

# Cloud Architect Certification

Competency: Design and Implementation

12-16 August 2013, 3 Church Street @ Samsung Hub

Licence Training partner

Arcitura Education LICENSED Training Partner	CloudSchool.com™ LICENSED Training Partner	SOASchool.com* LICENSED Training Partner
--	--	--

**Productivity and Innovations  
Credit Claimable**

## At A Glimpse

This 5-day workshop is designed to introduce participants to cloud computing and to enable them to define what cloud computing really is in vendor-neutral terms. The workshop begins by discussing the business drivers and technology innovations that led to the emergence of cloud computing, and goes on to describe the basic characteristics of cloud computing and the benefits and challenges it presents.

This workshop also examines in detail the basic cloud delivery and deployment models as well as the technologies that are used to implement them. It acquaints participants with the common design patterns that are applied to build and leverage cloud environments and addresses security considerations for moving into the Cloud. Additional topics include how to perform a cost comparison between on-premise and cloud solutions, considerations for developing service level agreements between cloud consumers and providers, and how cloud technologies are being applied in security sensitive sectors such as Financial Services and across various industries.

## What You Will Learn & Gain:

In this course you will learn about:

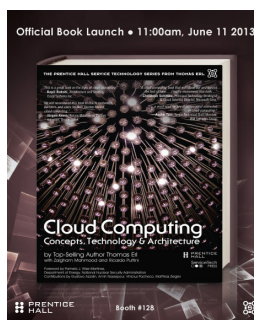
- Why cloud computing has emerged as a platform for delivering IT services
- Characteristics of true cloud computing environments
- Roles and boundaries in cloud computing
- Cloud delivery models (IaaS, SaaS, PaaS)
- Cloud deployment models (Public, Community, Private, Hybrid)
- How to perform a cost benefit analysis between on-premise and cloud solutions
- Basic cloud computing mechanisms and how they are applied
- Common cloud security threats and the mechanisms used for mitigating them
- Cloud services and cloud storage services
- Cloud testing considerations
- Fundamental cloud design patterns and the mechanisms used to implement them

## Who Should Attend:

This is an essential course for System Architects, Server and Network Administrators, Project Managers, Consultants, and Information Technology Executives who are responsible for:

- Enterprise Architecture
- Infrastructure Design
- Systems Integration
- Service Delivery
- Systems Administration and Support
- Vendor Selection and Management
- Research and Development

## Cloud Computing Supplement book



## Trainer

About the Trainer:

**Ryan Chun**  
Arcitura Certified Trainer

Ryan Chun is a Certified SOA Architect, Certified Cloud Technology Professional, and Certified Trainer for Arcitura. He has over 15 years of experience designing and developing enterprise applications for public and private sector clients, and has delivered technical training on a variety of topics to students all over the world.

As a consultant for Booz Allen Hamilton, Ryan helps United States Department of Defense (DoD) agencies apply service-orientation to develop software that is aligned with mission objectives, simpler to manage, and resilient to change. He advised a team that created a social media platform for the DoD and its partners, and assisted the Pacific Air Forces with deploying software to improve collaboration between nine bases across the Pacific. He has also developed solutions for securely managing information at the US Northern Command and Headquarters, Air Force.

With the DoD now looking to leverage cloud technologies to consolidate IT services under the Defense Information Systems Agency (DISA), Ryan is currently assisting organizations like the US Pacific Command with evaluating DISA's community cloud offerings and developing plans for moving key services into DISA's enterprise computing environment. Ryan is also advising these organizations as they begin to consider public cloud offerings, such as Amazon's EC2 and Windows Azure, to host their infrastructure and applications.

Prior to Booz Allen, Ryan assisted clients in the financial services sector with evaluating public and private cloud offerings for hosting e-mail, productivity software, and collaboration services. He was a technical manager for Hawaii's largest health insurance provider, sharing with them his expertise on .NET development and software development methodologies, and has also served as the Director of Solutions Development for a Microsoft Gold Partner where he managed technical personnel working on IT projects in Hawaii and Washington DC.

# Cloud Architect Certification

Competency: Design and Implementation

12-16 August 2013, 3 Church Street @ Samsung Hub

Licence Training partner

Arcitura Education LICENSED Training Partner	CloudSchool.com™ LICENSED Training Partner	SOASchool.com™ LICENSED Training Partner
--	--	--

## Day 1 – Module 1: Fundamental Cloud Computing

- A Brief History of the Business and Technology Drivers that Led to Cloud Computing
- Fundamental Cloud Computing Terminology and Concepts
- Horizontal and Vertical Scaling
- Basics of Virtualization
- Specific Characteristics that Define a Cloud
- On-Premise Services vs. Cloud Services
- Understanding Elasticity, Resiliency, On-Demand and Measured Usage

- Benefits, Challenges and Risks of Contemporary Cloud Computing Platforms and Cloud Services
- Understanding How Cloud Consumers and Cloud Providers Relate
- Cloud Resource Administrator and Cloud Service Owner Roles
- Cloud Service and Cloud Service Consumer Roles
- Organizational and Trust Boundaries as They Pertain to Cloud Consumers and Providers
- Software as a Service (SaaS), Platform as a Service (PaaS) and Infrastructure as a Service (IaaS) Cloud Delivery Models

- Combining Cloud Delivery Models
- Public Cloud, Private Cloud, Hybrid Cloud and Community Cloud Deployment Models
- Measuring the Business Value and ROI of Cloud Computing
- Business Cost Metrics and Formulas for Comparing and Calculating Cloud and On-Premise Solution Costs
- Service Level Agreements (SLAs) for Cloud-based IT Resources
- Formulas for Calculating and Rating SLA Quality of Service Characteristics

## Day 2 - Module 2: Cloud Computing Technology

- Cloud Computing Mechanisms that Establish Architectural Building Blocks
- Virtual Servers, Ready-Made Environments, Failover Systems, and Pay-for-Use Monitors
- Mapping Cloud Computing Mechanisms to Cloud Characteristics
- Combining Cloud Computing Mechanisms
- Cloud Balancing and Cloud Bursting Architectures
- Common Risks, Threats and Vulnerabilities of Cloud-based

- Services and Cloud-hosted Solutions
- Cloud Security Mechanisms Used to Counter Threats and Attacks
- Single Sign-On for Cloud-Based Services
- Understanding Cloud-Based Security Groups and Hardened Virtual Server Images
- Understanding Virtualization Attacks and Overlapping Trust Boundaries
- Cloud Service Implementation Mediums (including Web Services and REST Services)
- Cloud Storage Benefits and Challenges
- Cloud Storage Services, Technologies and Approaches

- Non-Relational (NoSQL) Storage Compared to Relational Storage
- Cloud Service Testing Considerations and Testing Types
- Understanding Performance Testing, Stress Testing, and Integration Testing
- Modern Cloud Technologies, including Autonomic Computing and Service Grids
- Building Cloud Platforms (IaaS, PaaS and SaaS and how to use them together and across clouds)
- Emerging Cloud Computing Trends and Innovations
- Emerging Cloud Computing Industry Standards and Community Projects

# Cloud Architect Certification

Competency: Design and Implementation

12-16 August 2013, 3 Church Street @ Samsung Hub

Licence Training partner

Arcitura Education LICENSED Training Partner	CloudSchool.com™ LICENSED Training Partner	SOASchool.com™ LICENSED Training Partner
--	--	--

## Day 3 – Module 4: Fundamental Cloud Architecture

- Technology Architectural Layers of Cloud Environments
- Decomposing Cloud Platforms into Individual Moving Parts
- Public and Private Cloud Technology Architecture
- IaaS, PaaS and SaaS Technology Architecture

- Cloud Computing Mechanisms as part of Platform and Solution Technology Architectures
- How Common Design Problems can be addressed by Different Combinations of Cloud Computing Mechanisms
- Bare-Metal and Elastic Disk Provisioning
- Multipath Resource Access, Broad Access and Intelligent Automation Engines

- Usage and Pay-as-You-Go Monitoring
- Platform Provisioning and Rapid Provisioning
- Resource Management and Realtime Resource Availability
- Shared Resources, Resource Pools and Resource Reservation
- Self-Service and Usage and Administration Portals
- Workload Distribution and Service State Management

## Day 4 – Module 5: Fundamental Cloud Architecture

- Elastic Environment
- Resilient Environment
- Multitenant Environment
- Direct I/O Access and Direct LUN Access
- Dynamic Data Normalization
- Zero Downtime and Storage Maintenance Window

- Load Balanced Virtual Servers
- Burst In, Burst Out and Cloud Bursting
- Cloud Balancing
- Redundant Storage and Storage Workload Management
- Elastic Disk Provisioning, Elastic Resource Capacity and Elastic Network Capacity
- Intra-Storage and Cross-Storage Device Vertical Tiering
- Redundant Physical Connections for Virtual Servers and Persistent Virtual Network Configurations
- Load Balanced Virtual Switches and Service Load Balancing
- Hypervisor Cluster
- Dynamic Failure and Recovery
- Synchronized Operating State
- Resource Reservation



# Cloud Architect Certification

Competency: Design and Implementation

12-16 August 2013, 3 Church Street @ Samsung Hub

Licence Training partner

Arcitura Education	CloudSchool.com™	SOASchool.com™
LICENSED	LICENSED	LICENSED
Training Partner	Training Partner	Training Partner

## Day 5 – Module 6: Cloud Architecture Lab

This course module presents participants with a series of exercises and problems that are designed to test their ability to apply their knowledge of topics covered previously in course modules 4 and 5. Completing this lab will help highlight areas that require further attention and will further prove hands-on proficiency in cloud computing design patterns, technology architecture layers, mechanisms, industry technologies and practices as they are applied and combined to solve real-world problems involving IaaS, PaaS and SaaS environments.

As a hands-on lab, this course provides a set of detailed exercises, that require participants to solve a number of inter-related problems, with the ultimate goal of evaluating, designing and correcting technology architectures to fulfill specific sets of solution and business automation requirements.

For instructor-led delivery of this lab course, the Certified Cloud Trainer works closely with participants to ensure that all exercises are carried out completely and accurately. Attendees can voluntarily have exercises reviewed and graded as part of the class completion.

For individual completion of this course as part of the Module 6 Self-Study Kit, a number of supplements are provided to help participants carry out exercises with guidance and numerous resource references.

## WHO ARE WE?

SKM is a professional training provider which focuses on challenges in the ever-changing rapid business, government and defence sectors. We design and deliver quality training courses and seminars that cover Strategic Management, Acquisition Management, Systems Engineering, Operations, C4ISR Development, Logistics & Engineering, Asset Management, Procurement, Contracting and many more. We transform people by inspiring change. We provide quality, long term benefits and growth by delivering inspirational learning, supported through research and robust evaluation, mapped to individual and organisational goals.

## EXPLORE OUR TRAINING SOLUTIONS

We offer a wide range of open courses as well as customised in-house training. Together with our associated training services, really transform us as your one-stop centre for training and developing your personnel. Strategic and Knowledge Management is the preferred training company for your organisational learning – if you haven't used us before take a while to see what we offer.

