler.memquota
    instances:
    - requestcount.quota
```

也可以配置带条件的服务访问限制，例如  
创建如下的rule，会配置不同namespace之间的服务的访问速率进行限制。

```
apiVersion: config.istio.io/v1alpha2
kind: rule
metadata:
  name: quota
  namespace: istio-system
```

```
spec:
  match: source.namespace != destination.namespace
  actions:
    - handler: handler.memquota
      instances:
        - requestcount.quota
```

#### 4、指定配额作用到服务

配置名为RequestCount的quota每次计数加1。

```
apiVersion: config.istio.io/v1alpha2
kind: QuotaSpec
metadata:
  creationTimestamp: null
  name: request-count
  namespace: istio-system
spec:
  rules:
    - quotas:
        - charge: 1
          quota: RequestCount
```

配置名为RequestCount的quota作用到namespace为default下的ratings，reviews，details，productpage服务上。如果没有配置这一项，速率限制是不会在服务上生效的。

```
apiVersion: config.istio.io/v1alpha2
kind: QuotaSpecBinding
metadata:
  creationTimestamp: null
  name: request-count
  namespace: istio-system
spec:
  quotaSpecs:
    - name: request-count
      namespace: istio-system
  services:
    - name: ratings
```

namespace: default

- name: reviews

namespace: default

- name: details

namespace: default

- name: productpage

namespace: default