

Basics

FILTER BY LABEL

```
http_requests_total{job="prometheus", code="200"}
```

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REGEX MATCH

```
http_requests_total{status_code=~"2.*"}
```

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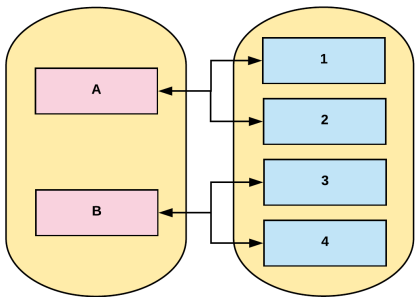
Vector Matching

ONE-TO-ONE

```
rate(http_requests_total{status_code=~"5.*" [5m])  
> .1 * rate(http_requests_total[5m])
```

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MANY-TO-ONE



*Element on one side matches
with many on the other*
group_right when right side has
higher cardinality

CHANGE TIME OFFSET

```
http_requests_total{status_code=~"2.*"} offset 5m
```

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Range Vectors

INCREASE PER SECOND AVERAGED OVER 5 MINUTES

```
rate(http_requests_total[5m])
```

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INCREASE BETWEEN RECENT SAMPLES

```
irate(http_requests_total[5m])
```

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IN LAST HOUR

```
increase(http_requests_total[1h])
```

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Common Vectors

RATE OF HTTP REQUESTS

```
sum(rate(http_requests_total[5m]))
```

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RATE OF HTTP REQUESTS BY STATUS CODE

```
sum by(status_code) (rate(http_requests_total[5m]))
```

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Examples

CPU USAGE BY INSTANCE

```
100 * (1 - avg by(instance)  
(irate(node_cpu{mode='idle'}[5m])))
```

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MEMORY USAGE

```
node_memory_Active / on (instance) node_memory_MemTotal
```

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DISK SPACE

```
node_filesystem_avail{fstype!~"tmpfs|fuse.lxcfs|squashfs"} /  
node_filesystem_size{fstype!~"tmpfs|fuse.lxcfs|squashfs"}
```

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HTTP ERROR RATES AS % OF TRAFFIC

```
rate(http_requests_total{status_code=~"5.*"}[5m])  
/ rate(http_requests_total[5m])
```

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ALERTS FIRING

```
sum(sort_desc(sum_over_time(ALERTS  
{alertstate="firing"}[24h]))) by (alertname)
```

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