

Parallel programming with streams and arrays - Master Class

Kort om undervisningen

This short course explains some pitfalls which typically occurs when Java-programs are being executed in a multicore environment. The course will explain the underlying reasons and devise some proper solutions using Java 8 parallel streams. This course is being taught by professor Peter Sestoft.

Indhold

We show how to use Java 8 streams and parallel array operations to solve various problems, and show how this allows for simple, safe and efficient parallelization on shared-memory multicore machines.

This is based in the stream, collector and array API of the Java 8 class library. We discuss some limitations of Java 8 streams compared to other high-level parallel programming frameworks. More technically, we dive below the API to see how that implementation can be so efficient, through a look at work-stealing queues, thread-locality and the hardware's cache coherence protocols.

Forudsætninger

Solid experience with Java similar to Java SE - Java Standard Edition 8 - Advanced and Java SE - Java Standard Edition 8 - Upgrade. Knowledge of functional programming, e.g. Java 8 lambda expressions, is preferable.

Målgruppe

Experienced Java developers working with high performance systems.

Efter kurset kan deltageren

- Optimize Java code to take advantage of multiple CPUs/cores
- Explain certain performance issues regarding parallelization

Kommende afholdelsesdatoer

Ingen planlagte datoer, anvend kontaklinformationerne nedenfor.

Oplysning om yderligere afholdelser findes på vores hjemmeside. Andre spørgsmål besvares meget gerne ved brug af vores kontaktformular eller på telefon (+45) 33 861 861