WIND RIVER SIMICS ESSENTIALS

COURSE DESCRIPTION

The Wind River® Simics® Essentials course provides developers and testers with a fast, cost-effective way to learn to use Wind River Simics, a full-system simulator, and leverage it to improve efficiency during product development and testing.

After this course, participants will be able to perform the following:

- Start a simulated target in Simics and load target software
- Leverage Simics to improve product development, testing, and integration processes
- Efficiently debug target software using Simics features such as reverse execution, checkpointing, breakpoints, and control and inspection
- Configu e and customize Simics virtual target systems using script parameters and command-line scripting
- Connect a Simics simulated target to another target via virtual Ethernet networking
- Use Simics features such as tracing, logging, and code coverage to analyze the behavior and performance of a target system

PRODUCTS SUPPORTED

- Wind River Simics 5

COURSE FORMAT

- This two-day, expert-led course consists of lectures and lab sessions.
- Specialized topics are included in lecture and lab books, and taught depending on student preferences and available time.
- Attendees use Wind River Simics 5 to gain experience with the topics presented.
- Participants examine and work with simulated targets in hands-on labs. Labs are performed on a PowerPC®-based virtual target platform (Wind River Simics Quick Start Platform).
- Participants receive individual guidance from an expert engineer who has extensive experience with Wind River technologies.

Course title:	**Wind River Simics Essentials**
Duration:	Two days
Format:	Instructor-led lectures and hands-on lab sessions
Content:	**Day 1:** Simics Overview; Simics Eclipse; Simics Command Line; Simics Target Structure; Simics Logging and Tracing; Simics Classical Debugging
	Day 2: Simics Advanced Debugging; Moving Data In and Out of a Simics Target; Simics Networking; Simics Multi-target Simulation
	Specialized Topics: Simics Simulation Performance; Simics Networking Details; Simics Distributed Simulation

AUDIENCE

- Software developers and testers
- System integrators and testers

PREREQUISITE SKILLS

- Some experience with embedded software development
- Some experience with object oriented programming
- Some debugging experience

PREREQUISITE COURSES

- None

RELATED COURSES

- Wind River Simics Device Modeling (Simics 4.8)
- Wind River Simics System Modeling (Simics 4.8)
- Wind River Simics Advanced Debug Workshop (Simics 4.8)

WHEN IT MATTERS, IT RUNS ON WIND RIVER

SYLLABUS

Day 1

SIMICS OVERVIEW

- Overview
- Architecture
- Directory structure and project

SIMICS ECLIPSE

- Introduction
- The Simics project
- Perspectives and specific view
- Other views
- Starting Simics
- Hands-on lab
- **LAB: Getting Started with Simics Eclipse**

SIMICS COMMAND LINE

- Simics commands
- Scripting
- Hands-on lab
- **LAB: Using the Simics Command Line**
- **LAB: Synchronizing Script Branches (Optional)**

SIMICS TARGET STRUCTURE

- Terminology
- Inspecting the configuratio
- Checkpoints
- Hands-on lab
- **LAB: Exploring the Target Structure**

SIMICS LOGGING AND TRACING

- Logging vs. tracing
- Logging
- Tracing
- Controlling log/trace output
- Hands-on lab
- **LAB: Logging and Tracing in Simics**
- **LAB: Advanced Logging and Tracing in Simics (Optional)**

SIMICS CLASSICAL DEBUGGING

- Overview
- Built-in debugger
- External debuggers
- Hands-on lab
- **LAB: Classical Debugging in Simics**

Day 2

SIMICS ADVANCED DEBUGGING

- Reverse execution
- Advanced breakpoints
- OS awareness
- Code coverage
- Hands-on lab
- **LAB: Advanced Debugging in Simics**

MOVING DATA IN AND OUT OF A SIMICS TARGET

- Using memory images for data exchange
- Loading files into memor
- Host as a network resource
- Simics agent
- Hands-on lab
- Appendix: Simics file system (Linux/Solaris ta gets only)
- **LAB: Moving Simics Data**

SIMICS NETWORKING

- Simulated networking without the host
- Simulated networking infrastructure
- Real networking host connections
- Real networking Ethernet bridging
- Hands-on lab
- **LAB: Networking in Simics**

SIMICS MULTI-TARGET SIMULATION

- Terminology
- Synchronizing multiple targets in Simics
- The multi-machine accelerator
- The multi-core accelerator
- Hands-on lab
- **LAB: Simulating Multiple Targets**

WIND

SPECIALIZED TOPICS

SIMICS SIMULATION PERFORMANCE

- Terminology
- Overview
- Benchmarking
- Performance tuning
- Hands-on lab
- **LAB: Benchmarking Simics Performance**

SIMICS NETWORKING DETAILS

- Ethernet link details
- Simics service node details
- Real networking details

DISTRIBUTED SIMULATION

- Distributed simulation

GLOBAL REACH OF WIND RIVER EDUCATION SERVICES

With more than 30 years of device software experience, Wind River provides education services in every region of the world. Our private classes can be tailored to your needs by adding or removing topics from multiple courses. If you have more specific project challenges, Wind River Mentoring provides coaching by experienced engineers to help you integrate Wind River solutions into your environment. And when you're too busy to attend a whole class, our On-Demand Learning options provide around-the-clock access to advanced and specialized topics. All of our education services are led by expert engineers who are closely connected to the Wind River technical community for access to specific expertise

CONTACT US

For more information about Wind River Education Services, visit www.windriver.com/education/.

Wind River World Headquarters

500 Wind River Way
Alameda, CA 94501
USA
Toll-free: 800-545-9463
Tel.: 510-748-4100
Fax: 510-749-2454

training@windriver.com

Wind River EMEA

Steinheilstrasse 10
85737 Ismaning
Germany
Tel.: +49 89 962 445 0
Fax: +49 89 962 445 999

emea-training@windriver.com