



Course title: *Designing **High Performance Software Systems** - how to achieve **matching up to 1.5 million orders per second in a continuous trading system on 4 year old commodity hardware***

The course is based on the Java programming language and has some minor references from other programming languages. Only basic knowledge of the Java programming language is required.

Course summary: (subject to minor changes)

Why choose High Performance Computing software design over conventional software design? What are the benefits?
(30 mins)

Questions and Answers (15 minutes)

Why is testing so important in High Performance Computing?
(30 mins)

Questions and Answers (15 minutes)

What are the fundamentals of high performance computing and the secrets behind it? - Hands on code writing and

performance testing. (3.5 hours)
Questions and Answers (1.5 hour)

Performance comparison between different Java components
(30 mins)
Questions and Answers (15 minutes)

High Performance Software tools and how can they be used to achieve high performance in your systems (30 mins)
Questions and Answers (15 minutes)

Why and how are other programming languages better than Java when it comes to performance. (30 mins)
Questions and Answers (15 minutes)

How to store data in high performance systems. (45 mins)
Questions and Answers (15 minutes)

Final Questions and Answers & Course material sharing (60 minutes)

Proposed course length **2 days**

Proposed course daily time schedule: **10 am - 5 pm**

Proposed course schedule: **Day 1**

10 am - 11:30 pm course
11:30 am - 11:45 am morning break
11:45 am - 12:30 am course
12:30 pm - 1:30 pm lunch break
1:30 pm - 3:00 pm course
3:00 pm - 3:15 pm afternoon break
3:15 pm - 5:00 pm course

Proposed course schedule: **Day 2**

10 am - 11:30 pm course
11:30 am - 11:45 am morning break
11:45 am - 12:30 am course
12:30 pm - 1:30 pm lunch break
1:30 pm - 3:00 pm course
3:00 pm - 3:15 pm afternoon break
3:15 pm - 4:45 pm course
4:45 pm course ends