WIND™

WIND RIVER LINUX VIRTUALIZATION

COURSE DESCRIPTION

The Wind River® Linux Virtualization course provides engineers familiar with existing Wind River Linux products with a fast, cost-effective way to become familiar with and apply Linux virtualization technologies.

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

- Describe key technologies related to Linux virtualization
- Configure, build, and customize a Wind River Linux host system that can accommodate virtualized guests
- Configure, build, and customize a Wind River Linux guest system

PRODUCTS SUPPORTED

- Wind River Linux 5.0.1
- The following targets are available:
    – Simulated target (x64_64)

COURSE FORMAT

- This two-day expert-led course consists of lectures and lab sessions.
- Attendees use Wind River Linux 5.0.1 to gain experience with the topics presented.
- Participants examine and exercise simulated and real hardware targets in hands-on labs.
- Participants receive individual guidance from an expert engineer who has extensive experience with Wind River technologies.

AUDIENCE

- Developers who are familiar with Wind River Linux
- Developers who are interested in employing virtualization in their devices using Linux

PREREQUISITE SKILLS

- Understanding of the Wind River Linux 5.x product
- Basic understanding of operating systems and debugging techniques

Course title:	**Wind River Linux Virtualization**
Duration:	Two days
Format:	Instructor-led lectures and hands-on lab sessions; instructor-led Live Remote delivery available
Content:	**Day 1:** Introduction to KVM; KVM Architecture; KVM Networking
	Day 2: PCI Passthrough SR-IOV; Advanced Topics

- Understanding of makefiles
- Functional knowledge of Linux
- One year of C or C++ programming experience on Linux/UNIX

PREREQUISITE COURSES

- Introduction to Linux
- Wind River Linux and Workbench Essentials

RELATED COURSES

- Wind River Linux User Space Programming
- Wind River Linux Real-Time Essentials (PREEMPT_RT)

SYLLABUS

Day 1

INTRODUCTION TO KVM

- Why virtualize?
- Terminology
- Virtualization timeline
- Basics
- **LAB: Getting started**

AGENTS OF CHANGE™

KVM ARCHITECTURE

- Linux kernel
- User space
- Tools
- **LAB: Using KVM/QEMU command line**

KVM NETWORKING

- Getting started
- Networking within host
- External networking
- Optimizing network performance
- **LAB: KVM networking**
- **LAB: Managing guests with virsh**

Day 2

PCI PASSTHROUGH

- Directed I/O
- Hardware requirements
- HOST kernel configuration
- Run-time configuration

SR-IOV

- What is SR-IOV?
- How do I enable it?
- Troubleshooting hints
- **LAB: Using SR-IOV**

ADVANCED TOPICS

- **LAB: Setting up multiple guests**

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/.

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