Course Data Sheet

CMS350 – Configuration Management System 10.x Advanced

Course No.: CMS350-102	Category/Sub Category: Operations Management/Configuration Management System
For software version(s): 10.2 Software version used in the labs: 10.2	Course length: 5 days
Delivery formats: 10.2 Delivery formats: Instructor Led (ILT) and Virtual Instructor Led (VILT)	Training is available as a private session onsite
To order visit: Software Education	

Course Description

This five day course enables students to understand advanced concepts and acquire Universal CMDB (UCMDB) development skills. Advanced topics are discussed and implementation methods and techniques are demonstrated using hands-on exercises. Jython, Java, and Web Services are introduced in the context of UCMDB.

The hands-on lab environment uses UCMDB version 10.2

Audience/Job Roles

This course is recommended for:

- Business Technology Optimization (BTO) architects leveraging the power of the integrated CMDB across the BTO/BSM portfolio. –
- Those in charge of Configuration Management and the documentation and storage of business services and their related assets and relationships.
- Project managers, application modellers, discovery engineers, and UCMDB implementation consultants.
- Integration specialists implementing data federation across the different business silos and software product families

Course Objectives

Upon successful completion of this course, you should be able to:

- Use multiple tenants using the Multitenancy feature
- Integrate multiple Configuration Management Databases (CMDBs) and explain the integration components and process
- Use advanced modelling techniques and change the composite CI for the Universal CMDB (UCMDB) browser and Configuration Manager
- Explain the reconciliation process and use identification rules
- Develop new adapters: discovery and integration
- Use UCMDB data in your adapters
- Develop your own Jython scripts for your adapter
- Develop your own Generic database adapter and federate data into UCMDB or populate UCMDB with data
- Develop your own Java integration adapter
- Use the UCMDB API for Java adapters
- Develop your own XML push adapters
- Explain the Web Services push adapter
- Develop Java code using the UCMDB API
- Use the UCMDB Java API for querying and populating the UCMDB
- Develop your own Web Services client

Prerequisites / Recommended Skills

- Successful completion of UCMDB120 UCMDB 10.x Essentials and UD120 Universal Discovery 10.x Essentials
- At least 6 months experience with UCMDB & Universal Discovery.
- Prior experience with scripting language such as Python, Perl, etc.

Learning Path

Course Topics

Modules	Objectives
Module 1: Course Overview	• Contents of the course • Goals of the course • Recognizing fellow participants • The class agenda • Prerequisites
Module 2: CMS End-to-end Scenario	• Define CMDB and Configuration Management System (CMS) • Describe the relationships between Service Asset and Configuration Management (SACM), Information • Technology Asset Management (ITAM), and CMS • List CMS use cases • Explain different integration methods • Explain the different ways to consume data
Module 3: Multi Tenancy	• Describe multitenancy • List multitenancy use cases • Describe multitenancy architecture • Explain the differences between a tenant and a customer • Use multitenancy management tools
Module 4: Integrating Multiple CMDBs	• Describe multiple CMDB synchronization • Explain the need for multiple CMDB synchronization • List multiple UCMDB components • Describe the CMDB adapter • Explain what the Global ID is • Describe what a push back ID is • Name the uses of Push and Federation in CMD synchronization • Describe the CLIP solution • Name the UCMDB synchronization limitations
Module 5: Advanced Modeling	• Describe the class model • Build complex relationships • Explain the principle of modeling for change management • Explain the principle of modeling for availability management • Explain modeling for UCMDB browser/CM • Explain URM functions
Module 6: Reconciliation	• Describe the Reconciliation Engine in UCMDB 10 • List reconciliation processes • Explain the history of reconciliation • Name reconciliation types • Use identification rules
Module 7: Adapter Development and Writing	• Explain the need for development writing • Describe the Adapter development lifecycle • List the Adapter components • List the ways to access the CMDB data • Explain the differences between adapter types • Name the best practice in Adapter development • Describe remote process execution
Module 8: Developing Jython Adapters	• Explain Python and Jython • Describe Python basics

	• Explain the Jython adapter structure • Explain the ObjectStateHolder • Describe a framework instance • Name OOTB UCMDB libraries
Module 9: Developing Generic DB Adapters	• Describe the Generic Database Adapter (GDBA) • Describe Java Hibernate • Name the preparation for adapter steps • Recognize the mapping tags • List the differences between Federation and Population • List GDBA limitations
Module 10: Developing Java Adapters	• Describe Java adapters • Describe the Federation Framework • List the federation framework capabilities • Use Java adapter resources • Recognize Java adapter structure • Use Java adapter coding • Use logging and debugging
Module 11: Developing Generic Push Adapters	• Describe the Generic push Adapter • Differentiate between XML and the Web Services push adapter • Prepare the push adapter • Use push adapter Jython Script writing • Use the differential synchronization technique • List Generic push adapter best practices
Module 12: Using Data Flow Management API	• List Data Flow Management (DFM) API use cases • Describe the DFM API • Use the DFM API documentation and access the Web Services Description Language (WSDL) file • Describe the DFM code general structure • Use DFM code examples
Module 13: Using Data Flow Management API	• Name UCMDB API use cases • Describe the UCMDB API • Describe the UCMDB API flow • Use the UCMDB API general structure • Use UCMDB API code samples
Module 14: Using the CMDB Web API	• Name uses for the Web Services API • Describe the UCMDB Web Services API • Access the Web Services API • Use the UCMDB API general structure • Explain UCMDB update using Web Services • Use code samples
Module 15: Hardening CMS	• Describe UCMDB security threats • Define basic security measurements • Explain the role of reverse proxy and demilitarized zone (DMZ) • Describe MSSQL recommended practice • Explain the Confidential Manager system role • Describe saving sensitive data in the memory • Explain HA and hardening
Module 16: Performance Tuning and Sizing	• Recognize UCMDB needs • Explore organization examples

	• Learn about use cases • Define server and probe specifications • Maintain a high performing UCMDB
Appendix A: High Availability Deployment	• Describe the purpose of High Availability (HA) • Explain typical HA architecture • Explain the principles of data flow • List the supported products • Describe HA configuration steps