EDUCATION SERVICES

WIND RIVER TITANIUM CLOUD ESSENTIALS FOR INDUSTRIAL CONTROL APPLICATIONS

COURSE DESCRIPTION

The Wind River® Titanium Cloud™ Essentials for Industrial Control Applications course provides engineers with a fast, cost-effective way to acquire the skills necessary to use the cloud functionality that makes Wind River Titanium Cloud unique.

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

- Get familiar with OpenStack and distinguish between vanilla OpenStack and Titanium Cloud functionality
- Configure system software (installation, patches)
- Configure Titanium Cloud networking (provider/tenant networks, IP subnets)
- Exercise Titanium Cloud functionality on the virtual machine (VM) lifecycle (create, launch, migrate, backup, terminate)

PRODUCTS SUPPORTED

- Wind River Titanium Cloud Release 5 (18.03)

COURSE FORMAT

- This three-day, expert-led course consists of lectures and lab sessions.
- Participants are provided with laptops that they can use to follow the lectures and execute the training labs. The labs use an Internet connection.
- Participants receive individual guidance from an expert engineer who has extensive experience with Wind River technologies.

AUDIENCE

- Industrial, SaaS, eCommerce, finance, or healthcare service architects who want to understand and have hands-on experience with Titanium Cloud
- Titanium Cloud administrators interested in using the extended functionality of Titanium Cloud beyond the core OpenStack workflows
- Cloud and data center developers who want an introduction to Titanium Cloud's capabilities

Course title:	**Wind River Titanium Cloud Essentials for Industrial Control Applications**
Duration:	Three days
Format:	Instructor-led lectures and hands-on lab sessions
Content:	**Day 1:** Technology Overview; System Capabilities; Hardware Overview; Managing Software Patches and Upgrades; Server Provisioning **Day 2:** Provider Networks; Data Interfaces; Tenant Networks; Virtual Machine Configuration Options; Virtual Machine Deployment Operations **Day 3:** High Availability; Heat Templates and Stacks; SDK Concepts

PREREQUISITE SKILLS

- Functional knowledge of the Linux operating system

PREREQUISITE COURSES

- Training on OpenStack fundamentals, or appropriate experience with OpenStack operations, is helpful.

SYLLABUS

Day 1

TECHNOLOGY OVERVIEW

- Cloud computing service models
- OpenStack overview
- Titanium Cloud architecture

SYSTEM CAPABILITIES

- Automated installation and commissioning
- Inventory management

- Alarm generation and reporting
- High-performance networking
- High availability
- Virtual machine performance
- Web administration interface

HARDWARE OVERVIEW

- Reference hardware configuration
- Internal networks
- External networks
- **LAB: Getting Started with the Titanium Cloud Lab Environment**
- **LAB: Creating and Configuring Linux User Accounts for Titanium Cloud**
- **LAB: Creating Tenants and Users**

MANAGING SOFTWARE PATCHES AND UPGRADES

- Patching architecture
- Installing patches
- Installing patches before commissioning
- System software upgrade orchestration
- **LAB: Installing Software Patches**
- **LAB: Unlocking Compute Nodes**

SERVER PROVISIONING

- Controller software initialization
- UEFI secure boot and trusted boot
- Initializing other hosts
- The host lifecycle
- The overview page

Day 2

PROVIDER NETWORKS

- Physical networks
- VLAN provider networks
- VXLAN provider networks
- Provider network troubleshooting

DATA INTERFACES

- Data interfaces

TENANT NETWORKS

- Tenant network concepts
- Creating and configuring tenant networks
- Creating IP subnets
- **LAB: Creating Tenant Networks from the admin Account**
- **LAB: Creating Tenant Networks from a User Account**
- **LAB: Configuring a Neutron Router**

VIRTUAL MACHINE CONFIGURATION OPTIONS

- The virtual machine lifecycle
- VM flavors and extra specs
- Server groups
- Virtual Ethernet interfaces
- **LAB: Configuring a Virtual Machine Running Environment**
- **LAB: Launching Virtual Machines Using Server Groups**

VIRTUAL MACHINE DEPLOYMENT OPERATIONS

- Monitoring of tenant resources
- Live migration
- **LAB: Attaching and Detaching a Cinder Volume**
- **LAB: Migrating Live Virtual Machines**

Day 3

HIGH AVAILABILITY

- Carrier grade design
- HA layers
- Host monitoring
- VM monitoring
- Monitoring the execution environment
- Application monitoring

HEAT TEMPLATES AND STACKS

- Heat review
- Heat template structure
- Launching a stack
- Extensions
- **LAB: Using Heat to Launch a Guest**

SDK CONCEPTS

- The SDK archive file
- SDK components
- The README files
- Sample deployment

GLOBAL REACH OF WIND RIVER EDUCATION SERVICES

With more than 30 years of experience delivering software for the Internet of Things, 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

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