Azure Free Training

Module 1 : Azure Governance Model

Azure Naming Convention
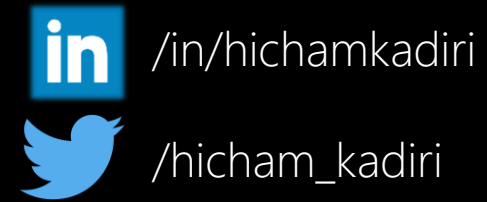
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THINK CLOUD   A K&K Group Company

About me

Microsoft MVP

- Windows Expert-IT Pro (2014-2015)
- Cloud and Datacenter Management (2016)
- Enterprise Mobility /RDS (2017)
- CDCM /Azure (2018)

Hicham KADIRI (aka #HK)

Lead Cloud Architect /Az Expert

- Working for several large companies and international group including Thales, Areva, Rabobank, Gemalto, Vinci, CE, BP...etc

IT Blogger

- hichamkadiri.wordpress.com
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- ~2millions views ☺

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IT Author (+10 eBooks)

- RDS 2012 R2 and 2016 Pocket Consultant
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- Azure CLI 2.0 Pocket Consultant
- GPO, PowerShell, AppLocker ...

TechNet Contributor (Top 0,5%)

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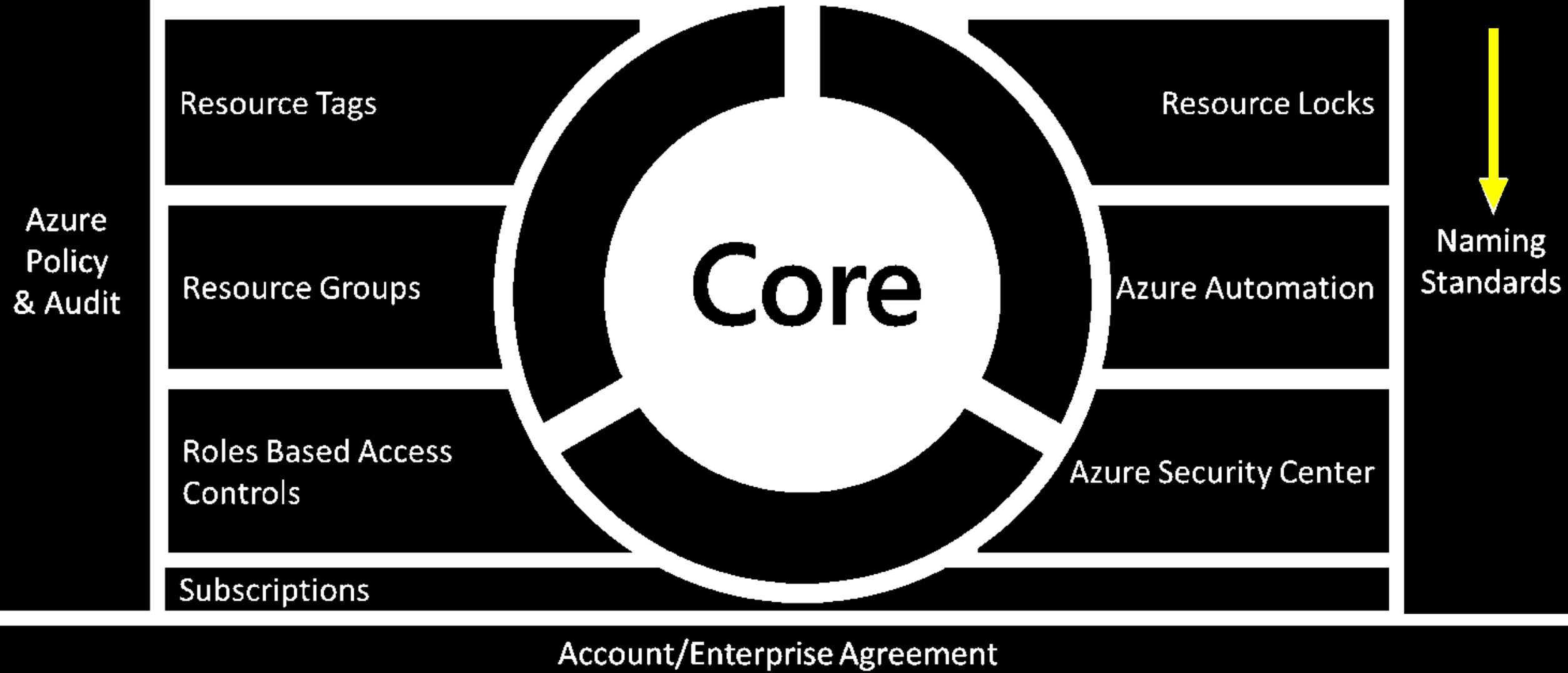
Document Objectives

- Reminder about Azure Governance

- Explains the importance of naming convention in the Microsoft Azure environment

- Keys items You Should Know

- List all Azure Naming Convention Rules & Restrictions

- Lists some of Azure Naming Constraints Examples

- Gives you an example (suggestion) of Azure Naming convention

Reminder about
Azure Governance

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Azure Scaffold

Core

Resource Tags

Resource Groups

Roles Based Access Controls

Subscriptions

Resource Locks

Azure Automation

Azure Security Center

Azure Policy & Audit

Naming Standards

Account/Enterprise Agreement

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Azure Naming Convetion
Why it's important ?

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Microsoft Azure Naming Convention
Why it's important ?

- As shown in the previous figure, the first pillar of the Azure scaffold is naming standards. Well-designed naming standards enable you to identify resources in the portal, on a bill, and within scripts.

- Most likely, we already have naming standards for on-premises infrastructure. When adding Azure to the existing environment, we should extend those naming standards to our Azure resources.

- Naming standard facilitate more efficient management of the environment at all levels.

- The choice of a name for any resource in Microsoft Azure is important because:
  - It is difficult to change a name later.
  - Names must meet the requirements of their specific resource type.

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Azure Naming Convetion
Keys items You Should Know

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- Naming convention is a key decision for object management, tracking, and billing

- Pick names that will give you information in the portal

- Make it easy to understand what a resource is for

- Use tagging to set the context that you do not need in the name

- Maybe you do not need to indicate if something is production or non-production in the name, but do it with a tag

- Outline initial Azure naming convention

  - HK Best Practice : always extend your existing naming convention to Azure >> Do not create a new naming convention model for Azure IaaS VM, just re-use (extend) your existing naming standards by replacing site name by AZ (or AZUR)

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Azure Naming Convetion
Naming rules and restrictions

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Microsoft Azure Naming Convention
Important Note

- There are some rules and restrictions related to Azure naming standards.

- This section presents these limits and restrictions

- All limits and restrictions related to naming standards on Azure must be taken into account when creating the Azure Naming Convention document for your Cloud environment.

IMPORTANT NOTE : the Standard rule/restriction related to Azure Naming Standard

In general, avoid having any special characters (**-** or **_**) as the first or last Character in any name. These characters will cause most validation rules to fail.

- Refer to the following slides to read more about Azure naming rules and restrictions

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The following informations must be taken into account when designing the naming convention model :

- Some resources have to be globally unique because you're actually creating a DNS record on Microsoft namespace

- Some resources can only have lowercase letters

- Some resources can't contain hyphens or underscores

- Some resources can't contain numbers or special characters

- Any combination of all of the above

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Microsoft Azure Naming Convention
Constraints Examples

- Some resource name constrained **unique across entire Azure cloud**
  - e.g., **SQL Server Name, Storage Account Name**, etc. must be unique across Azure not just subscription
- Some resource name **constrained by length**
  - e.g., **Search Service** is constrained **2 to 15 characters**
- Some resource name **constrained to alpha-numeric**
  - e.g., **Storage Account** Name **cannot** have **dash, dots**, etc.
- Some resource name **constrained unique within account**
  - e.g**., Storage Table Name** must be **unique within Azure subscription** account
- Some resource names **cannot be upper characters**
  - e.g., **Storage account** names must be all lower case

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Microsoft Azure Naming Convention
#1 : General (RG, Availability Set, Tag)

Resource /Artifact	Context (Scope)	Length (Min-Max)	Casing	Valid Characters Set
Resource Group	Subscription	1-90	Case insensitive	• Alphanumeric • Underscore • Parentheses • Hyphen • Period (except at end)
Availability Set	Resource Group	1-80	Case insensitive	• Alphanumeric • Underscore • Hyphen
Tag	Associated Entity	512 (name) 256 (value)	Case insensitive	• Alphanumeric

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Microsoft Azure Naming Convention
#2 : Compute

Resource /Artifact	Context (Scope)	Length (Min-Max)	Casing	Valid Characters Set
Virtual Machine	Resource Group	1-15 (Windows) 1-64 (Linux)	Case insensitive	• Alphanumeric • Hyphen
Function App	Global	1-60	Case insensitive	• Alphanumeric • Hyphen

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Microsoft Azure Naming Convention
#3 : Storage

Resource /Artifact	Context (Scope)	Length (Min-Max)	Casing	Valid Characters Set
Storage account name (data)	Global	3-24	Lowercase	• Alphanumeric
Storage account name (disks)	Global	3-24	Lowercase	• Alphanumeric
Container name	Storage account	3-63	Lowercase	• Alphanumeric • Hyphen
Blob name	Container	1-1024	Case sensitive	• Any URL characters
Queue name	Storage account	3-63	Lowercase	• Alphanumeric • Hyphen
Table name	Storage account	3-63	Case insensitive	• Alphanumeric
File name	Storage account	3-63	Lowercase	• Alphanumeric
Data Lake Store	Global	3-24	Lowercase	• Alphanumeric

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Microsoft Azure Naming Convention
#4 : Network

Resource /Artifact	Scope	Length (Min-Max)	Casing	Valid Characters Set
Virtual Network (VNet)	Resource Group	2-64	Case insensitive	
Subnet	Parent VNet	2-64	Case insensitive	
Network Interface	Resource Group	1-80	Case insensitive	
Network Security Group	Resource Group	1-80	Case insensitive	
Network Security Group Rule	Resource Group	1-80	Case insensitive	• Alphanumeric
Public IP Address	Resource Group	1-80	Case insensitive	• Hyphen,
Load Balancer	Resource Group	1-80	Case insensitive	• Underscore
Load Balanced Rules Config	Load Balancer	1-80	Case insensitive	• Period
Azure Application Gateway	Resource Group	1-80	Case insensitive	
Route Table	Resource Group	1-80	Case insensitive	
ExpressRoute Circuit	Resource Group	1-80	Case insensitive	
Traffic Manager Profile	Resource Group	1-63	Case insensitive	• Alphanumeric • Hyphen • Period

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Microsoft Azure Naming Convention
#5 : App

Resource or artifact	Context (Scope)	Length (Min-Max)	Case	Valid character set
App Service Plan	Subscription	2-40	Case insensitive	• Alphanumeric
Web App	Global	2-60	Case insensitive	• Alphanumeric and hyphen
Mobile App				
Logic App				
API App				
App Service Environment				
App Service Certificate	Global	3-15	Case insensitive	• Alphanumeric
API Management	Global	1-50	Case insensitive	• Alphanumeric

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Microsoft Azure Naming Convention
#6 : Other [Part 1]

Resource or artifact	Context (Scope)	Length (Min-Max)	Case	Valid character set
Notification Hub	Subscription	1-260	Case insensitive	• Alphanumeric, underscore, hyphen and point
Notification Hub Namespace	Global	2-50	Case insensitive	• Alphanumeric and hyphen
SQL Database	Subscription	1-28	Case insensitive	• Alphanumeric, underscore and hyphen
SQL Server	Global	1-63	Lowercase	• Alphanumeric and hyphen
SQL Data Warehouse Database	Subscription	1-28	Case insensitive	• Alphanumeric, underscore and hyphen
Document DB	Global	3-50	Lowercase	• Alphanumeric and hyphen
Redis Cache	Global	1-63	Case insensitive	• Alphanumeric and hyphen
Search Service	Global	2-60	Lowercase	• Alphanumeric and hyphen
Power BI Workspace Collection	Subscription	3-64	Case insensitive	• Alphanumeric and hyphen
Cognitive Services Account	Subscription	2-64	Case insensitive	• Alphanumeric, underscore and hyphen
Data Catalog	Subscription	2-26	Case insensitive	• Alphanumeric
HDInsight Cluster	Global	1-59	Case insensitive	• Alphanumeric and hyphen
Machine Learning Workspace	Subscription	3-24	Case insensitive	• Alphanumeric and hyphen

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Microsoft Azure Naming Convention
#6 : Other [Part 2]

Resource or artifact	Context (Scope)	Length (Min-Max)	Case	Valid character set
Data Factory	Subscription	3-64	Case insensitive	• Alphanumeric and hyphen
Event Hub	Subscription	1-50	Case insensitive	• Alphanumeric, underscore and hyphen
Service Bus Namespace	Global	6-50	Case insensitive	• Alphanumeric and hyphen
Service Bus Queue	Subscription	1-50	Case insensitive	• Alphanumeric, underscore and hyphen
Service Bus Topic	Subscription	1-50	Case insensitive	• Alphanumeric, underscore and hyphen
Stream Analytics Job	Subscription	3-63	Case insensitive	• Alphanumeric and hyphen
IoT Hub	Subscription	3-50	Case insensitive	• Alphanumeric and hyphen
Traffic Manager	Global	1-63	Case insensitive	• URL characters
Media Service Account	Global	3-24	Lowercase	• Alphanumeric
CDN Profile	Global	1-50	Case insensitive	• Alphanumeric and hyphen
Azure AD Domain	Global	1-27	Case insensitive	• Alphanumeric
Azure AD	Subscription	1-256	Case insensitive	• Any character
Team Services Account	Global	1-50	Case insensitive	• Alphanumeric and hyphen
Team Project	Account	1-65	Case insensitive	• Alphanumeric and hyphen
DevTest Labs	Subscription	1-27	Case insensitive	• Alphanumeric, underscore, hyphen and parenthesis

Microsoft Azure Naming Convention
#6 : Other [Part 3]

Resource or artifact	Context (Scope)	Length (Min-Max)	Case	Valid character set
Application Insights	Subscription	1-255	Case insensitive	• Any except 3 characters
Automation Account	Subscription	6-50	Case insensitive	• Alphanumeric and hyphen
Recovery Services Vault	Subscription	2-50	Case insensitive	• Alphanumeric and hyphen
Scheduler Job	Subscription	1-260	Case insensitive	• Alphanumeric, underscore and hyphen
Scheduler Job Collection	Subscription	1-100	Case insensitive	• Alphanumeric, underscore and hyphen
Cloud Service	Global	1-63	Case insensitive	• Alphanumeric and hyphen
Batch Account	Global	3-24	Lowercase	• Alphanumeric
BizTalk Service	Global	6-20	Lowercase	• Alphanumeric
Mobile Engagement Collection	Global	2-50	Case insensitive	• Alphanumeric and hyphen
Mobile Engagement App Resource	Global	1-50	Case insensitive	• Alphanumeric, underscore and hyphen
Mobile Engagement Application	Subscription	1-13	Case insensitive	• Any character
RemoteApp Collection	Subscription	3-13	Case insensitive	• Alphanumeric
Key Vault	Global	3-24	Case insensitive	• Alphanumeric and hyphen
Operations Mgmt Suite Namespace	Global	4-24	Case insensitive	• Alphanumeric and hyphen

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Microsoft Azure Naming Convention
Recommendations

1 — Divide the Naming into Segments

Segment A	Segment B	Segment C	Segment D	Segment E
3 chars [Company Identifier Prefix] + 2 chars [Pole : US-FR-GE...]	2 chars [Site Name (**AZ** for **Az**ure) /Region Name] : **WE** (**W**est**E**urope)	3 chars [Resident/ Type of Environement] **PRD** for Production	2-3 chars (Azure Resource Type]	3 chars [Numeric Sequence of Deployment

2 — Create abbreviations for environments and resources (VM and Objects)

Environnements	VMs (2 chars)	Objects (3 chars)
PRD: Production	DC: Azure Domain Controller	CLS : Cloud Service
DEV: Development	DB: Azure SQL Server	ILB : Internal Load Balancer
QAL; Qualification	WW: Web Server	STA: Storage Account
LAB: Test and Lab	AS: Generic IaaS VM	VNT: Virtual Network
...	...	VGTW : Virtual Gateway

3.1 — Example Azure IaaS VM

Entity : K&K GROUP France **KKGFR**	Site /Region Azure **AZ**	Environment : Production **PRD**	Azure offer Azure DC VM **DC**	Seconde Azure Domain Controller **002**

KKGFRAZPRDDC002

3.2 — Example Azure Object

Entity : K&K GROUP France **KKGFR**	Site /Region Azure **AZ**	Environment : Production **PRD**	Azure Virtual Network **VNT**	The first Azure VNET 001

KKGFRAZPRDVNT001

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Microsoft Azure Naming Convention
Appendix : Codes for some Azure Objects /Services

Category	Cloud Service/Object	Codes (3-4 chars)
Resource Group	Resource Group	RSG
Resource Group	Availability Set	AVS
Storage	Storage	STA
Networking	Virtual Network (VNet)	VNET
Networking	Subnet	SUB
Networking	Network Interface	NIC
Networking	Network Security Group	NSG
Networking	Public IP Address	PIP
Networking	Internal Load Balancer	ILB
Networking	External Load Balancer	ELB
Networking	Application Gateways	AAG

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End of Lesson
Hope this Helps ☺

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