Notes

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Cloud
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Machine generated alternative text:


* Manage Azure 3 ways:
  + Portal
  + Powershell
  + Azure CLI
* Check ARM vs ASM in Azure
* Azure Virtual Network Vnet
* Network security groups can be applied by subnet or VM
* Use Snapshot Blob to copy disks attached to VM then copy them to another region for recovery purposes
  + 100 snapshots per blob
  + 10 TB total snapshot volume per blob
  + Minimum time between consecutive snapshots = 10 minutes

<https://docs.microsoft.com/en-us/azure/>

<https://docs.microsoft.com/en-us/azure/#pivot=architecture>

Learn more about

* Resource Groups
* Architecture Patterns
* Storage Accounts
* Network configuration, VNET, Express Route

Azure

<https://azure.microsoft.com/en-us/?v=17.14>

Azure Documentation

<https://docs.microsoft.com/en-us/azure/>

Azure Storage

<https://docs.microsoft.com/en-us/azure/storage/common/storage-introduction#blob-storage>

**Recommended Azure Training**

<https://app.pluralsight.com/player?course=managing-infrastructure-microsoft-azure-getting-started&author=tim-warner&name=managing-infrastructure-microsoft-azure-getting-started-m1&clip=10&mode=live>

* Supposed to be free, but I didn’t test this.
* Managing Infrastructure with Microsoft Azure
* Good course for building out environment. Module contains view of solution you will build with diagram. Builds out VMs, web app, networking, etc.

**Exam bundle**

<http://www.mindhub.com/Microsoft-Azure-Exam-Pack-p/azure_exam_pack.htm>

<https://github.com/guruskill/70-534/find/master>

<http://teams.thehartford.com/team/IPD/Azure%20Training/Forms/AllItems.aspx>

<https://github.com/crpietschmann/Azure-70-534-Practice-Test>

534 is being retired and 535 is coming (January 2018) More theory, less hands on.

<https://www.microsoft.com/en-us/learning/default.aspx>

**Labs**

<http://aka.ms/534Labs>

<https://certprep.azurewebsites.net/>

<https://github.com/guruskill/70-534/blob/master/Labs/readme.md>

<http://itproguru.com/expert/2017/07/70-534-azure-certification-jump-start-architecting-azure-solutions-event-series-content-v2017-06/>

Network labs

<https://github.com/michaelsrichter/70534ExamPrep>

<http://aka.ms/534Labs>

<http://portal.azure.com>

Email:    [HARTFORD.TRAINING@TheHartfordAzureAD.onmicrosoft.com](mailto:HARTFORD.TRAINING@TheHartfordAzureAD.onmicrosoft.com)

Pass:      able1TRAIN2@

**My Lab**

**Survey**

<https://aka.ms/hart102017>

**App Storage and Data Access**

* + Design data storage and security
  + Select the appropriate storage option
  + Storage Options
  + Important Know the various storage types and their uses for exam

Machine generated alternative text:
Design Data Storage Options
• NoSQL
. key/attribute
. Sch•malss
. Fist Data
Acc.ss
• RiLatveIy
nexpensbve
• ReIatonaI
. Tables
. FK, Pk,
Indexes, etc.
M)iGL
e ReIatIona
. Fast DR
• Op.n Sourc•
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. N0SQL
.JSON/
JavaScript
Mon.0DB
. N0SQL
e JSON-hke
(Binary
ISON)
• Dynamic
schemas
. HIgh
perforn..nc.
B4ob Storage
‘Unstructured
data
• Disks.
Images, Logs

* + Know the various types of storage accounts
    - General purpose and blob
  + 3 different blob flavors
    - Hot, cool, and archive

Machine generated alternative text:
Azure Storage Account
Two Kinds of Storie Account
General Purpose Storage Account
‘ Blobs
• Files
Queues
• Tables
• VIlO Dsks(Page Blob
Blob Storage Account
‘ Block Blob
Append Blob
• Page Blob
Performance Tier
• General Purpose; Standard(HDD
based). Premium(SSD based) for
VM
Blob Account: Hot, Cool, Archival(
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Machine generated alternative text:
Blob Access
• Anonymous Access: Public access for containers or
individual blobs
• Storage Access Key
Shared Access Signatures (SAS)
• Delegated access without sharing account key
Containers & blobs
• File shares & files
. Queues
. Tables & ranges of table entities

Machine generated alternative text:
Shared Access Signatures (SAS)
Time interval
Start & end time for
permissions
Permissions
Read, Write, and/or Delete
(Optional) IP address or
address range
Allowed protocols
Example: only https

* + Azure queue size is maximum 64 KB
  + There is a link for current Azure product limits

<https://docs.microsoft.com/en-us/azure/azure-subscription-service-limits>

<https://docs.microsoft.com/en-us/azure/sql-database/sql-database-resource-limits>

<https://docs.microsoft.com/en-us/azure/storage/storage-scalability-targets>

* + Storage account name can be lowercase only

Machine generated alternative text:
Blob Encryption/Security
• Client-side
• Storage Client Library for
.NET
• Server-side
• “Data at Rest”
• “Data ¡n Transit”. Can be
enforced.
• Service Endpoints
• Storage Firewall

Machine generated alternative text:
SQL Database Security
• Firewall & Firewall Rules
. Service Endpoints
• Auditing for compliance and security
Encryption
. TDE( Now supports BYOK, in public Preview)
• Always Encrypt
• Authentication: “Who are you?”
• SQL Authentication
• Azure Active Directory (AAD) Authentication (supports Federated identities
and MFA)
. Authorization
• “What can you do?”
. Dynamic data masking: Hide sensitive data from non-privileged users
• Row-level security

Machine generated alternative text:
DocumentDB Programming Options
Server-side programming options
Stored procs, triggers, & user-defined functions
Written in JavaScript
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**Securing Resources**

* + Register application with AzureAD

<https://docs.microsoft.com/en-us/azure/active-directory/active-directory-app-registration>

* + Azure uses VMCrypt for linux builds.

Labs

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**Networking**

* + DNS -- you don't register with Azure, but you can manage every other aspect with Azure.

**Azure for Developers**

**Meeting Date:** 6/21/2017 1:00 PM

**Location:** ON24

**Link to Outlook Item:** [*click here*](onenote:outlook?folder=Calendar&entryid=000000008759BC5D8002DA4B8FBBAA60BCF9D234070051CF814527B4DE4DAEB8D5F0A3ADDFED0000008C63D900007CF0D487D5E6284CAC780A56167E95950065F2F156760000&date=201706210100)

**Invitation Message**

**Participants**

In Attendance [Whitlock, Stephen (CTO Technology)](mailto:stephen.whitlock@thehartford.com) (Meeting Organizer)

Notes

* How to pick right Azure services for development team.
* "Cloud takes care of the plumbing and boring stuff."
* 4 categories of services:
  + Infra as a Service -- high level of control, but also high level of configuration
    - Must configure networking
    - Must configureWeb stuff
    - Must configureApp stuff
      * VM
      * VM scale set
      * Containers
      * Network
  + Platform as a Service -- less responsibility, but less control
    - Web Apps
    - API Apps
    - Mobile Apps
    - Redis cache
    - Azure CDN
    - Azure SQL
    - DocumentDB (no SQL, document storage)
    - PostgreSQL
    - MySQL
    - Cosmos DB
    - Table storage
    - Blob storage
    - File storage
    - Azure HDInsight
    - Data Warehouse
    - Data Lake Store
    - Azure Insights
    - Azure AD
    - Azure Event Hubs - massive ingestion
    - IoT Hub - massive ingestion but for IoT devices. Can respond with messages.
  + Logic as a Service (serverless) -- less responsibility and less control
    - Fewer LaaS than PaaS
    - Workflows
    - BotNet
  + Software as a Service
    - Cognitive services
    - IoT Suite
    - Mobile Center

Machine generated alternative text:
Slides
Types of Cloud Computing
Responsibility and Control
n
App configuration
Application
• Server configuration
Operating system
• Antivirus
Network
I!’
laaS
• App configuration
Application
Server configuration
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• App configuration
Application
<5>
LeaS
• App configuration

PaaS Offerings

Machine generated alternative text:
Azure PaaS
Application Azure Active
insights Directory
©
Web Apps
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Mobile Apps
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zure SQL DocumentDB
Cosmos DB
(preview)
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Table
i
File
API Apps
PostgreSQL MYSQL
(preview) (preview)
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Redis cache
Azure CON
Azure Data
HDlnsight Warehouse
Data Lake Store

Machine generated alternative text:
Azure PaaS
Azure Search Azure Data Azure Azure Data PowerBi Azure
Lake Machine Factoy Embedded Analysis
Analytics Learning Services

Machine generated alternative text:
Azure Messaging PaaS
Service Bus Service Bus Queues Service Bus Topic
:‘: _____
Relay Azure Event Hubs Storage Queues Azure lOT Hub

Machine generated alternative text:
What are Web Apps?
Traditional Webhosting
Serv& 4 os + Webserver (IlS)
Hosting with Web Apps
Web App
Azure Service Fabric
Server + Azure OS 4 Webserver (lIS)
n

Machine generated alternative text:
Azure Web App
Host web applications
.NET, Node.js, Python. Java, PHP
SLA 99.95%
Custom domains
Deployment slots
- Zero downtime deployments
Continuous deployment
(Auto) scaling

* Can connect Jenkins

Machine generated alternative text:
The Purpose of App Services
Web Apps API Apps Mobile Apps
Webserve r-as-a-Service API Definition Offline Sync
App Services Features CORS Push Notifications

Machine generated alternative text:
What are Logic Apps?
co
TrlggGrs
Conditions X = = Y X < Y
Actions

Machine generated alternative text:
What are Logic Apps?
Triggers
• Compose workflows
• Logic Apps Definition Language
Conditions • Templates to start with
« Robust and reliable
Actions

Machine generated alternative text:
The Purpose of Logic and Function Apps
Compose SaaS React to trigger events
Workflows
Execute independent
Robust and Reliable ______ code
<43>
ÇJ LO9IC Apps fr’ Function Apps

Machine generated alternative text:
Azure Deployment Options
Azure Container Service
Azure Resource Manager
Azure Service Fabric
a)
Azure Stack
(preview)

Machine generated alternative text:
Azure Resource Manager Templates
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Ntypev: Microsoft.ComputeJvirtuaIMachines,
“apiVersion”: “2015-06-15”,
“name”: “SimpleWindowsVM”,
“location”: “fresourceGroupo location]”.
h “tags”: (
r “costCenter”: “Finance”
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* Azure resources are used to group things together for management, access, and billing.
* It can also be scripted using a json library.

Machine generated alternative text:
What ¡s Azure Service Fabric?
• Load balancing
• Hyper-scale
• High availability
• .lf healing
• Replication & failover
• Rolling upgrades
• Automatic rollback
I_e_I (AWS
Local / on-premises Other clouds (AWS)
Azure Service Fabric