Cloud Programming Workshop

This two day workshop introduces a Cloud Reference Model and explores various aspects of Cloud solution development. Special attention is given to cloud programming standards and development best practices. Upon completion of this course, students will have an understanding of the Cloud Computing environment and practical experience in designing, developing, and deploying Cloud-based solutions. This hands-on workshop consists of 50% hands-on labs in an actual Cloud Computing development environment, and 50% lecture and discussion. Students should have some hands-on experience developing software using any object-oriented programming language. All labs are developed using the Java Programming Language and supporting Application Programming Interfaces (API).

Course Objectives:

- **Cloud Reference Model**
- **Cloud Layering**
- **Understanding Cloud Development Life Cycle**
- **Programming Standards for the Cloud**
- **Cloud User Interfaces**
- **Service Interface Development**
- **Testing and Building Security in the Cloud**

Audience: Information Technology Developers and Architects

Prerequisites: Foundational Knowledge in Cloud Computing.

Number of Days: 2 days

1 Cloud Reference Model

Parsing the Cloud Service Model
Cloud Reference Model
Cloud Infrastructure
Cloud Infrastructure – Vendor Comparison
Cloud Infrastructure - Cloud Storage
Cloud Platform
Cloud Software
SaaS - Cloud Services
SaaS - Cloud Applications
OpenStack Solution Stack
OpenStack main components/services
Compute (Nova)
Main Compute (Nova) modules/services
Image (Glance)
Object Store (Swift)
Components of Swift
Block Storage (Cinder)
Identity (Keystone)
Network (Quantum)
Dashboard (Horizon)
Pulling It All Together

2 Cloud Layering

Cloud Layering
Content Services
Logic Services
Orchestration in the Cloud
Utility - Security Services
Utility - Data Services
Layering Examples

3 SDLC In The Cloud

Software Development Lifecycle in the Cloud
Requirements Discovery
Cloud-Based Analysis and Design
Development
Implementation and Testing