



BITS Pilani

Pilani | Dubai | Goa | Hyderabad

Module 8

Part 03

Best Practices

Harvinder S Jabbal
SE ZG651/ SS ZG653 Software Architectures



Best Practices

AWS Cloud



The Cloud Computing Difference:

- IT Assets become programmable resources
- Global, Availability, and Unlimited Capacity
- Higher Level Managed Services
- Security Built in.

AWS: Design Principles



- Scalability
- Disposable Resources Instead of Fixed Servers
- Automation
- Loose Coupling
- Services, not Server
- Database
- Removing Single Point of Failure
- Optimise for Cost
- Caching
- Security

Multi-tenant Applications for the Cloud: Micro Soft case Study



Windows Azure

- Goals and Requirements
 - The Tenant's Perspective
 - The Provider's Perspective
- Single Tenant vs. Multiple Tenant
- Multi-Tenancy Architecture in Windows Azure
- Selecting Single-Tenant or Multi-Tenant Architecture
 - Architectural Consideration
 - Application Life Cycle
 - Customizing the Application
 - Financial Consideration

Other Topics: Microsoft Azure



- Choosing a Multi-Tenant Data Architecture
- Partitioning Multi-Tenant Application
- Maximising Availability, Scalability and Elasticity
- Securing Multi-Tenant Applications
- Managing and Monitoring Multi-Tenant Applications

Microsoft Application Architecture Guide



Software Architecture and Design

- What is Software Architecture?
- Key Principles of Software Architecture
- Architectural Patterns and Styles
- A Technique for Architecture and Design

Microsoft Application Architecture Guide: Design Fundamentals



- Layered Application Guidelines
- Presentation Layer Guidelines
- Business Layer Guidelines
- Data Layer Guidelines
- Service Layer Guidelines
- Component Guidelines
- Designing Presentation Components
- Designing Business Components
- Designing Business Entities
- Designing Workflow Components
- Designing Data Components
- Quality Attributes
- Crosscutting Concerns
- Communication and Messaging
- Physical Tiers and Deployment

Microsoft Application Architecture Guide: Application Archetypes



- Choosing an Application Type
- Designing Web Applications
- Designing Rich Client Applications
- Designing Rich Internet Applications
- Designing Mobile Applications
- Designing Service Applications
- Designing Hosted and Cloud Services
- Designing Office Business Applications
- Designing SharePoint LOB Applications

Thank you

