



Training

# HMPP Basics



*Benefit from the performance of manycore systems while reducing your development efforts with HMPP Workbench.*

## Duration

2 day training

## Objectives

In this 2 day HMPP training, participants will learn the HMPP programming model and tips to reach performance. The training includes hands-on practical labs where participants will be able to progressively program high performance computations.

## Prerequisites

- Knowledge in C or Fortran
- Knowledge in Linux
- Knowledge in CUDA is a plus

## Training conditions

The training is limited to 14 persons.

## Deliverables

The participants will receive all training materials: courses and practical exercises.

## Training content

### Day 1

#### Morning - CUDA Basics

- Introduction to GPU computing
- CUDA architecture and programming model
- CUDA API
- CUDA tools: debugging
- Introduction to CUDA performance

#### Afternoon - HMPP Basics

- Introduction to parallel hybrid programming
- HMPP overview
- Basis of HMPP programming
- HMPP compilation model

### Day 2

#### Morning - Advanced HMPP programming

- Managing data transfers
- Grouping GPU computations
- Data movement optimizations

#### Afternoon - Optimizing CUDA code generation with HMPP

- Advanced CUDA performance
- Driving gridification
- Applying loop transformations: unrolling, splitting, jamming



**Innovative software  
for manycore paradigms**

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CAPS offers services to help you build optimized applications running on parallel high performance systems. Ranging from training to complete application porting, we can give you all the expertise your problem might require.

