

AZURE GUIDE

The screenshot shows the Microsoft Azure portal interface. At the top, it says "Microsoft Azure". On the left, there's a "Service health AZURE" section showing a world map with green checkmarks indicating healthy services across various regions. Below that is a "Marketplace" section with icons for different cloud services. In the center, there's a "Billing" section showing "WINDOWS AZURE MSDN - VISUAL STUDIO ULTIMATE" and "CREDIT LEFT 112.13 USD" with a "SUBSCRIPTIONS 3" count. To the right, there's a "Tour" section titled "Welcome to Azure" with a "Browse all" button and a magnifying glass icon. At the bottom right are "Help + support", "FEEDBACK" (with a red heart icon), and "AZURE PORTAL" (with a browser icon).

Version 0.0.3

Damian Ndunda

MUGUMOINI - NAIROBI

AZURE GUIDE

Copyright © 2020 BICT Solutions.

Visit <https://businessict.weebly.com/cloud-computing.html>

Trademarks used belong Microsoft Inc. Icons used are reproduced from Microsoft Azure web. Trademark information about all of the companies and products mentioned herein are provided accordingly but cannot guarantee the accuracy of all information as information changes with time.

CONTENTS AT A GLANCE

AZURE GUIDE	1
CONTENTS AT A GLANCE.....	3
TABLE OF CONTENTS.....	4
FOREWORD	9
CHAPTER: MICROSOFT AZURE INTRODUCTION.....	16
CHAPTER: AZURE POWERSHELL	46
CHAPTER: VIRTUAL MACHINES DEPLOYMENT AND MANAGEMENT	55
CHAPTER: VIRTUAL NETWORKING CONFIGURATION	80
CHAPTER: UNDERSTANDING AZURE STORAGE AND DATABASES	107
INDEX	141
REFERENCES.....	143

TABLE OF CONTENTS

AZURE GUIDE	1
CONTENTS AT A GLANCE.....	3
TABLE OF CONTENTS.....	4
FOREWORD	9
AZURE REGIONS	9
AZURE CONTENT DELIVERY NETWORK (CDN).....	10
AZURE SERVICES	10
COMPUTE.....	12
Virtual Machines:.....	12
Mobile Services:.....	12
Web Apps:	12
Cloud Services:.....	12
RemoteApp:.....	12
NETWORKING	13
Virtual Network:.....	13
ExpressRoute:.....	13
Traffic Manager:.....	13
STORAGE AND DATA	13
Storage:	13
HDInsight:	13
SQL Database:.....	13
BACKUP AND RECOVERY.....	14
Backup:	14
Site Recovery:	14
StorSimple:	14

IDENTITY AND ACCESS	14
Azure Active Directory:.....	14
Azure Right Management Services (RMS):.....	14
APPLICATIONS.....	14
Azure Resource Manager:	15
Azure Automation:	15
CHAPTER: MICROSOFT AZURE INTRODUCTION.....	16
1 THE AZURE/OFFICE 365 CONNECTION	16
2 SECURITY, COMPLIANCE, AND PRIVACY.....	16
Addressing Security.....	18
Using Existing Resources across the Organization	18
Adhering to an Evolving Security Development Life Cycle	18
Machine Learning	18
Previewing New Security Features	18
Penetration Testing	19
Certifications and Industry Standards.....	19
Microsoft Azure Government	20
Privacy.....	20
3 WHY MICROSOFT AZURE?.....	21
4 THE AZURE PORTAL	21
5 HOW AZURE IS LICENSED	24
Azure Accounts	24
Creating an Azure Account	24
SIGNING UP FOR AZURE WITH A MICROSOFT ACCOUNT	24
DETERMINING YOUR AZURE ACCOUNT NAME	26
CREATING AN AZURE ACCOUNT FROM AN EXISTING OFFICE 365 TENANT.....	28
Azure Subscriptions	32
Multiple Azure Subscriptions.....	32
SETTING UP MULTIPLE AZURE SUBSCRIPTIONS	32
6 SCOPING AZURE	39
Accessing the Azure Pricing Calculator	39
Using the Azure Pricing Calculator.....	42

CHAPTER: AZURE POWERSHELL	46
1 AZURE POWERSHELL JUMP-START.....	46
2 UPCOMING CHANGES IN AZURE POWERSHELL	49
3 GETTING AZURE READY FOR POWERSHELL.....	50
Authentication Using a Certificate	50
Authentication Using the Azure Active Directory	52
CHAPTER: VIRTUAL MACHINES DEPLOYMENT AND MANAGEMENT	55
1 BASIC OPERATIONS: AZURE VIRTUAL MACHINE	55
2 AZURE VIRTUAL MACHINE (VM) PROVISIONING	57
Provisioning a New Azure VM: Quick Configuration.....	57
While in the ARM module, the Get-AzureVMImage cmdlet has the following parameters:.....	57
Parameters:	58
Provisioning a New Azure VM: Advanced Configuration	60
The following code example shows how to combine these cmdlets to provision a Windows virtual machine.	60
3 CONFIGURING VIRTUAL MACHINE ENDPOINTS	62
4 VIRTUAL MACHINES LOAD BALANCING	64
Configuring NLB Using Endpoints	64
5 WORKING WITH VIRTUAL MACHINE DATA DISKS	65
Attaching an Empty Data Disk.....	66
Attaching an Existing Data Disk.....	67
Importing a Data Disk from a Different Location.....	68
6 MOVING ON-PREMISES VM TO AZURE	69
7 AZURE VM IMAGES	70
Creating a VM Image from an Existing VM	71
Creating a VM Image from a VHD	71
Using the Update-AzureVMImage cmdlet, you are able to update the following properties:	72
8 GENERATING AN AZURE VM RDP FILE	72
9 EXPORTING AND IMPORTING AZURE VIRTUAL MACHINES.....	73
10 AZURE VM EXTENSIONS	76
How Does the VM Extension Work?.....	76
Installing and Enabling a VM Agent	77
Working with VM Extensions.....	77

CHAPTER: VIRTUAL NETWORKING CONFIGURATION	80
1 VIRTUAL NETWORK CATEGORIES	80
No VNet:.....	80
Cloud-only VNet:.....	80
Cross-Premises VNet:.....	80
Cross-Premises VNet supports three types of network connectivity.	80
Site-to-Site:	80
Point-to-Site:	81
ExpressRoute:.....	81
2 CREATING AN AZURE VIRTUAL NETWORK	81
3 WORKING WITH NETWORK SECURITY GROUPS.....	86
4 USER DEFINED ROUTES (UDR).....	88
5 AZURE VIRTUAL NETWORK GATEWAY	89
Configuring an Azure Site-to-Site VPN	89
6 AZURE TRAFFIC MANAGER.....	92
Azure Traffic Manager supports three routing methods:.....	92
Failover:	92
Performance:.....	92
RoundRobin:.....	92
Creating an Azure Traffic Manager	92
Creating a Traffic Manager Profile	92
Use the New-AzureTrafficManagerProfile cmdlet with the following parameters:.....	93
To create an Azure Traffic Manager profile using the ARM module, you use the New-AzureTrafficManagerProfile cmdlet, similar to the one in the ASM module, along with the following parameters:	94
Add a Traffic Manager Endpoint	95
Modifying Azure Traffic Manager Profile Settings	97
Removing Traffic Manager.....	98
7 AZURE DNS	99
Setting up Azure DNS	101
Creating an Azure DNS Zone.....	101
Creating Azure DNS Record Sets and Records.....	103
Updating an Existing Record Set.....	105
Removing DNS Zone, Record Set, and Record.....	105

CHAPTER: UNDERSTANDING AZURE STORAGE AND DATABASES	107
1 AZURE STORAGE SERVICES: TERMS AND CONCEPTS	107
Azure Storage Account.....	109
Premium Storage.....	109
Locally Redundant Storage.....	109
Georedundant Storage	109
CREATING AN AZURE STORAGE ACCOUNT	109
Queue Storage.....	114
File Storage	114
Blob Storage	115
Core Concepts Of Azure Blob Storage:.....	115
2 AZURE STORAGE ANALYTICS	117
3 AZURE IMPORT/EXPORT SERVICE	117
4 AZURE SQL DATABASE.....	117
CREATING AND USING AN AZURE SQL DATABASE.....	117
5 STORSIMPLE	137
StorSimple 8100:.....	139
StorSimple 8600:.....	140
INDEX	141
REFERENCES.....	143