

# Designing Cloud Computing Solutions Training and Courseware

WT1826

This two day workshop introduces a Cloud Reference Model and explores various aspects of Cloud solution design from discovery throughout the lifecycle of a Cloud solution all the way to retirement. Special attention is given to requirements and Cloud utilization analysis, Cloud solution design strategies, and deployment scenarios. 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.

## Audience

- Information Technology Architects, Developers, and Business Analysts.

## Prerequisites

- Foundational Knowledge in Cloud Computing, such as is provided by our Cloud Computing Primer (WT1723) and / or Cloud Computing Workshop (WT1724)

## Course Length

- 2 days

## Learning Objectives

- Cloud Reference Model
- Cloud Layering
- Cloud Development Life Cycle
- Strategies for Designing Cloud Solutions
- Governing Cloud Computing
- Working with Cloud SLAs
- Cloud Patterns and Anti-Patterns

## Teaching Methods

- Lectures
- Hands-on workshops

## Course Outline

WTE10

### Cloud Reference Model

- Objectives
- Cloud Computing Stack
- Cloud Infrastructure
- Cloud Storage
- Cloud Platform
- Cloud Services
- Cloud Applications
- Categorizing Clouds
- Scoping Clouds
- Cloud Types
- Cloud Roles
- Cloud Solution Stacks
- Solution Stack – Cloud Desktop
- Solution Stack – Cloud Software
- Solution Stack – Cloud Service
- Solution Stack – Cloud Processing
- Solution Stack – Cloud Storage

### Cloud Layering

- Objectives
- Cloud Application Services
- Cloud Business Services
- Composite Cloud Services
- Cloud Security Services
- Cloud Data Services
- Orchestration in the Cloud

### Cloud Development Life Cycle

- Objectives
- Cloud Development Life Cycle
- Requirements Discovery
- Analysis & Design
- Development
- Testing
- Deployment
- Monitoring
- Retirement

### Requirements Discovery

- Objectives
- Discovery Workshops

- Cloud Requirements
- Scoping Cloud Requirements
- Documenting Expected, Average, and Peak Usage
- Defining Cloud Service Levels
- Discovery Best Practices
- Discovery Gotchas

### Analysis & Design

- Objectives
- Analyzing Cloud Requirements
- Mapping Cloud Requirements to Usage Scenarios
- Designing Cloud Solutions
- Designing Cloud Service Interfaces
- Designing for Cloud Functional Requirements
- Designing for Cloud Non-functional Requirements
- Analysis & Design Best Practices
- Analysis & Design Gotchas

### Design Strategies

- Objectives
- Designing for Cloud Availability
- Designing for Cloud Security
- Designing for Cloud Storage
- Designing for Cloud Management
- Designing for Cloud Maintainability
- Designing for Cloud Service Reuse
- Designing for Cloud Agility
- Designing for Cloud Usability

### Development

- Objectives
- Implementing Cloud Services
- Building Composite Solutions
- Creating Services for Amazon
- Testing Amazon Cloud Services
- Deploying Amazon Services
- Consuming Amazon Services
- Creating Services for Google
- Testing Google Cloud Services

- Deploying Google Services
- Consuming Google Services

### Cloud Governance

- Objectives
- Top Cloud Computing Consumer Risks
- Top Cloud Computing Provider Risks
- Risk Mitigation
- Defining Cloud Governance
- Cloud Governance Model
- Key Artifacts
- Governance Life Cycle
- Policies and Procedures
- Roles and Responsibilities
- Governance Best Practices
- Governance Gotchas

### Cloud Service Level Agreements (SLAs)

- Objectives
- The Importance of Cloud SLAs
- What Belongs in a Cloud SLA?
- Minimal Cloud SLA
- Robust Cloud SLA
- Governing Cloud Service Quality
- Supporting Clouds

### Cloud Patterns & Anti-Patterns

- Objectives
- Business Patterns
- Architecture Patterns
- Technology Patterns
- Organization Patterns
- Governance Patterns
- Anti-pattern #1
- Anti-pattern #2
- Anti-pattern #3
- Anti-pattern #4
- Key Success Factors in the Cloud

### Appendix A – Cloud Computing Glossary

### Appendix B – Cloud Computing Roadmap