



# LTAT.06.007 Distributed Systems

## Practical Seminar 4

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# Recap

- Installed JMeter
  - Produced load (aka Test plan) on a server using different types of Classes
  - Induced load provides insights about server behavior

# Agenda

- **Goal:** To learn how to extract and estimate performance metrics from log files.
- **Content:**
  - Manual inspection
    - Exercise 1
  - Generating reports and graphs (using JMeter modular dashboard)
    - Exercise 2
    - Exercise 3
- **Quiz**

**After this lecture, you should be able to:**

- Understand how to interpret performance metrics from log files

# Session Content



## Exercise 1

Extracting arrival rate and response time of different workload classes

## Exercise 2

Generate reports of response time and throughput using JMeter

## Exercise 3

Changing the overall APDEX (Application Performance Index) to analyze a different user satisfaction level

## Observation

Instructions to complete this practical session can be found in the course website: <https://courses.cs.ut.ee/2021/ds/spring/Main/Instructions>

# Arrival Rate

Arrival rate is the arrivals per unit time at a resource.

$$\text{Arrival Rate} = \frac{A}{T}$$

Where A is total number of service requests (i.e., arrivals)

# Response/Elapsed Time

- Measures the time from just before sending the request, until just after the last chunk of the response has been received.
- RTT

# Utilization

Utilization of a resource,

$$U = \frac{B}{T}$$

Where, B = Total busy time in observation time T

T = Observation time

# Session Content



## Distributed Systems 2020/21 spring



- General
- Lectures
- Practical work
- Study materials
- Practical work submission

### Seminar 4: Analyzing log files and extracting performance metrics

**Goal:** In this practical exercise, you will learn to extract and estimate performance metrics from log files. By using these metrics, it is possible to understand the runtime behavior of a server component in a distributed system. We will use the CSV log files produced by JMeter. We will also learn to generate reports from log files using the [modular dashboard extension](#) of JMeter.

**The log file:** the CSV file produced by JMeter contains the following information.

- timestamp



# Hands-on session

# Quiz



## Content

- Lecture 3 and 4 (Processes)
- Two attempts
  - One in Seminar Session
  - Next available until Monday 23:50 (Deadline)
- Open Quiz in Moodle
- Total Quiz Points = 100

## Observation

Quiz feedback is available after the quiz is closed



# Questions?

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