

# TORNADO 2.2 for VxWORKS 5.5 Workshop



WIND RIVER

TRAINING

## Increase productivity and improve time to market

### TORNADO 2.2 course overview

The **TORNADO**® 2.2 for **VxWORKS**® 5.5 Training Workshop provides engineers with a fast, cost-effective way to acquire the knowledge necessary to develop real-time applications with **TORNADO**.

### Who should attend

- Everyone who will receive our products within 60 days.
- Developers who work with **TORNADO** and **VxWORKS**.
- New project members on teams already using our products.
- Managers who want to get a quick understanding of Wind River products.
- Senior engineers who want to evaluate **VxWORKS** 5.5 technology.

### Course format

- Our 4-day instructor-led courses consist of lectures and hands-on lab sessions.
- Students gain hands-on experience and receive personal guidance from expert Wind River instructors.
  - Students examine details of the **TORNADO** environment, focusing on the most commonly used areas. Specific questions are addressed.
  - Lab sessions allow hands-on application of course concepts.

### Course results

After taking this course, students will have the knowledge to:

- Take a requirement specification to a working application.
- Develop, debug, build, and test real-time applications with **TORNADO**.
- Efficiently use the functionality of **VxWORKS**.

The net result of the training is faster, more reliable project development.

### Topics

- Booting **VxWORKS**
- Project facility
- Integrated simulator
- **TORNADO** shell
- Symbolic debugging
- Source debugging (CrossWind)
- Performance monitoring tools
- Preemptive task scheduling
- **WIND**® **VIEW**
- Semaphores
- Memory management
- Intertask communication
- **VxWORKS** events
- Message queues and pipes
- Mutual exclusion and re-entrancy
- Interrupt handling
- Writing exception handling code
- Reconfiguring **VxWORKS**

### Prerequisites

- One year C programming.
- Basic understanding of operating systems and debugging techniques.
- Functional knowledge of UNIX or Windows NT.

### Related Wind River training courses

#### Hardware

- **TORNADO** II BSP
- **TORNADO** II Device Driver

#### Tools

- **TORNADO** II Tools
- Advanced Tools

#### General

- Real-Time Programming for Embedded Systems

### For more information

For schedule, detailed agenda and enrollment information, visit Training at:  
<http://www.windriver.com/training/>

Inquiries for EMEA:  
[training-eu@windriver.com](mailto:training-eu@windriver.com)

## Convert Productivity Into Time-to-Market. Independent Research Shows...

1 hour of truly effective training can gain you nearly 1 day of productivity in your project. For a 4-day Wind River course with a team of 5 engineers, this could result in project completion up to 1 month earlier.

### Optimize your investments

Wind River provides high-integrity technology and expertise that enables customers to more efficiently produce superior results.

Wind River gives you more than just products. Wind River provides you with the training solutions to build more confident and productive employees, for faster and smoother project development.

### Sound return on investment

No matter how complex your product is, no matter how many engineers you have or how experienced they are, you still need to get your product to market fast.

- Untrained users often ignore, misuse, or under-utilize new technology.
- Untrained users require 3 to 6 times more support than trained users.
- User error is the #1 cause of system downtime.

Training from Wind River focuses on the core skills that embedded developers need today, and builds the conceptual understanding that is critical to designing and constructing complex and networked applications.

### Customers by market

Wind River certified instructors train thousands of engineers each year. 89% of our students/customers respond with a >4.0 rating out of 5 for course quality, content, and instructor's in-depth knowledge.

Here are just some of our satisfied customers:

#### Aerospace/Defense

Boeing	Hughes Aircraft
Honeywell	Lockheed Martin
Raytheon	

#### Automotive

Bosch	Siemens VDO
Harman/Becker	

#### Digital Consumer

Hewlett Packard	Sony
Intel	Thomson
Philips	

#### Industrial

Motorola	Rockwell
Sharp	Automation
Hydro-Quebec	

#### Network Infrastructure

Alcatel	Nortel
Cisco	Ericsson
Lucent	

### Wind River's training continuum

Training where and when you want it – that is our goal. Select the option that meets your needs when you need it most:

#### WIND SPRINT – Installation Services

Installation and orientation to get the product working in your environment right from the start.

#### Workshops

The 2-5 day courses are a quick, cost-effective way to ensure users' success with Wind River products. Courses are scheduled throughout your region.

#### Onsite Training

Dedicated courses for just your company at your facility. Course offerings can include customized training modules.

#### Web Classroom

1- to 4-hour specific instructor-led interactive training session on a focused topic. Receive focused training while deep in your development project.

### How Good Are Wind River's Courses? Just Ask Your Engineers.

**"Excellent job demystifying real-time systems... tricky or subtle problem areas were clearly outlined."**

**"This will definitely save me a significant amount of development time."**

**"In my 13 years in this business, this class was one of the best."**



# WIND RIVER

#### Wind River Worldwide Headquarters

500 Wind River Way  
Alameda, CA 94501 USA  
Toll free 1-800-545-WIND  
Phone 1-510-748-4100  
Fax 1-510-749-2010  
Inquiries@windriver.com  
Nasdaq: WIND

For additional contact information, please see our Web site at [www.windriver.com](http://www.windriver.com).

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