สยามชำนาญกิจ
SIAM CHAMNAN KIT

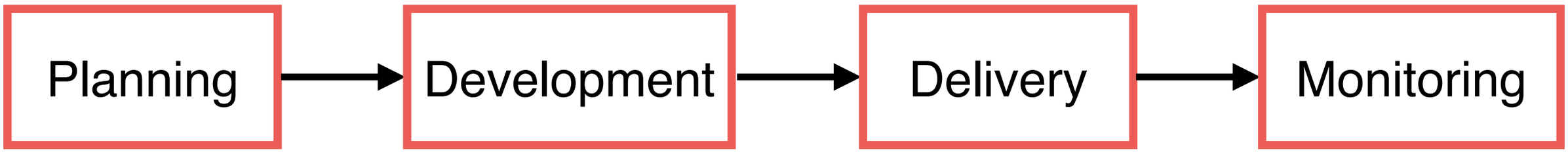
Automated testing with
Katalon and Robot framework

Performance Testing Workshop

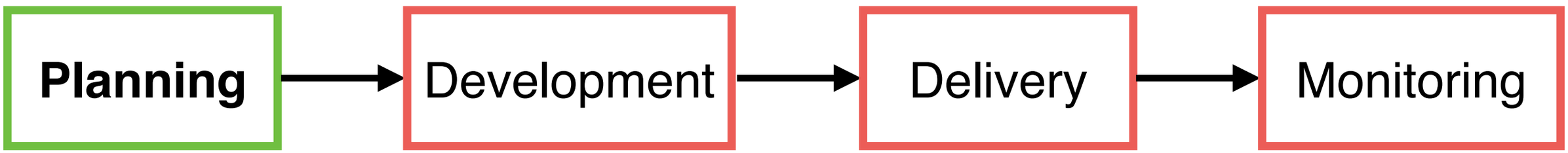
Performance Testing

Goals ?
Overall architecture of system
Testing tools
Metrics, reporting and monitoring system
Workshop

Performance Testing Processes

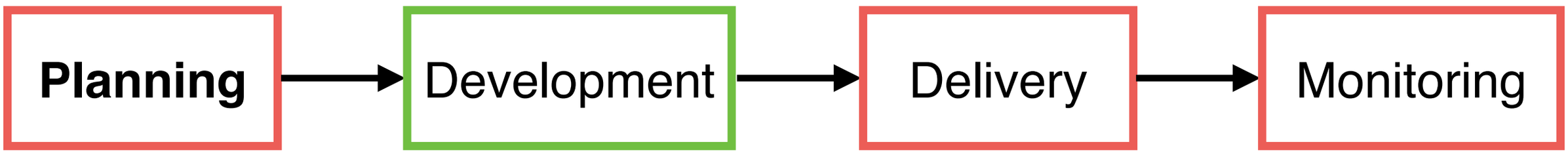


Performance Testing Processes



Requirement management
Performance metrics development

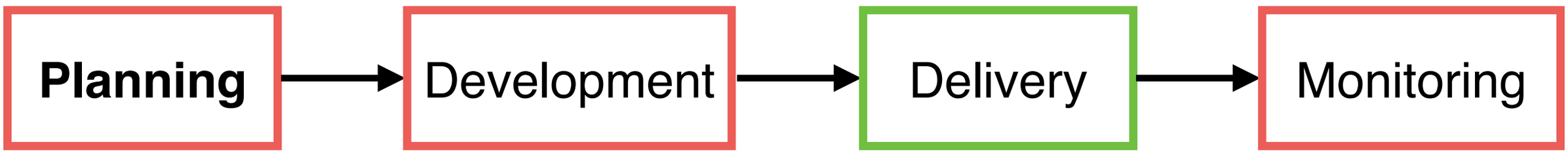
Performance Testing Processes



Architecture analysis

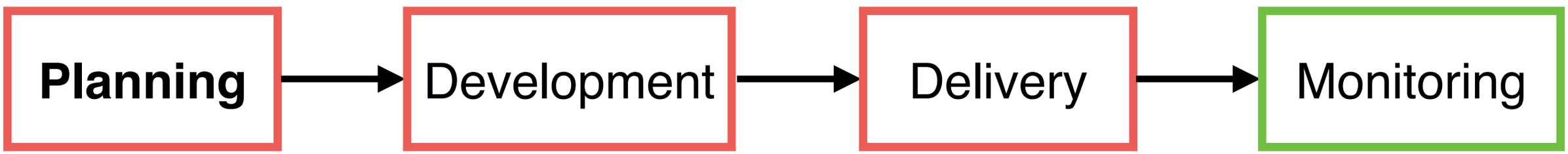
Early detection of performance problems

Performance Testing Processes



Acceptance testing
Performance stabilization

Performance Testing Processes



Performance monitoring
Detection of bottlenecks
Recommendations on improvement

Load planning
Scalability analysis

Structure of Testing

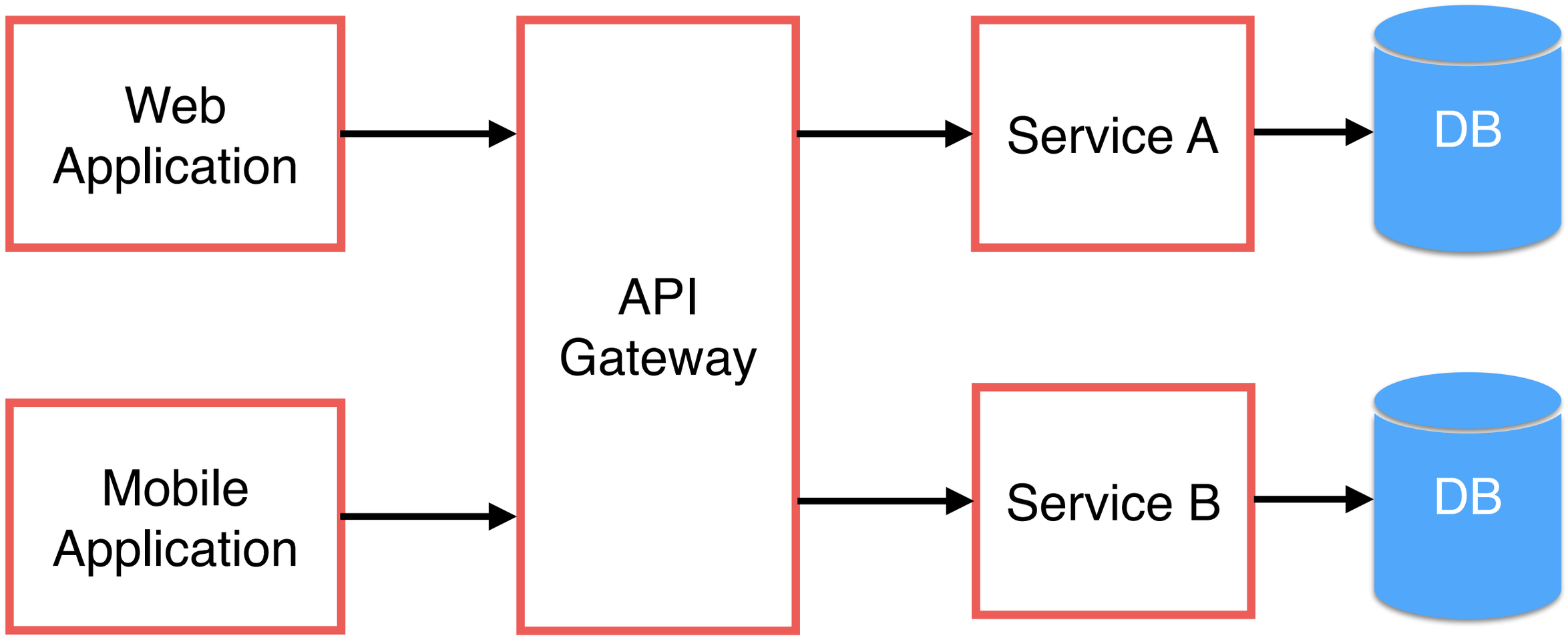
Goals of Testing

System Under Test (SUT)

Testing Tools

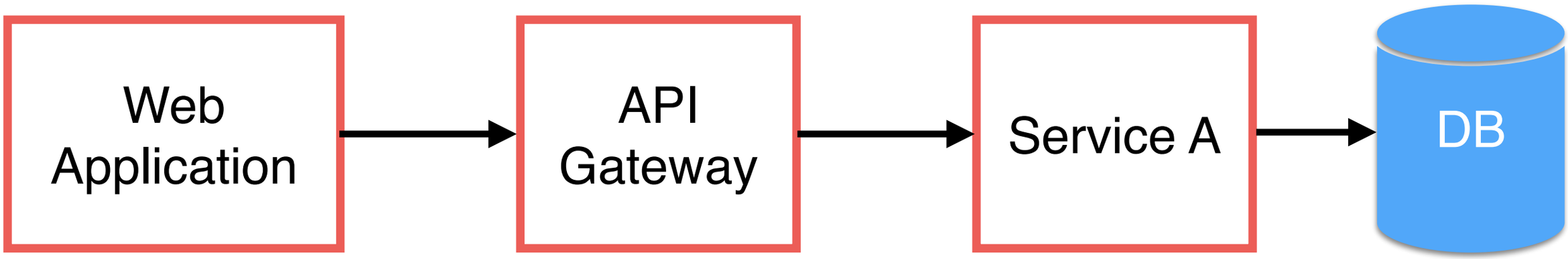
Monitoring system

Architecture of System ?



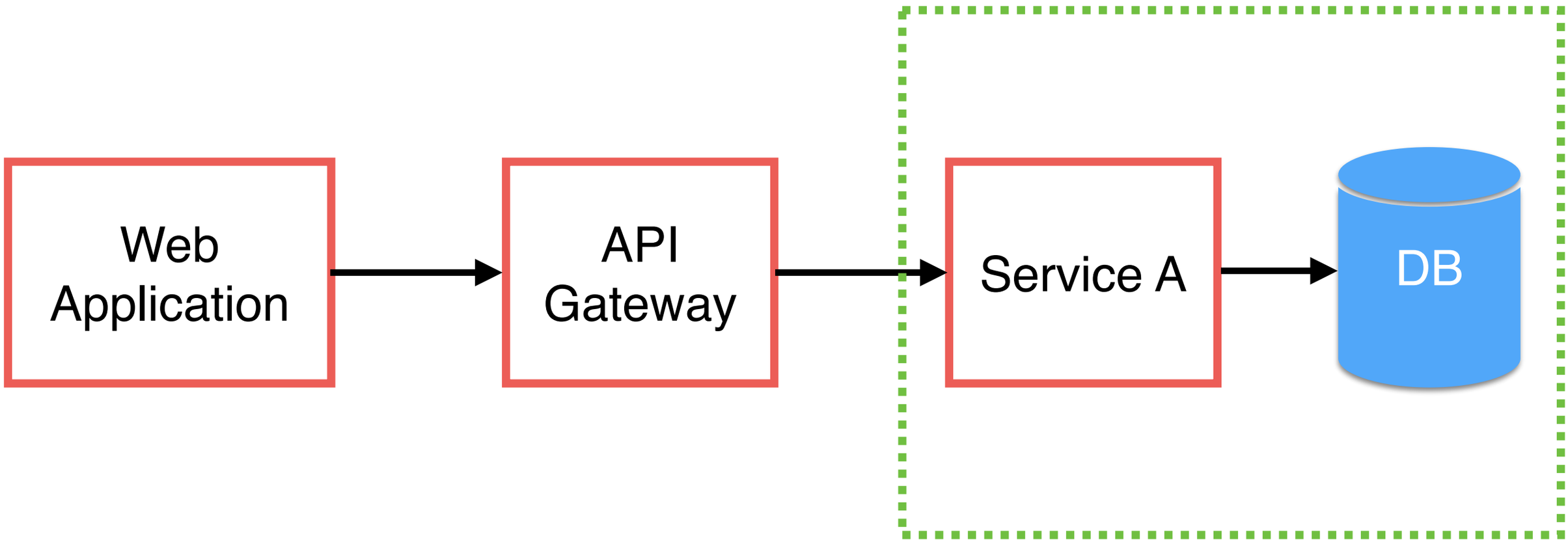
What and How to Test ?

Architecture of System ?



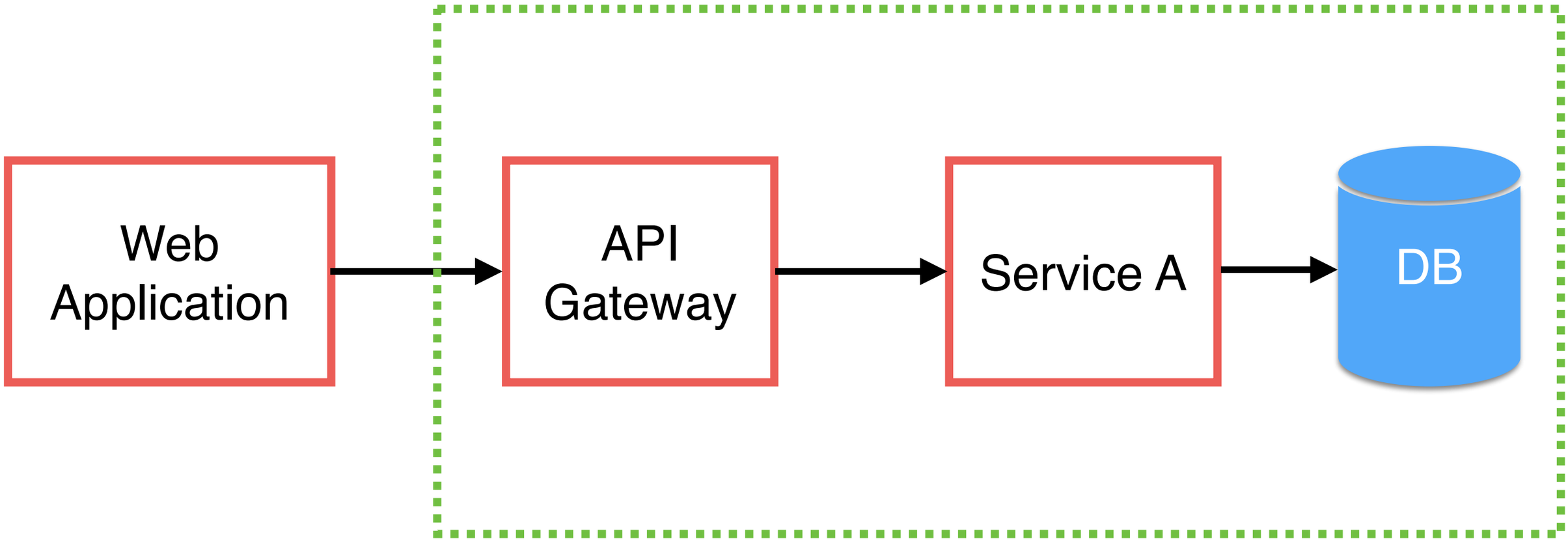
Architecture of System (1)

Inside-out



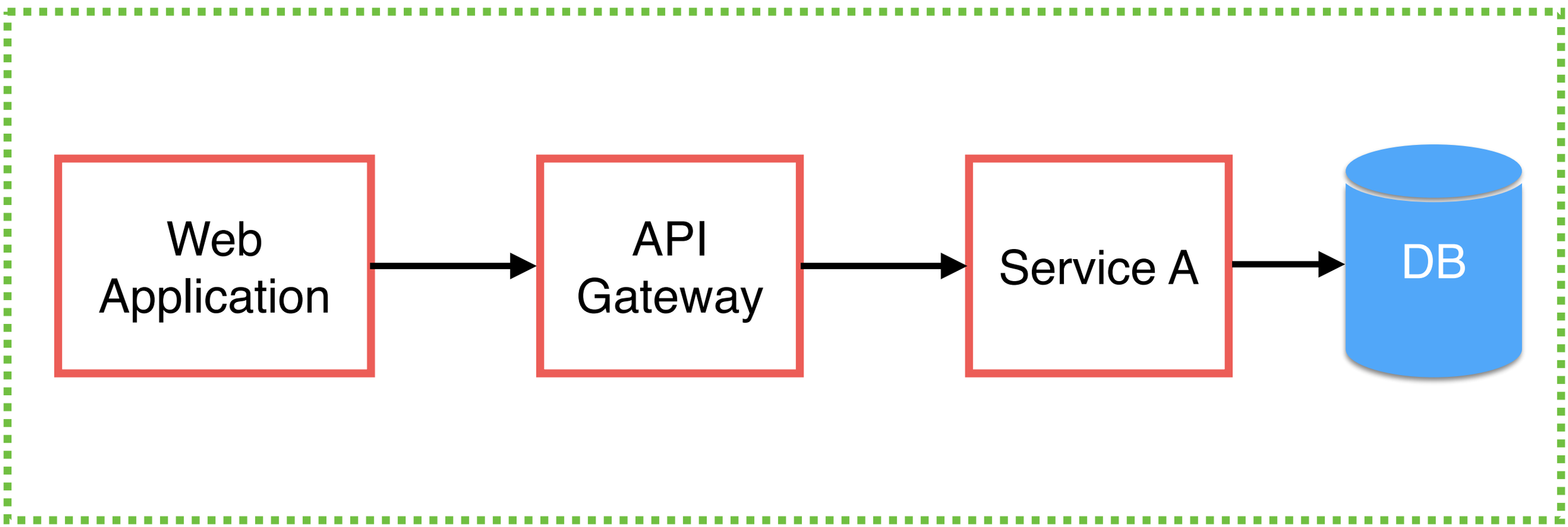
Architecture of System (2)

Inside-out



Architecture of System (3)

Inside-out



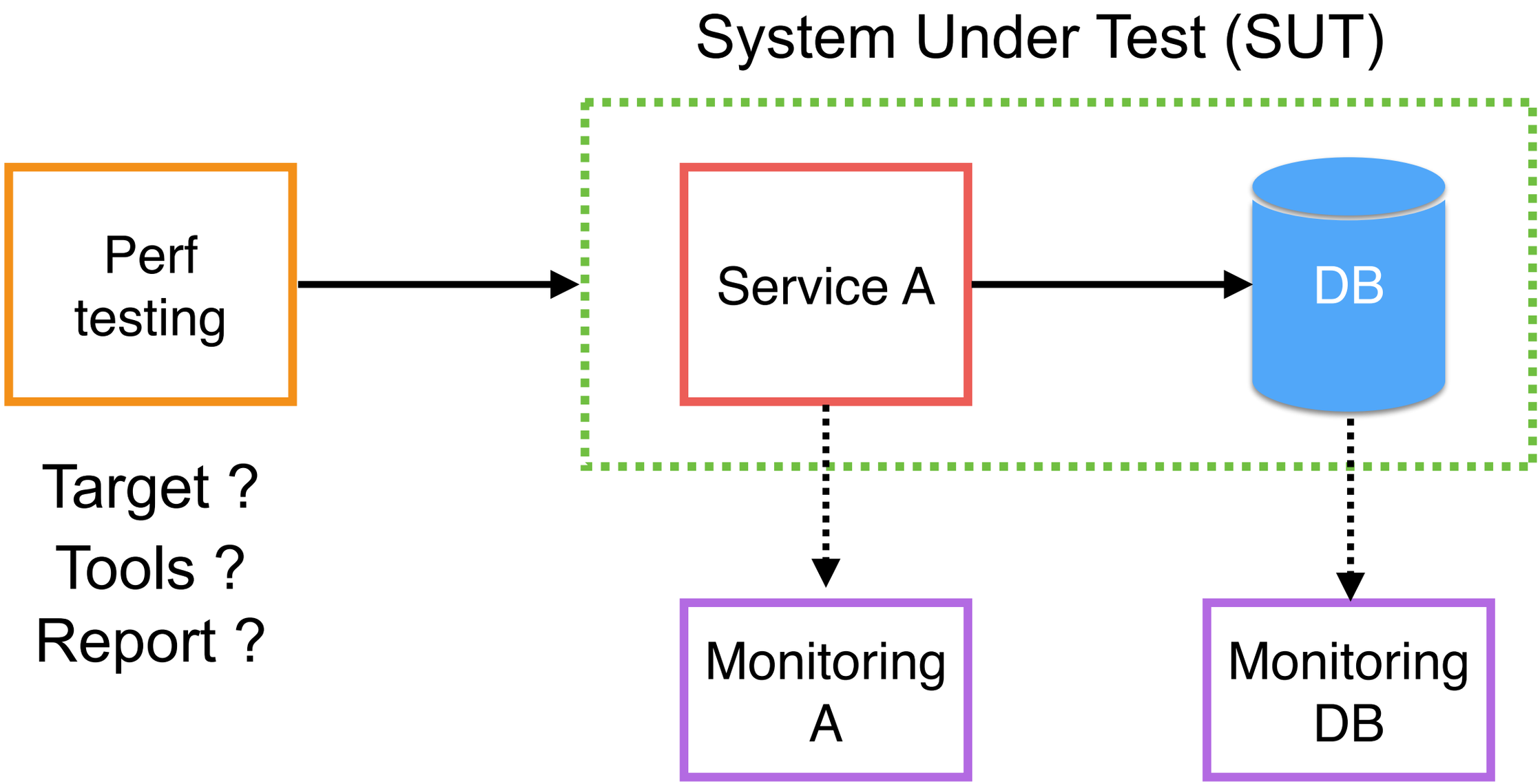
Start with Service A + Database

Service A + Database

Target ?

Tools ?

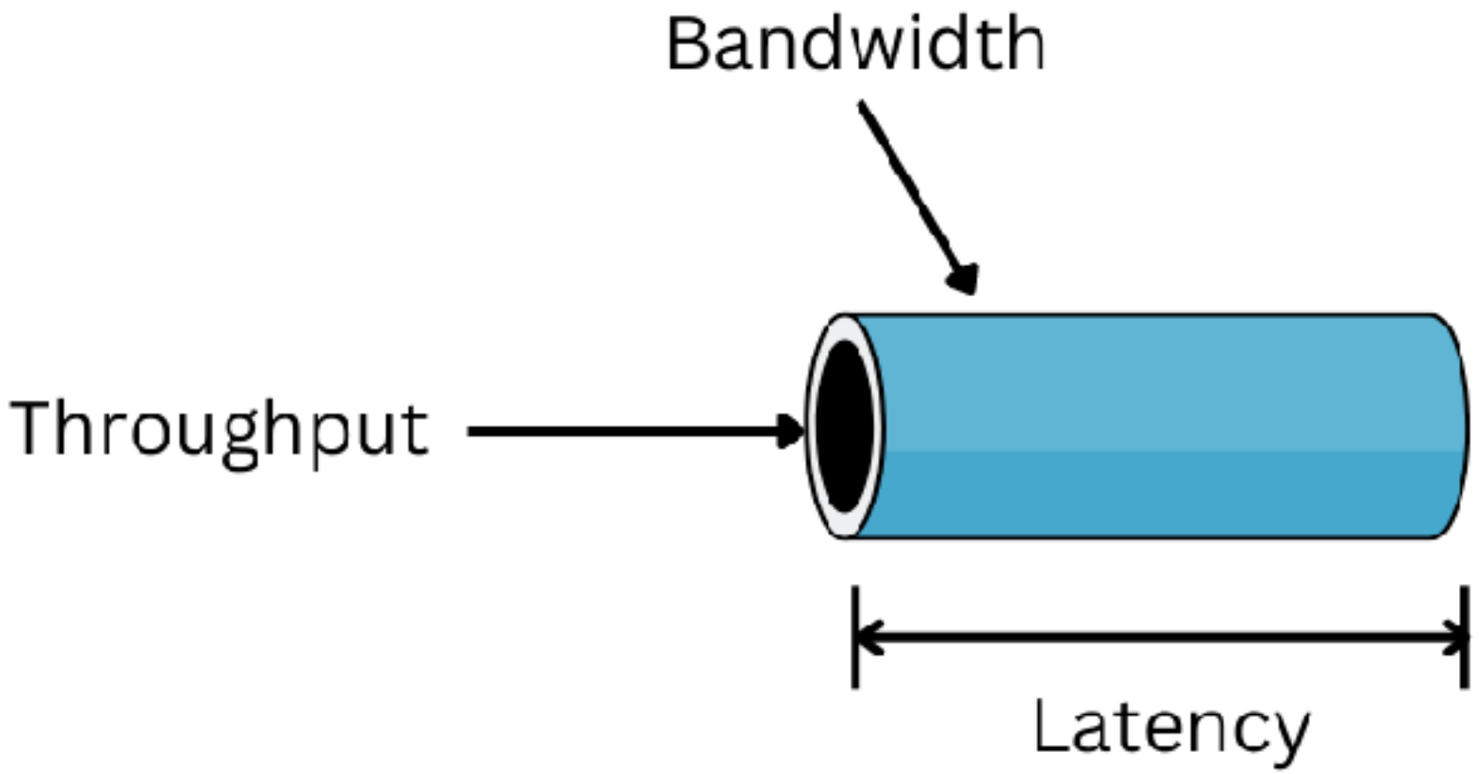
Report ?



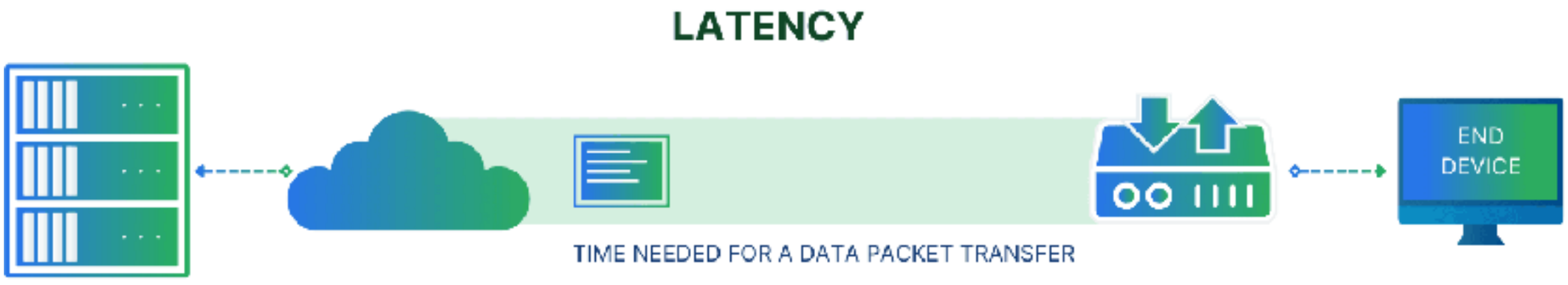
KPIs Measurement

Memory	Throughput (TPS)	Error rate
CPU	Response time	Load time
Disk and I/O usage	Data size	Concurrent users

Throughput vs Latency

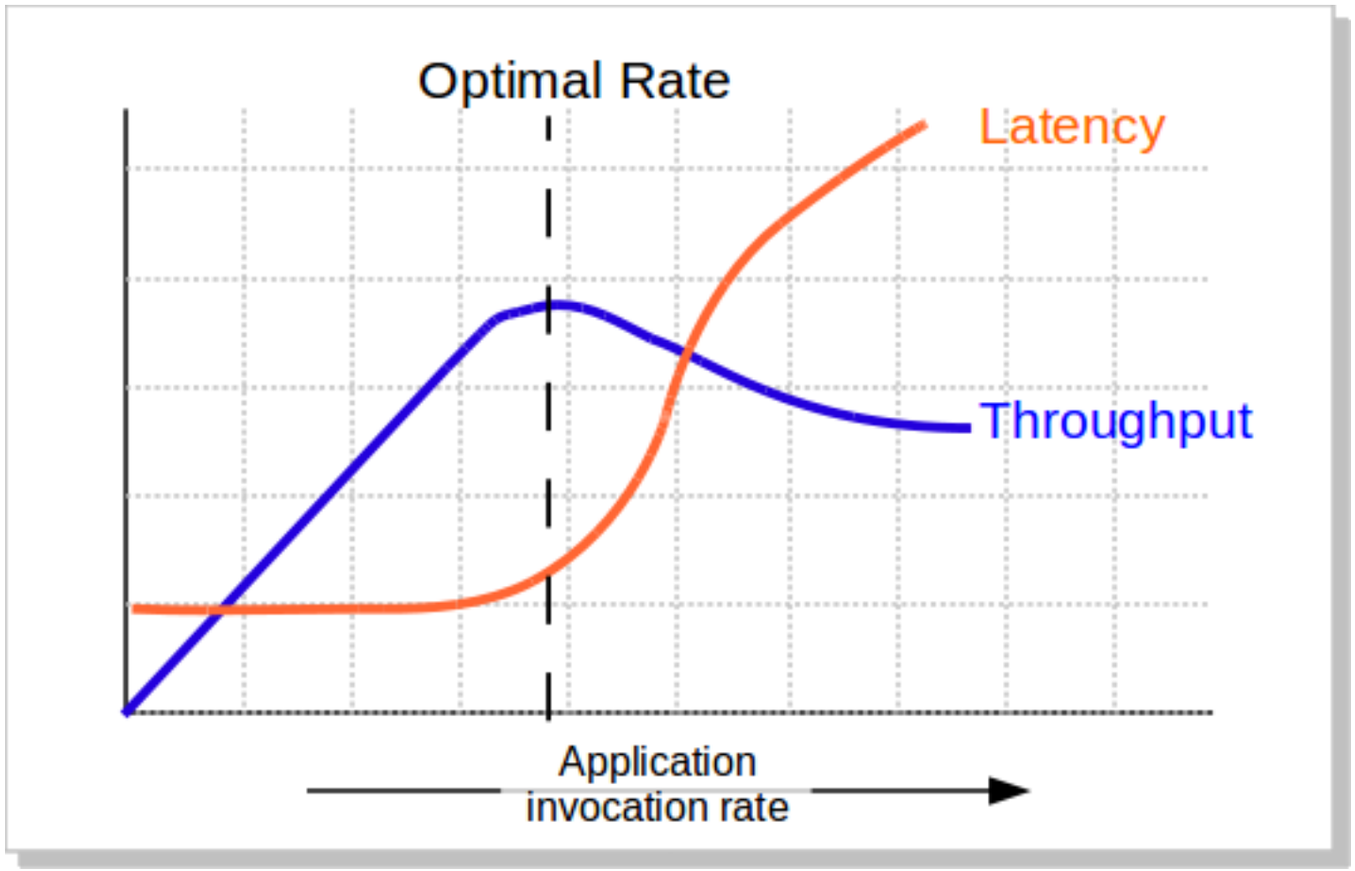


Throughput vs Latency



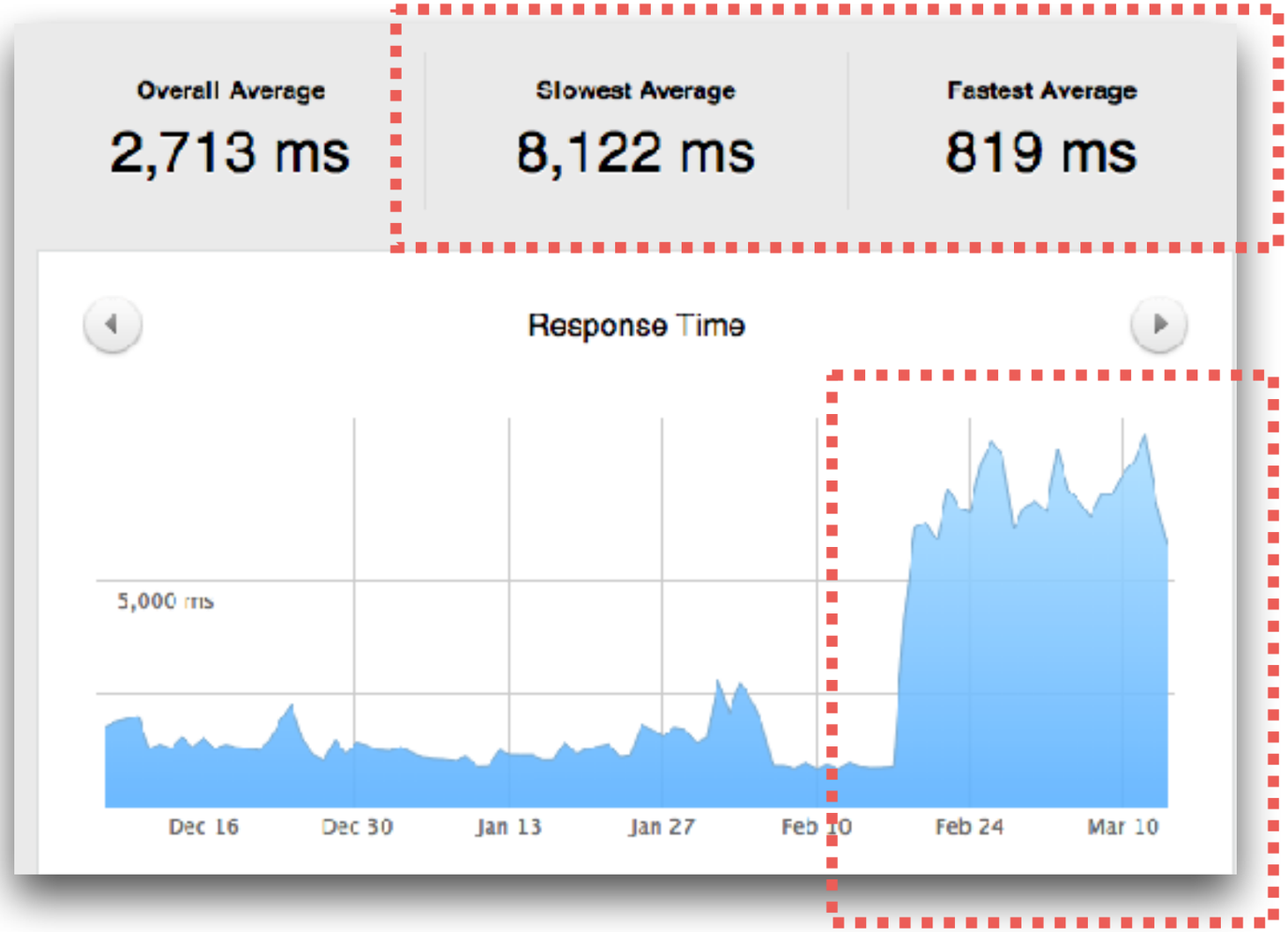
Throughput vs Latency !!

More data, More users !!



Throughput vs Latency !!

More data, More users !!



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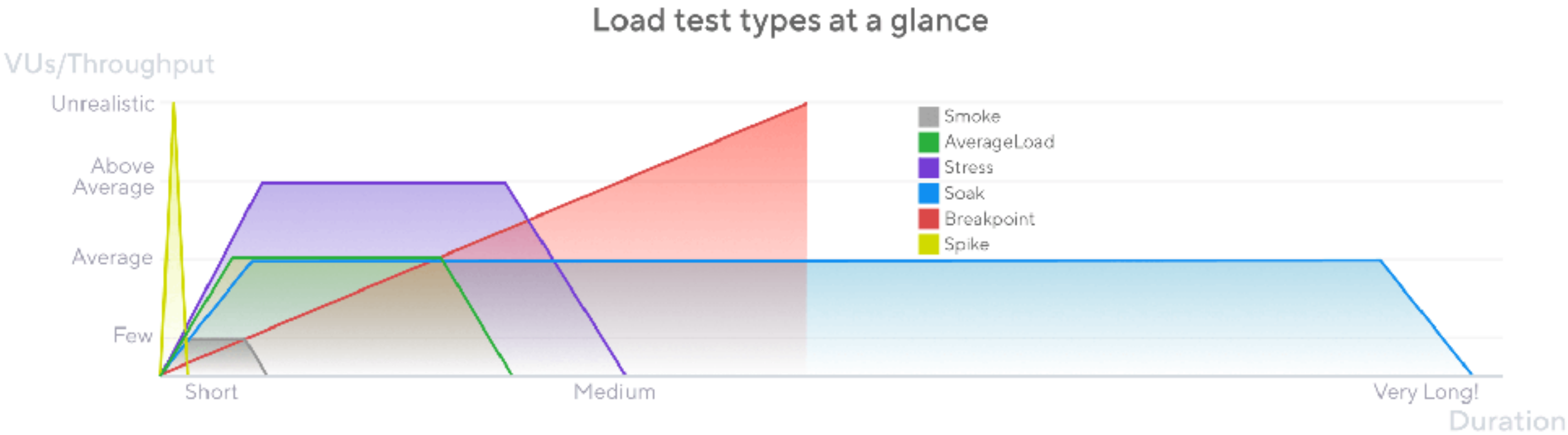
Types of load testing ?

Types of load testing



https://grafana.com/load-testing/types-of-load-testing/

Performance Testing Tools ?

Performance Testing Tools ?

ApacheBench

ARTILLERY.IO

Drill

Gatling

HEY

APACHE JMeter™

k6

LOCUST

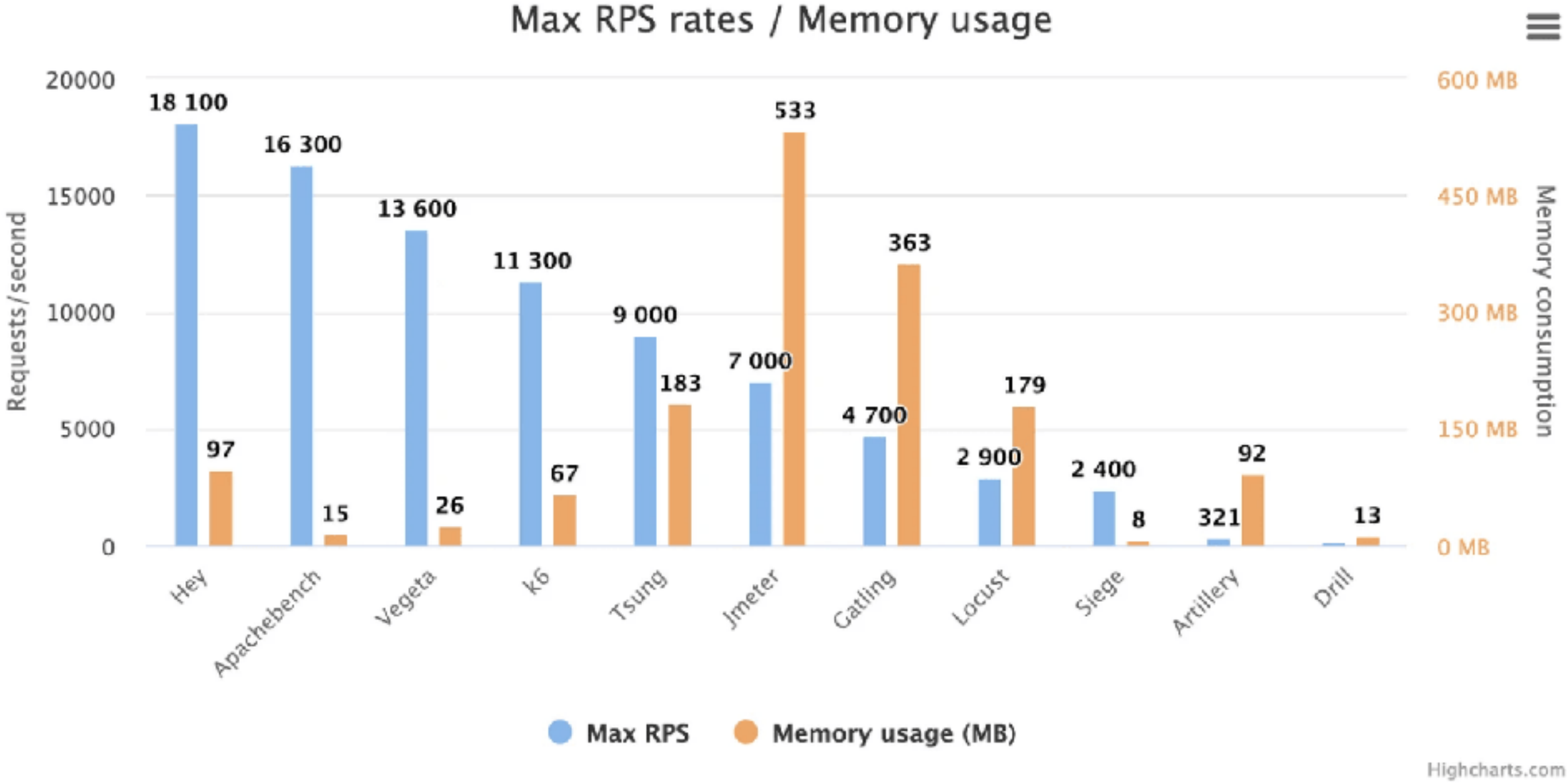
Siege

A distributed Load Testing Tool TSUNG

Wrk

https://grafana.com/blog/2020/03/03/open-source-load-testing-tool-review/

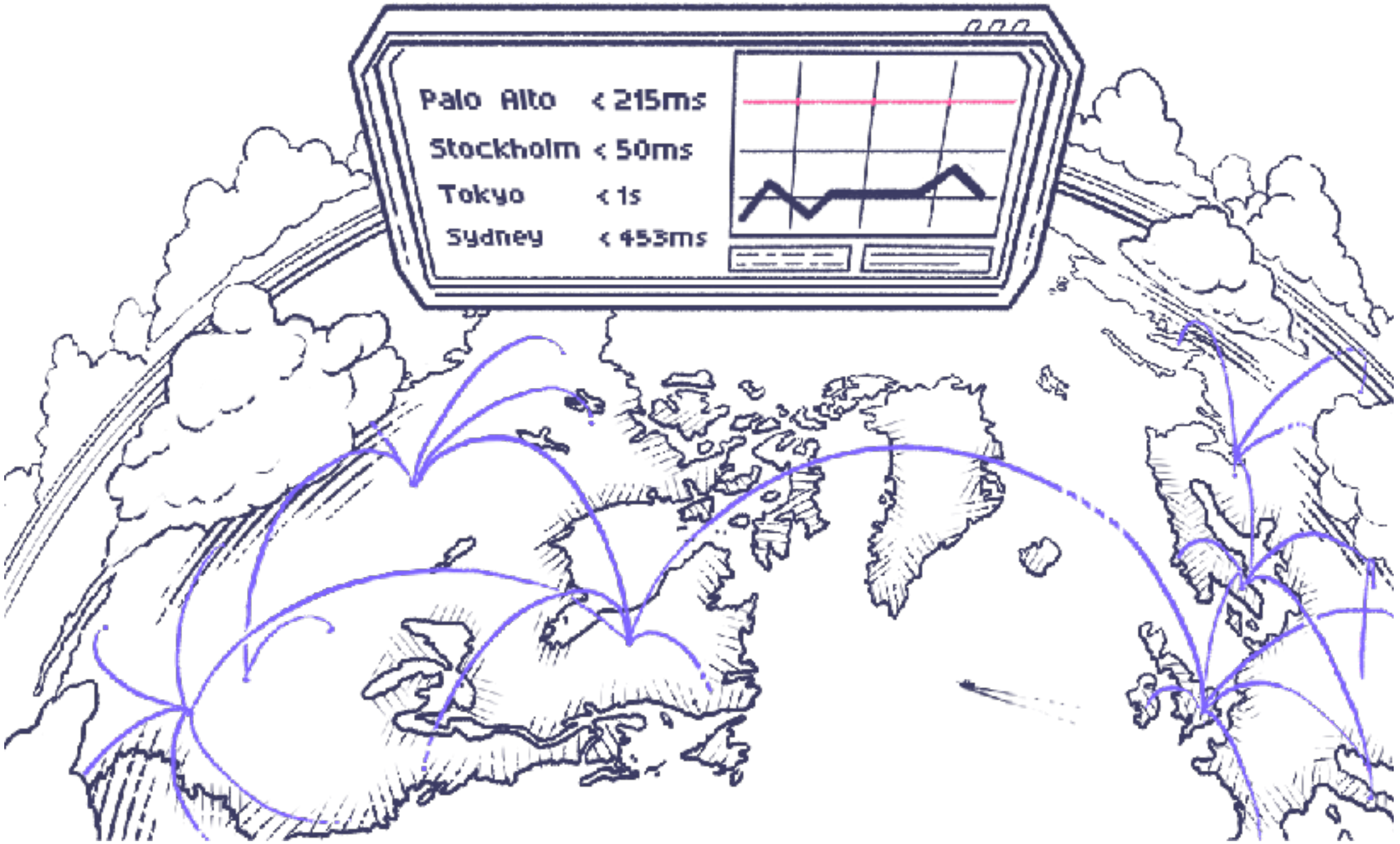
Memory usages !!



https://grafana.com/blog/2021/01/27/k6-vs-jmeter-comparison/

Distributed Testing

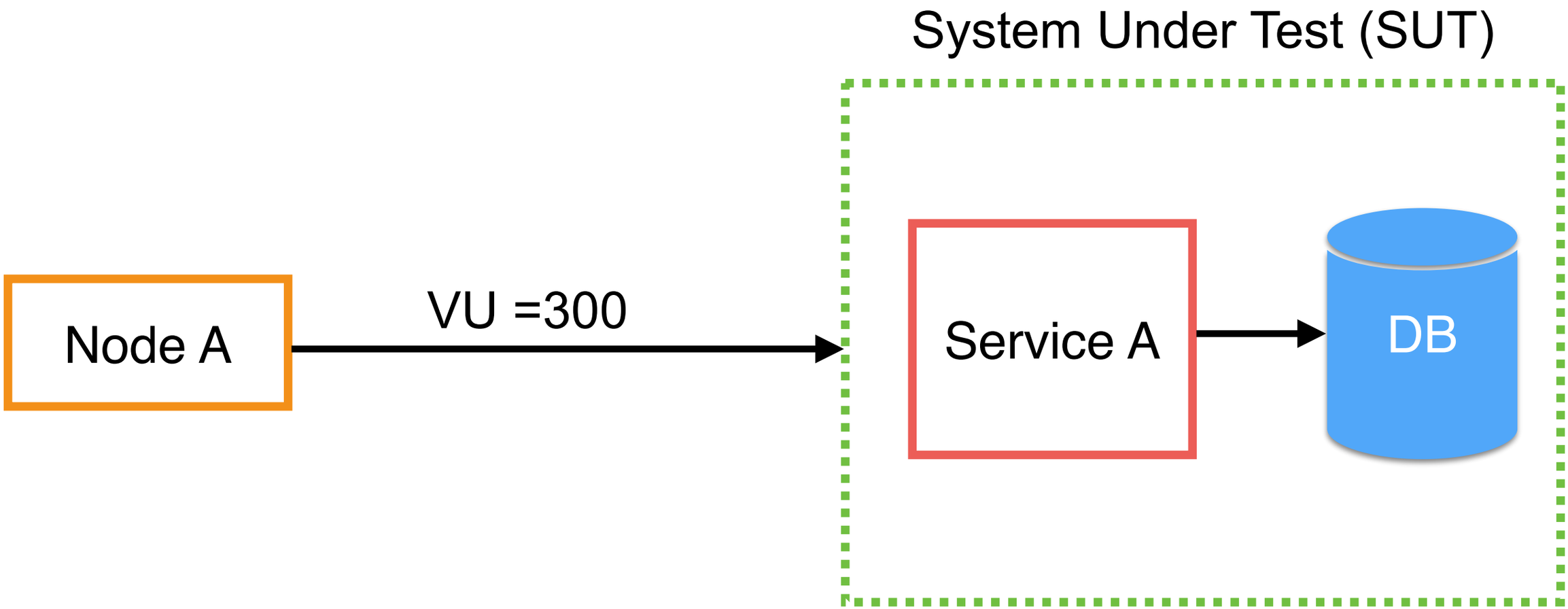
Distributed Testing



https://github.com/grafana/k6-operator

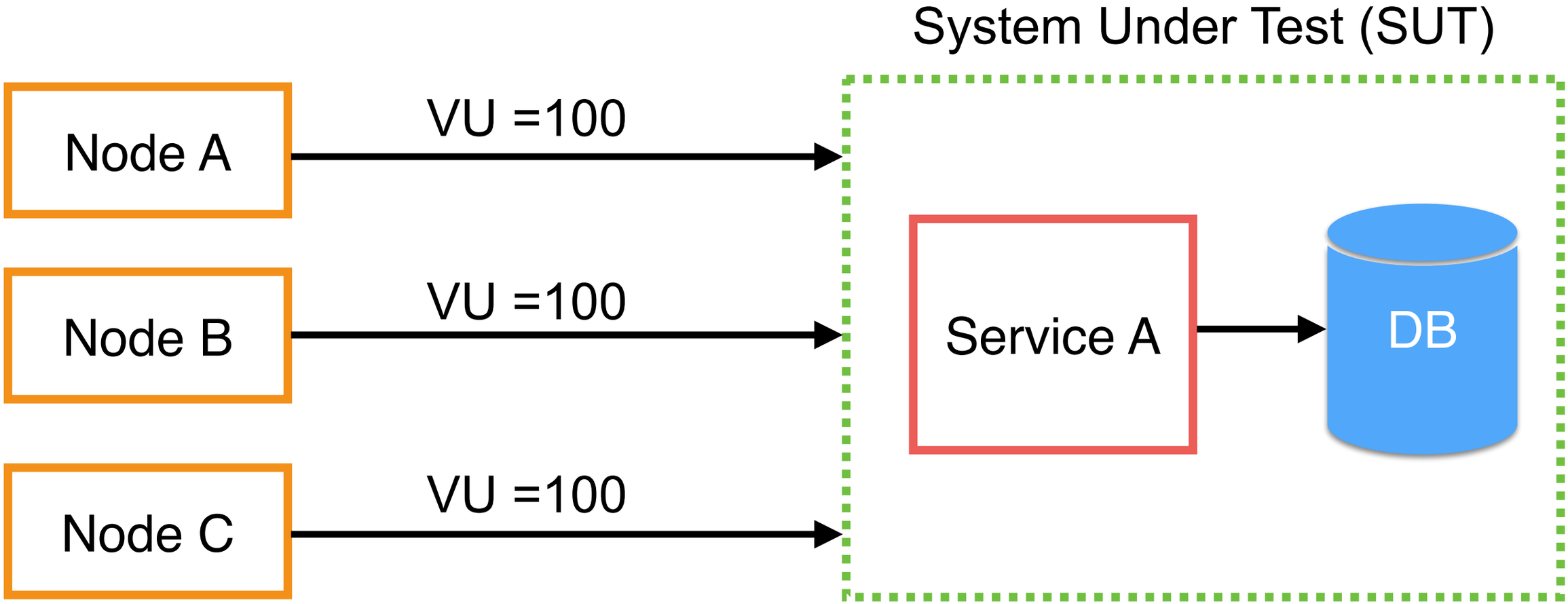
Architecture of Testing

Virtual User = 300

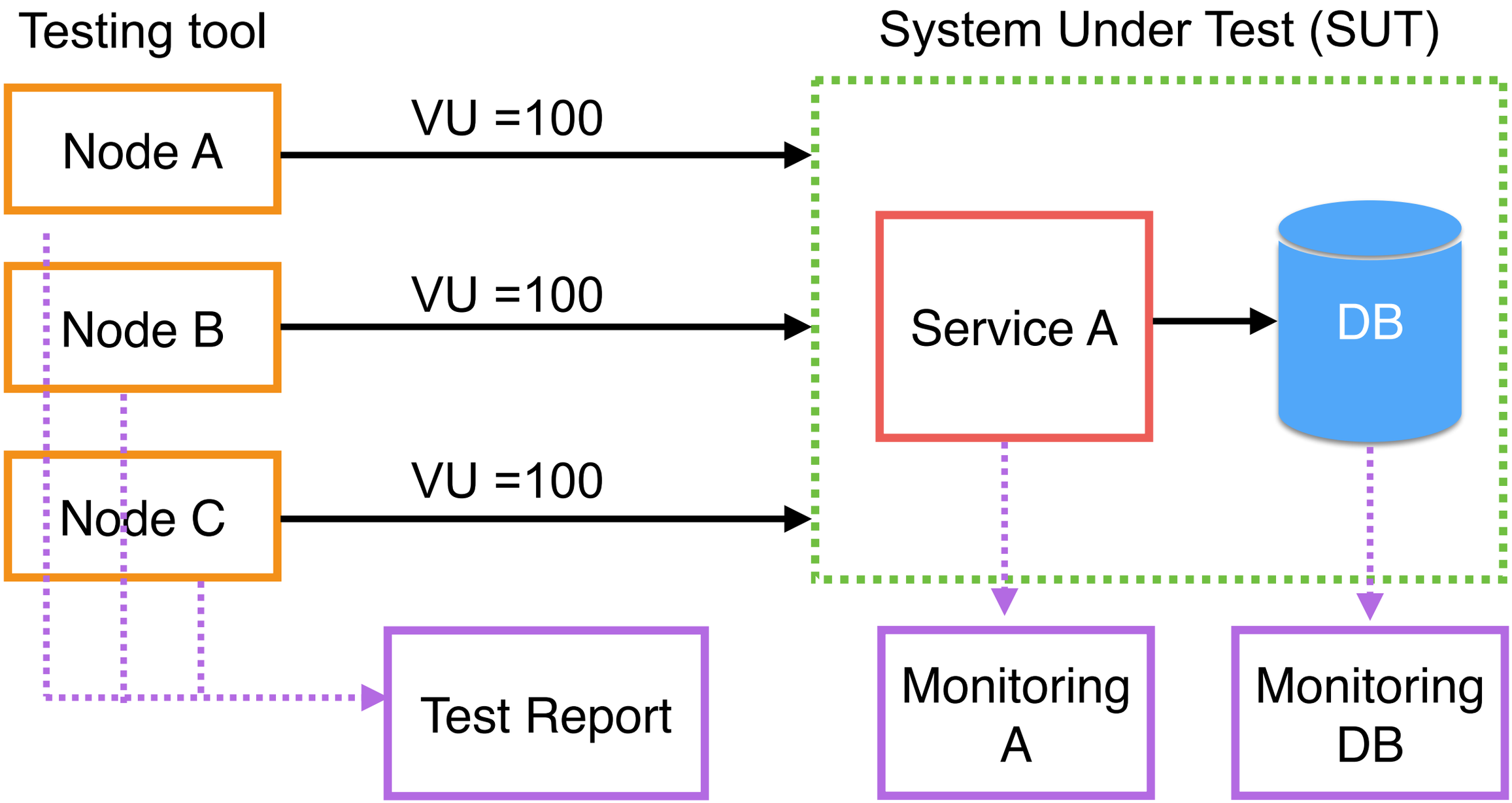


Architecture of Testing

Virtual User = 300



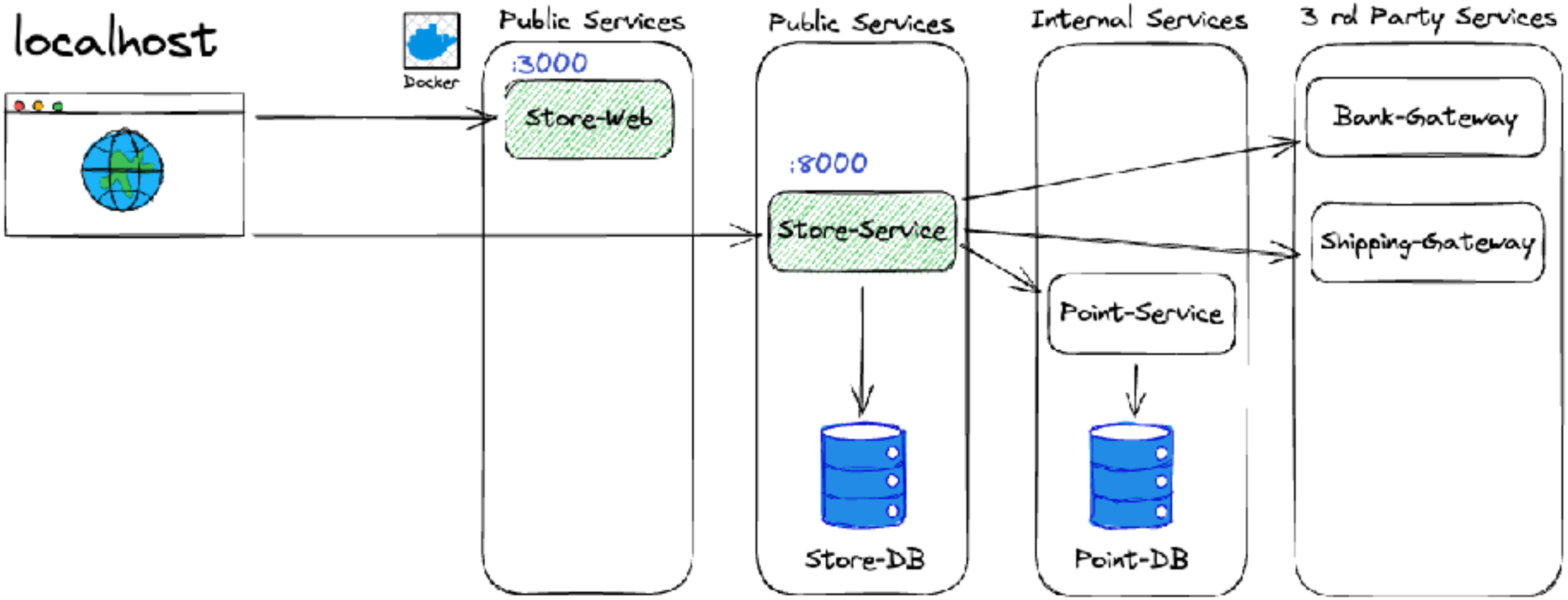
Architecture of Testing



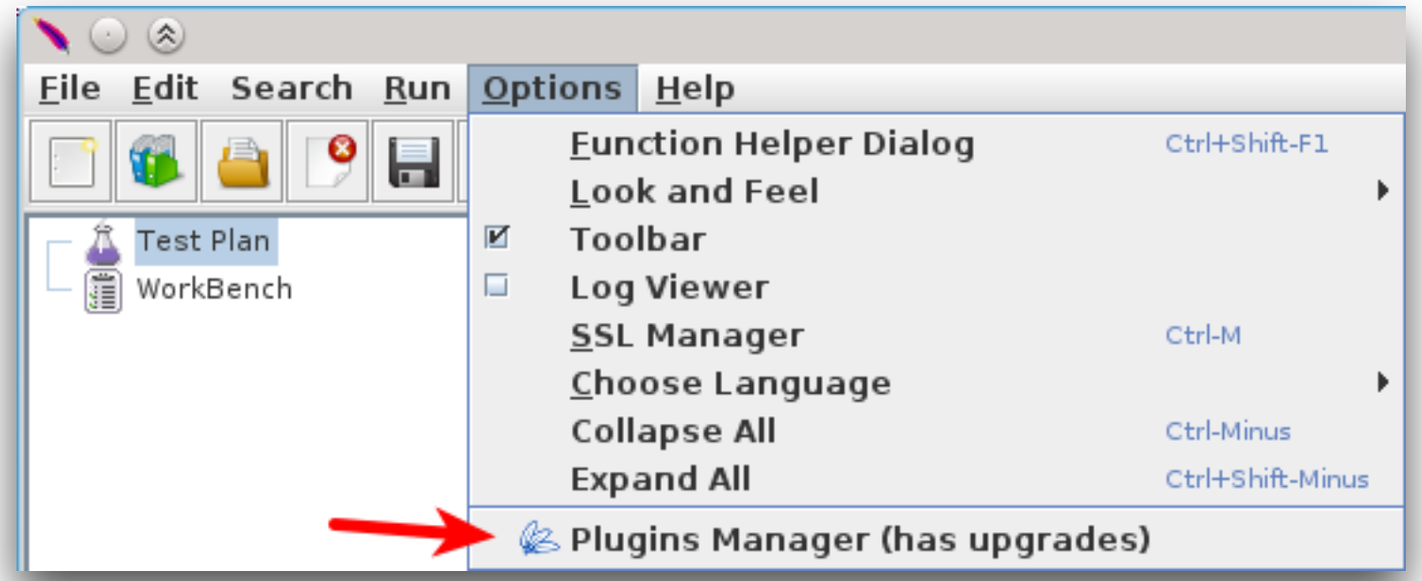
Workshop

https://jmeter.apache.org/

Architecture of System



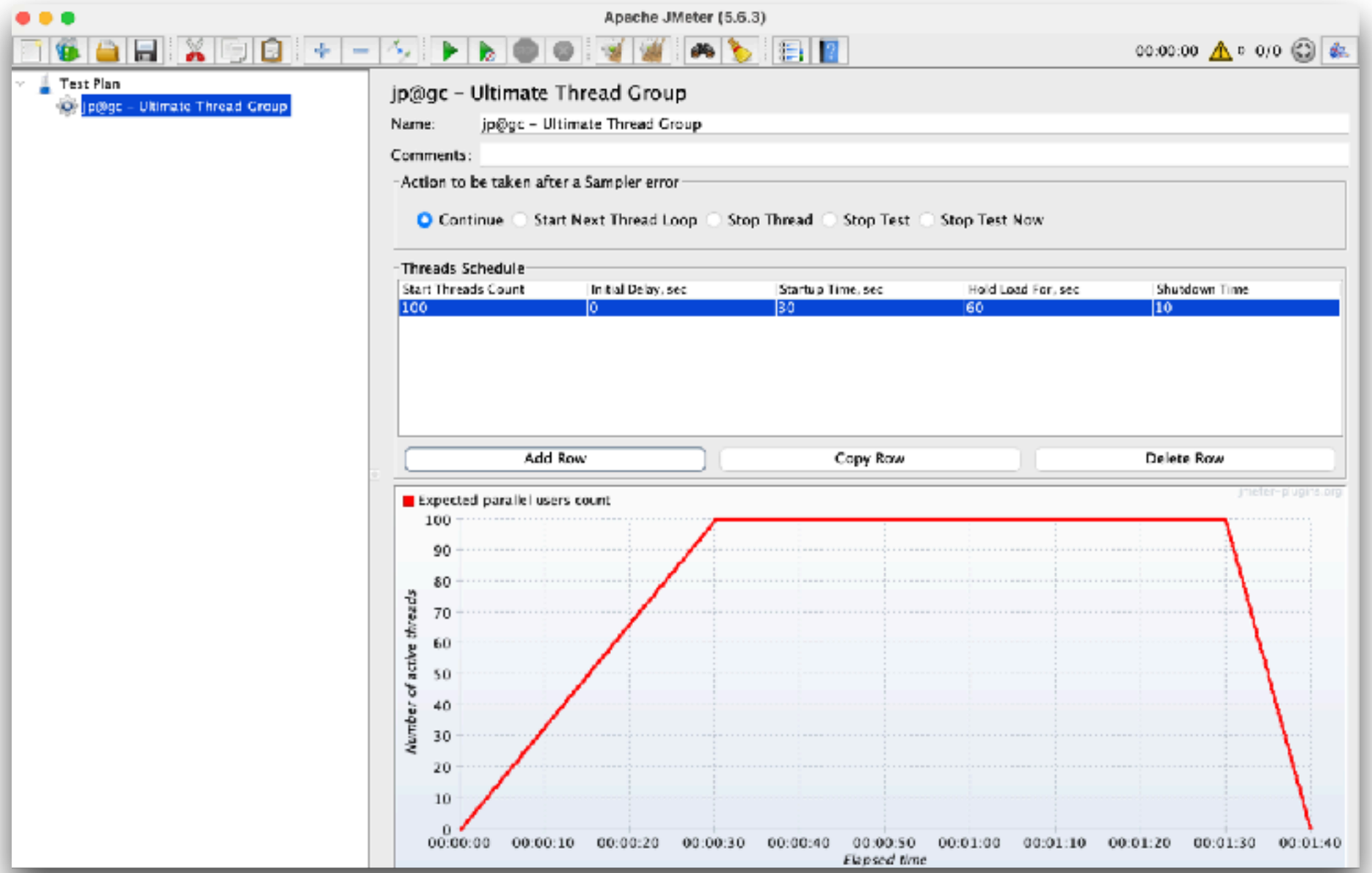
JMeter Plugin Manager



https://jmeter-plugins.org/wiki/PluginsManager/

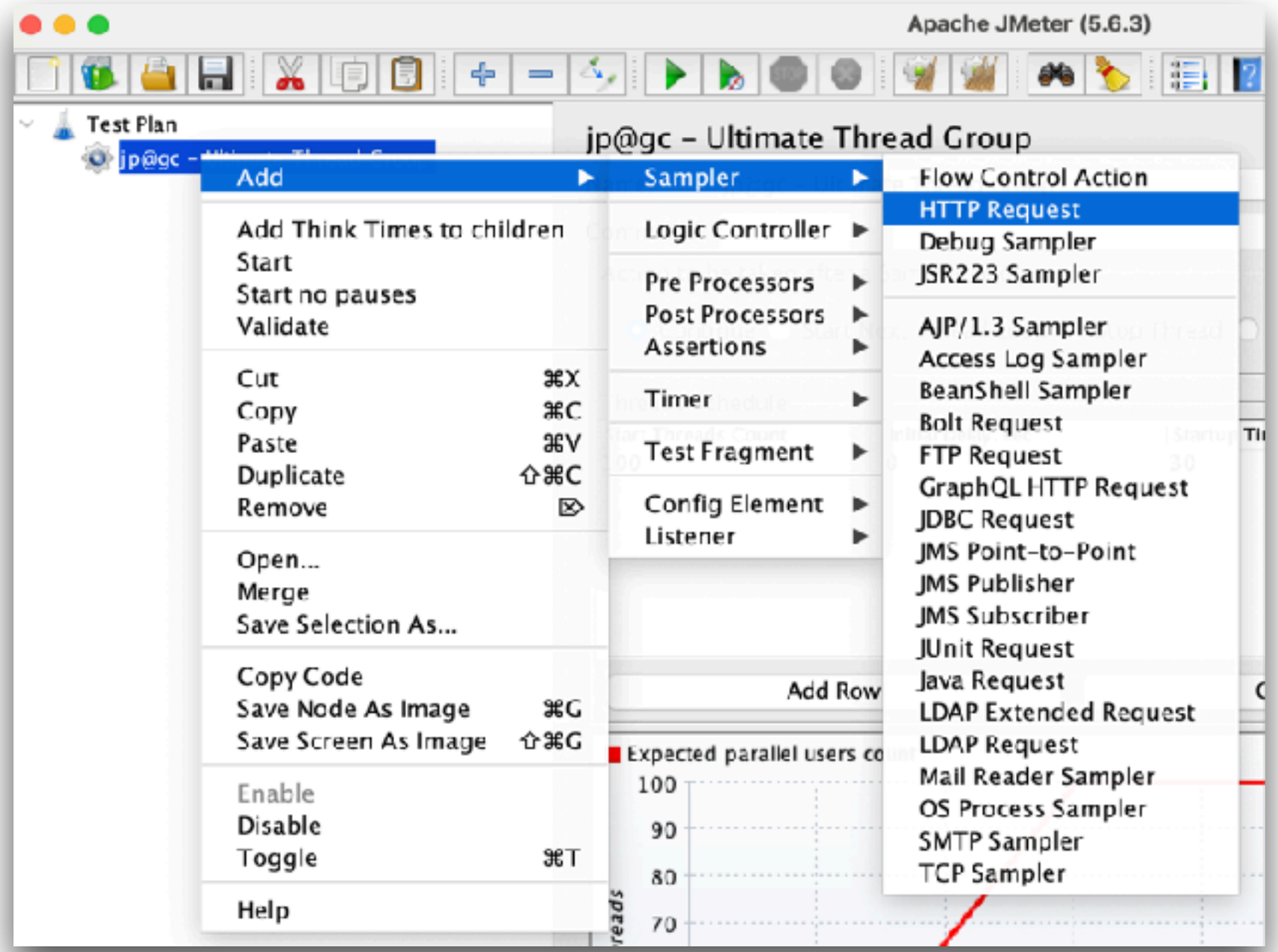
1. Config Virtual Users

Test plan -> Thread Group



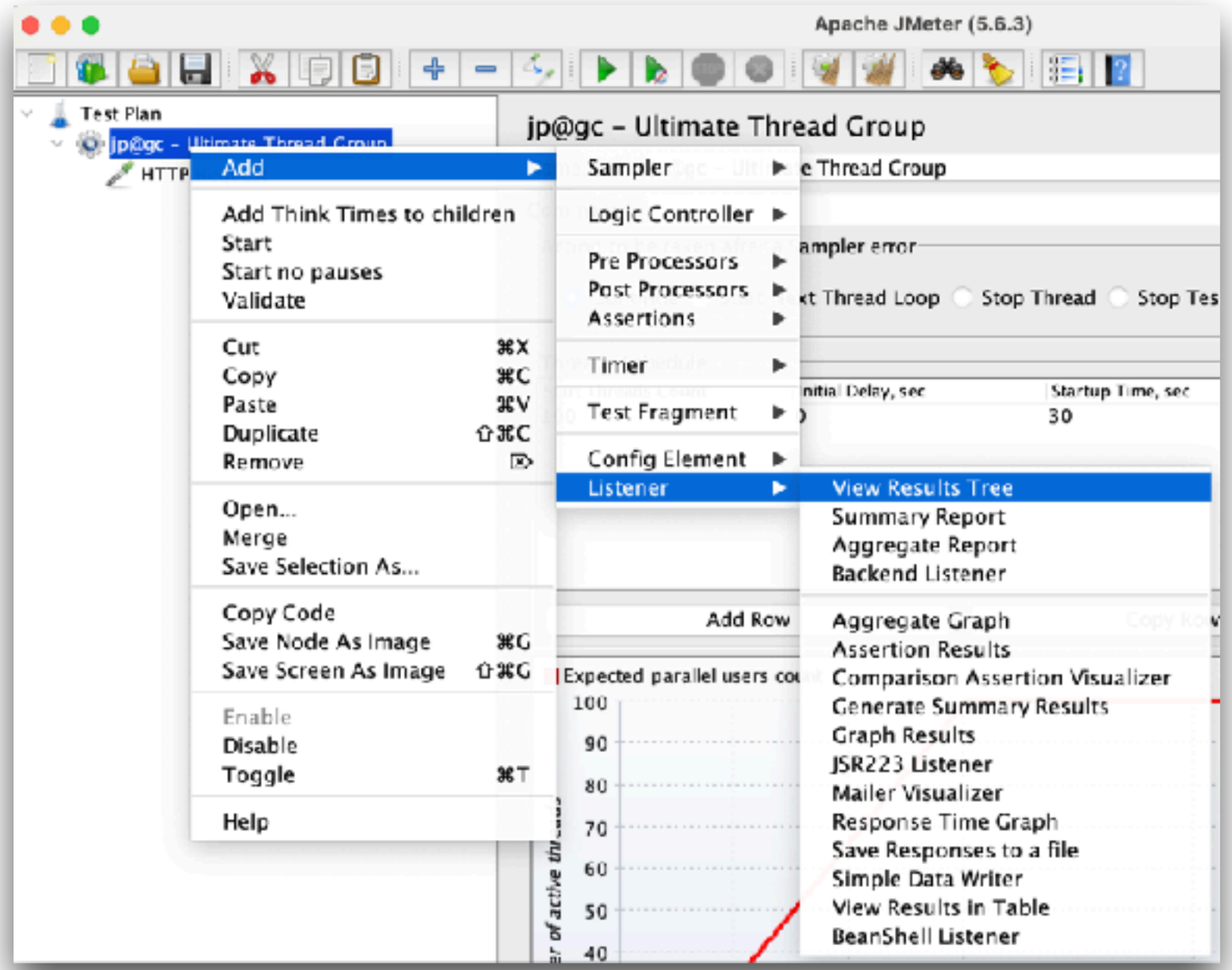
2. Add request for target system

Thread Group -> Add Sampler



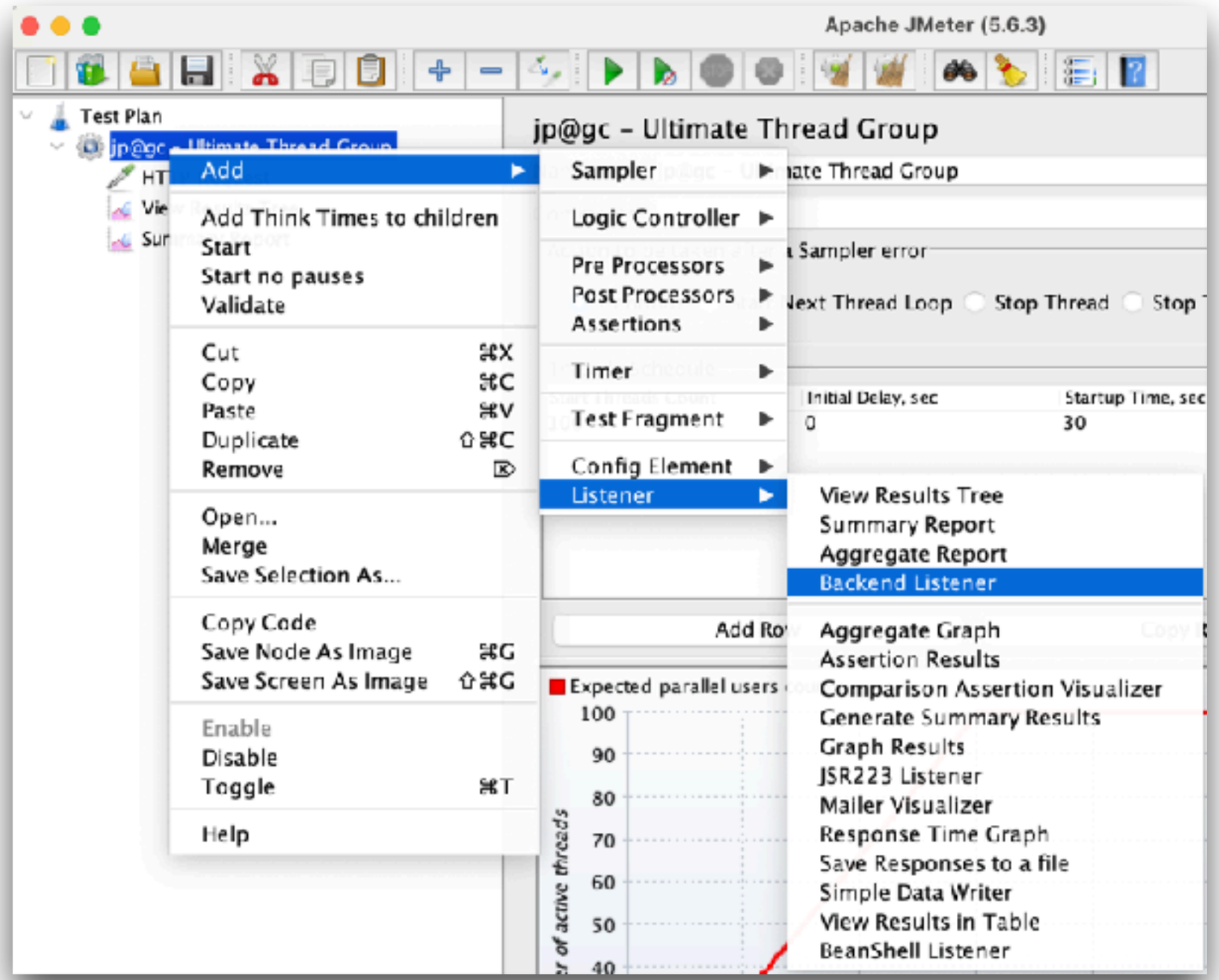
3. Add test report !!

Thread Group -> Add Listener



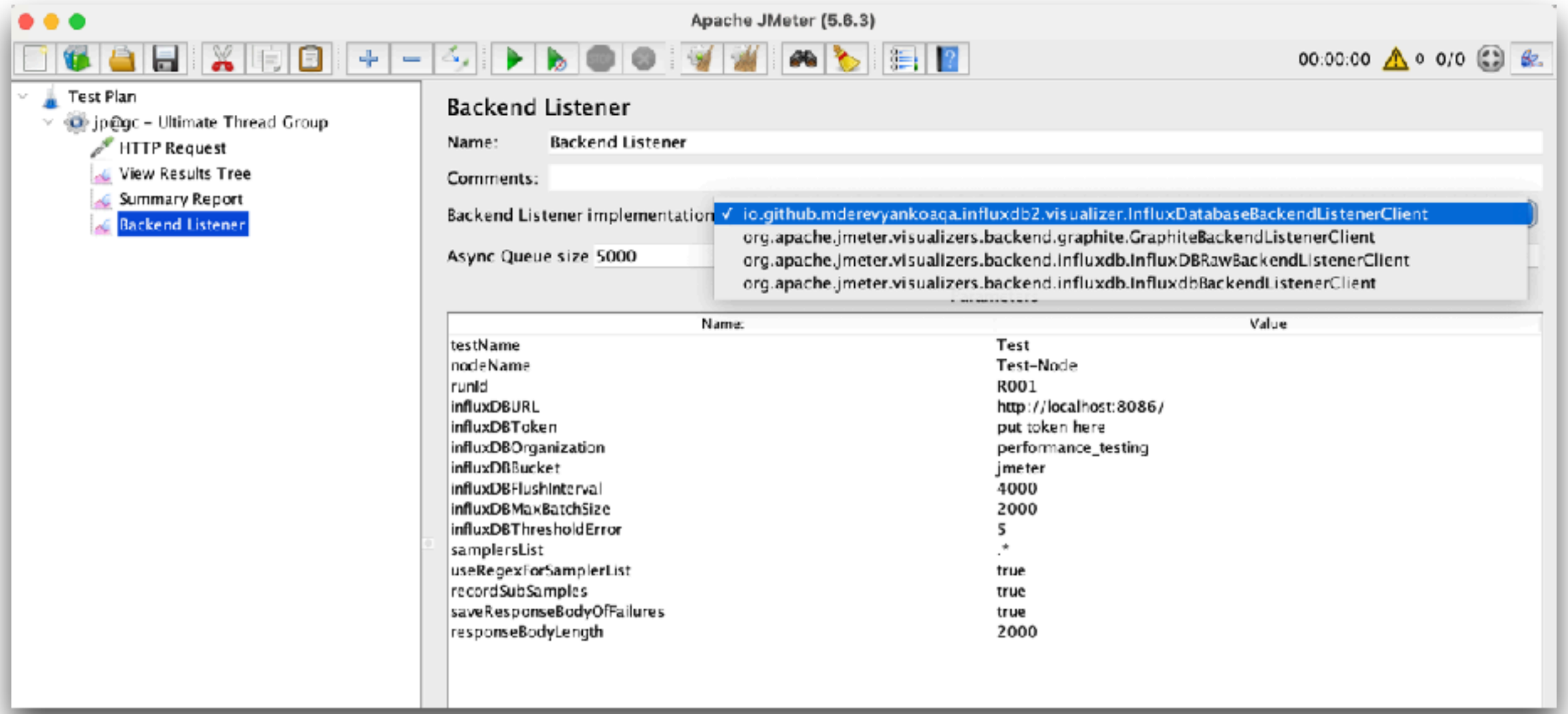
4. Send Report to InfluxDB

Thread Group -> Add Backend Listener



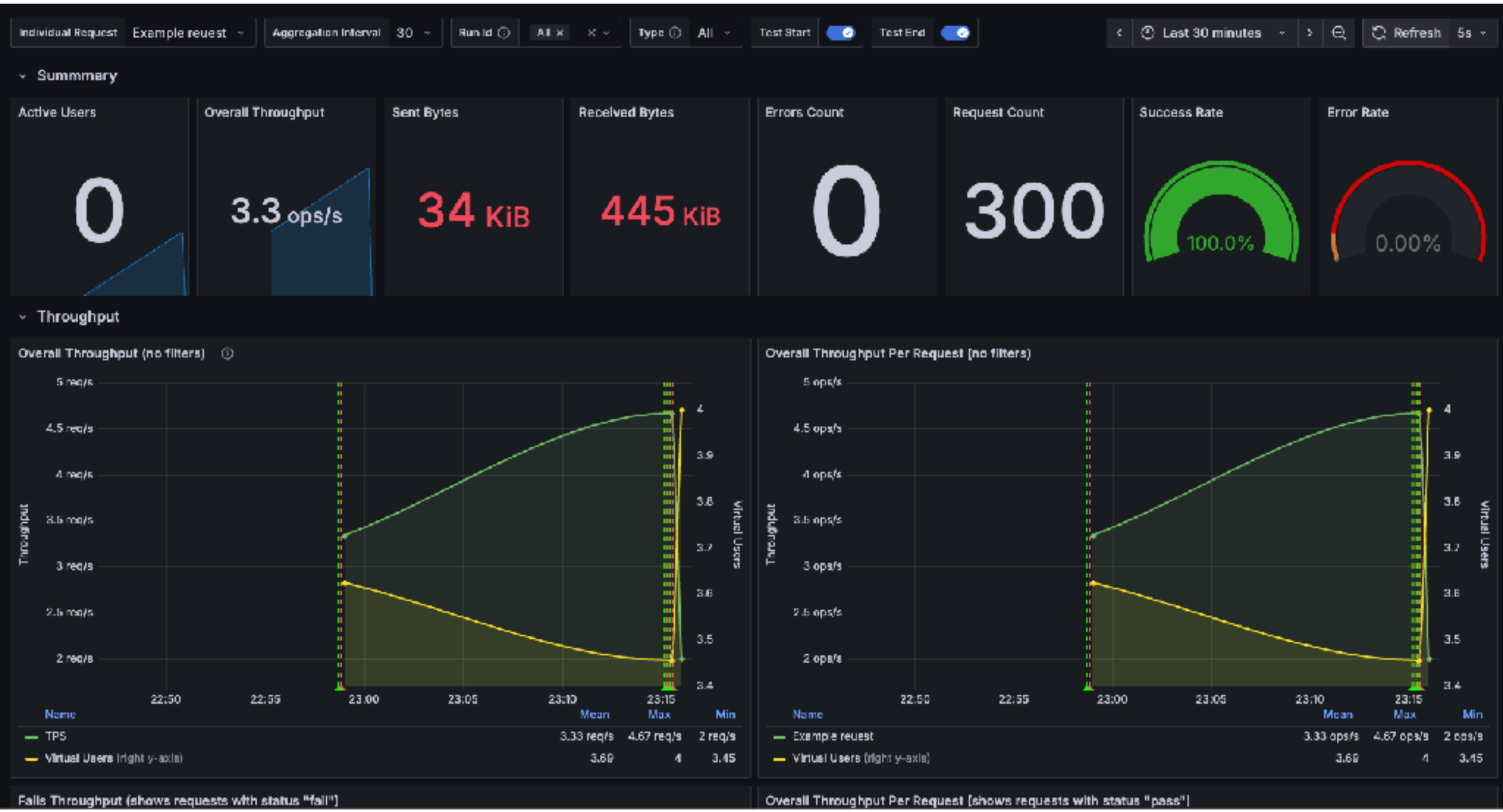
5. Config Backend Listener

Choose backend = InfluxDB2



https://github.com/mderevyankoaqa/jmeter-influxdb2-listener-plugin

6. Test Report in Grafana



https://grafana.com/grafana/dashboards/13644-jmeter-load-test-org-md-jmeter-influxdb2-visualizer-influxdb-v2-0-flux/

Let’s start