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## Designing for performance, ISE

Ref : 002833A

Duration : 2 days

### OBJECTIVES

- This course will help you to optimize your design so that it can fit into a smaller or slower FPGA.
- Understanding the development flow of to meet the constraints.
- Use of DCMs and PLLs.
- Registers duplication and pipeline.
- Re-synchronization circuit.
- Use of CoreGenerator.
- Find and correct design bottlenecks with static timing analyzer.
- Advanced timing constraints.
- Advanced implementations options to improve performance.

### RELATED COURSES

- VHDL logical synthesis and simulation for Xilinx FPGA design (002572A)
- Advanced FPGA implementation (002834A)

### PARTNERS

- This training course is approved by XILINX

### PREREQUISITES

- This course is aimed at electronics engineers with intermediate knowledge in HDL language and a first experience on the ISE tools.

### TRAINING MATERIALS

#### Software Configuration :

- Xilinx ISE Design Suite 11.3 Logic Edition

#### Recommended Hardware Configuration :

- Intel Core 2 or equivalent
- Windows XP
- 1 GB Free disk after software installation
- At least 1Go RAM
- Minimum Display resolution : 1024 x 768
- On Site training : video projector

Authorized  
Training Provider

### Contact

Tel : 05 62 13 52 32  
Fax : 05 61 06 72 60  
training@mvd-fpga.com

Course also available  
customized

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Next sessions, see : <http://www.mvd-training.com/en/schedule.html>

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### TOPICS

#### 1<sup>st</sup> day

- Introduction
- Virtex-6 resources
- CoreGenerator
- Basic FPGA Clock resources
- Virtex-6/Spartan-6 Clock resources
  - Lab
- FPGA design techniques
- Synthesis techniques
  - Exercise

#### 2<sup>nd</sup> day

- Fulfill timing constraints
  - Exercise : Review of global timing constraints
- Timing Group and Offset constraints
- Timing constraints on a specific path
  - Exercise : Fulfill timing constraints
- Advanced implementations options
  - Exercise : Designing for performance
  - Demonstration : FPGA Editor, ChipScope (Optional)

### DOCUMENTATION

Training manuals will be given to attendees during training in print.