

## Cloud Computing Technologies: A Comprehensive Hands-On Introduction - 3 Days

### *Course 1200 Overview*

- You Will Learn How To**
- Thoroughly assess the architectures, components, operation and tools of cloud computing
  - Leverage cloud vendors, including Force.com, Microsoft Azure, Google and Amazon, for business advantage
  - Exploit Software as a Service (SaaS) to optimize cost and resources
  - Create, deploy and secure applications and services with Platform as a Service (PaaS)
  - Commission a computing Infrastructure as a Service (IaaS) with Amazon EC2 and Eucalyptus
  - Design a cloud implementation strategy that minimizes the risk for your organization

**Course Benefits** Cloud computing is revolutionizing all aspects of IT, including hardware, operating systems and applications. Faced with a rapidly changing business environment, organizations are under pressure to respond with a flexible IT infrastructure and applications. In this course, you gain the key knowledge and experience required to leverage both the business and technical benefits of cloud computing. You develop an effective implementation strategy and learn to build and deploy applications to the cloud.

**Who Should Attend** Anyone seeking to exploit the benefits of cloud computing technologies. A basic familiarity with Microsoft Windows, the Internet and the web is helpful.

**Hands-On Training** Throughout the course, a series of hands-on exercises provides you with practical experience in cloud computing. Exercises include:

- Sharing documents with cloud-based collaboration and productivity tools
- Analyzing cloud interface contracts
- Assessing the tools for building applications to leverage cloud elasticity
- Persisting structured data in the cloud
- Commissioning an immediate server infrastructure
- Evaluating cost benefits of a cloud solution
- Developing a business plan for cloud adoption
- Specifying a cloud adoption and migration strategy

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## Course 1200 Outline

### Introduction to Cloud Computing

#### Defining cloud computing

- Components of a computing cloud
- Differentiating types of clouds: public, private, hybrid

#### Delivering services from the cloud

- Categorizing service types
- Comparing vendor cloud products: Amazon, Google, Microsoft and others

### Adopting the Cloud

#### Key drivers of cloud computing solutions

- Instantaneous provisioning of computing resources
- Handling varied loads with elasticity and seamless scalability
- Tapping into an infinite storage capacity
- Cost-effective pay-as-you-use billing models

#### Evaluating barriers to cloud computing

- Handling sensitive data
- Aspects of cloud security
- Assessing governance solutions

### Exploiting Software as a Service (SaaS)

#### Characterizing SaaS

- Minimizing the need for local hardware and software
- Streamlining administration with centralized installation and updates
- Optimizing cost and performance with the ability to scale on demand

#### Comparing service scenarios

- Improving collaboration with business productivity tools
- Simplifying business process creation by integrating existing components

#### Inspecting SaaS technologies

- Deploying web applications
- Implementing web services: SOAP, REST
- Choosing a development platform

### Delivering Platform as a Service (PaaS)

#### Exploring the technical foundation for PaaS

- Specifying the components of PaaS
- Analyzing vendor PaaS provisions
- Selecting an appropriate implementation

#### Building services with solution stacks

- Evaluating the architecture of vendor specific platforms
- Becoming familiar with service platform tools
- Leveraging the power of scalable middleware

#### Managing cloud storage

- Controlling unstructured data in the cloud
- Deploying relational databases in the cloud
- Improving data availability

#### Employing support services

- Testing in the cloud
- Monitoring cloud-based services
- Analyzing portability across platforms

### Deploying Infrastructure as a Service (IaaS)

#### Enabling technologies

- Scalable server clusters
- Achieving transparency with platform virtualization
- Elastic storage devices

#### Accessing IaaS

- Provisioning servers on demand
- Handling dynamic and static IP addresses
- Tools and support for management and monitoring

### Building a Business Case

#### Calculating the financial implications

- Analyzing current and future computing requirements
- Comparing in-house facilities to the cloud
- Estimating economic factors downstream

#### Preserving business continuity

- Selecting appropriate service-level agreements
- Safeguarding access to assets in the cloud
- Security, availability and disaster recovery strategies

### Migrating to the Cloud

#### Technical considerations

- Rearchitecting applications for the cloud
- Integrating the cloud with existing applications
- Avoiding vendor lock-in

#### Planning the migration

- Incremental vs. one-step solution
- Selecting a vendor
- Establishing staff skill requirements