



EDUCATION SERVICES

# WIND RIVER SIMICS SYSTEM MODELING

## COURSE DESCRIPTION

This course provides engineers and system architects with a fast, cost-effective way to learn to use Wind River® Simics® Model Builder for modeling systems. Wind River Simics Model Builder is an add-on to the Wind River Simics system simulator that lets you create your own models, ranging from simple devices to complex, multi-component systems. The course explains how to build models of on-chip systems and boards from an existing set of devices and other components.

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

- Follow the general component modeling process
- Create hierarchical component models in Python
- Compile components and test them for correct functionality, including Simics features like checkpointing and reverse execution

## PRODUCTS SUPPORTED

- Wind River Simics Model Builder for Simics 4.8

## COURSE FORMAT

- This one-day, expert-led course consists of lectures and lab sessions.
- Attendees use Wind River Simics Model Builder for Simics 4.8 to gain experience with the topics presented.
- Participants write, compile, and test Python code to model custom systems.
- Participants receive individual guidance from an expert engineer who has extensive experience with Wind River technologies.

## AUDIENCE

- Software developers and testers

## PREREQUISITE SKILLS

- Some experience with embedded software development
- Python programming experience
- Basic understanding of simulation

Course title:	<b>Wind River Simics System Modeling</b>
Duration:	One day
Format:	Instructor-led lectures and hands-on lab sessions
Content:	<b>Day 1:</b> The System Modeling Process; Basics, Device Information, and Attributes; Handling Slots, Creating Components, and Manual Testing; Connectors; GUI Integration and Machine Scripts; Common Modeling Tasks; Test Automation

## PREREQUISITE COURSES

- Wind River Simics Essentials

## RELATED COURSES

- Wind River Simics Device Modeling
- Wind River Simics System Panel

## SYLLABUS

### Day 1

#### THE SYSTEM MODELING PROCESS

- Terminology
- Process
- Utilities
- Eclipse integration
- **LAB: Planning a Simics system model**
- **LAB: Preparing the modeling environment**

#### BASICS, DEVICE INFORMATION, AND ATTRIBUTES

- Component basics
- Getting device information
- Component attributes
- **LAB: Creating a component**

## HANDLING SLOTS, CREATING COMPONENTS, AND MANUAL TESTING

- Handling slots
- Compiling and creating components
- Manually testing components
- **LAB: Adding slots and testing manually**

## CONNECTORS

- Connector concept
- Connector behavior
- Connector implementation
- Connector slots
- **LAB: Adding and using a connector**

## GUI INTEGRATION AND MACHINE SCRIPTS

- GUI integration
- Machine script concept
- Machine script creation
- **LAB: Modeling a board—the first iteration**

## COMMON MODELING TASKS

- Configuring memory maps
- Connecting devices
- Debugging component code
- **LAB: Modeling a board—the second iteration**

## TEST AUTOMATION

- Test suites
- Eclipse integration
- **LAB: Automating test execution**

## 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/](http://www.windriver.com/education/).

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