

Cloud Computing

Microsoft Azure

Agenda

- Brief Recap
- Azure Deployment Models – ASM and ARM
- Hands-on Activities on Azure cloud
 - Create and access a virtual machine
 - Deploying an application to Azure cloud and app service
 - Working with Azure SQL database
 - Working with Redis Cache on Azure
 - Content Delivery Network
- Azure Calculator

Recap

- Why Cloud computing
- Cloud Deployment Models
- Cloud Service Models
- Architecture and Design Concepts
 - High Availability
 - Disaster Recovery
 - Multi Tenancy

Azure infrastructure provisioning models or deployment models

- Azure Service Management or Classic (ASM)
- Azure Resource Manager (ARM)



Azure Deployment models

ASM

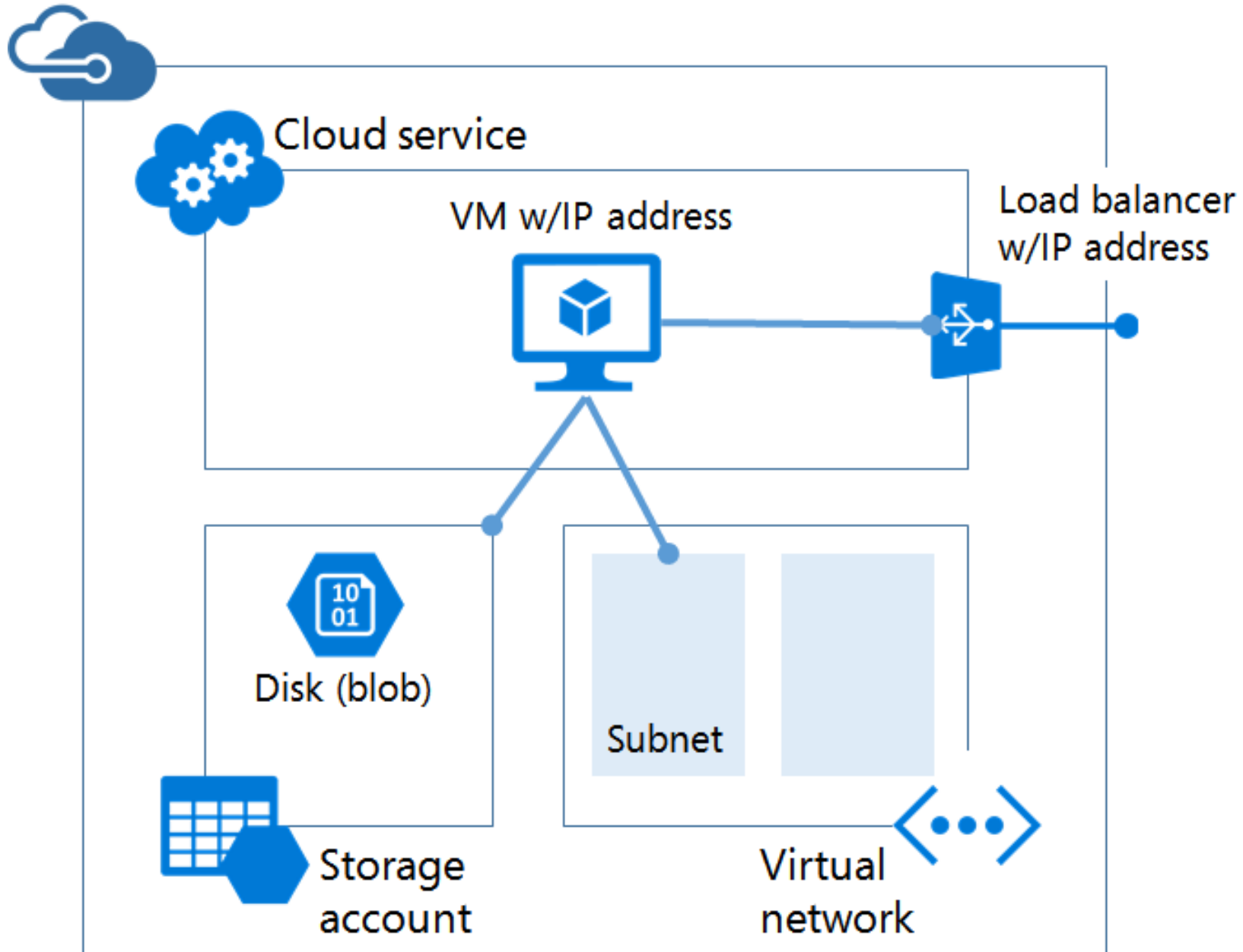
- It is old model
- Works on old portal with backward compatibility on new portal
- Primarily originated from PaaS mindset, e.g. Cloud Service based approach
- Does not work very well on customized scenarios and non .NET environments
- Deployments can be done by portal, SDKs and REST APIs
- Not recommended from Microsoft for any future development

ARM

- It is a new model
- Works only on new portal
- Redesign to allow IaaS based mindset
 - compute, storage, networking all as distinguished components
- Works in all scenarios regardless of technologies
- Deployments can be done via
 - new portal, SDKs, REST APIs and JSON templates
- Recommended for all future development

ASM or Classic

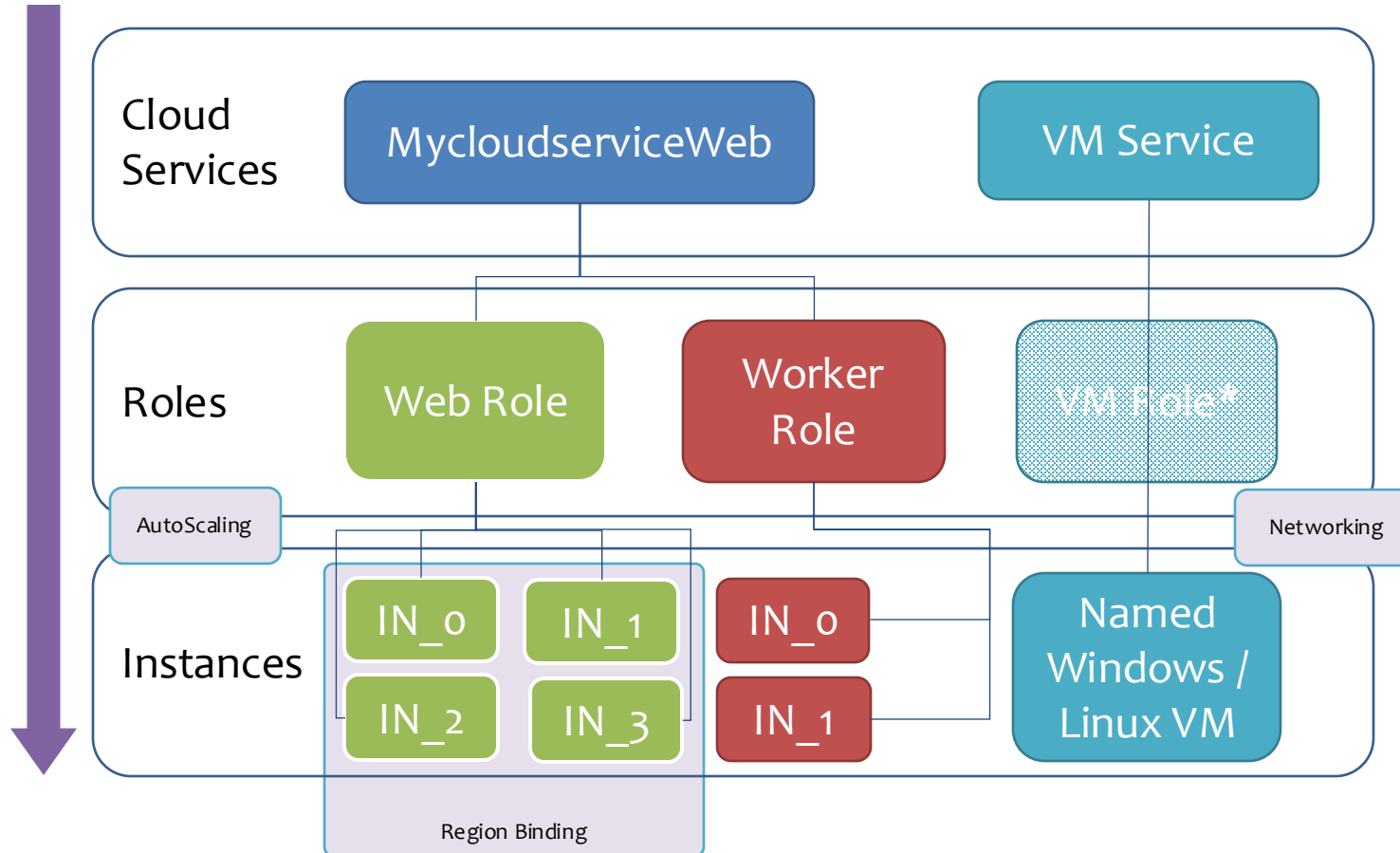
- Cloud service that acts as a container for hosting virtual machines
 - Virtual machines are automatically provided with a network interface card (NIC) and an IP address assigned by Azure.
 - The cloud service contains an external load balancer instance, a public IP address, and default endpoints to allow remote desktop and remote PowerShell and Secure Shell (SSH) traffic.
- A storage account that stores the VHDs for a virtual machine
 - It includes the operating system, temporary, and additional data disks.
- An optional virtual network that acts as an additional container, in which you can create a sub-netted structure and designate the subnet on which the virtual machine is located (network).



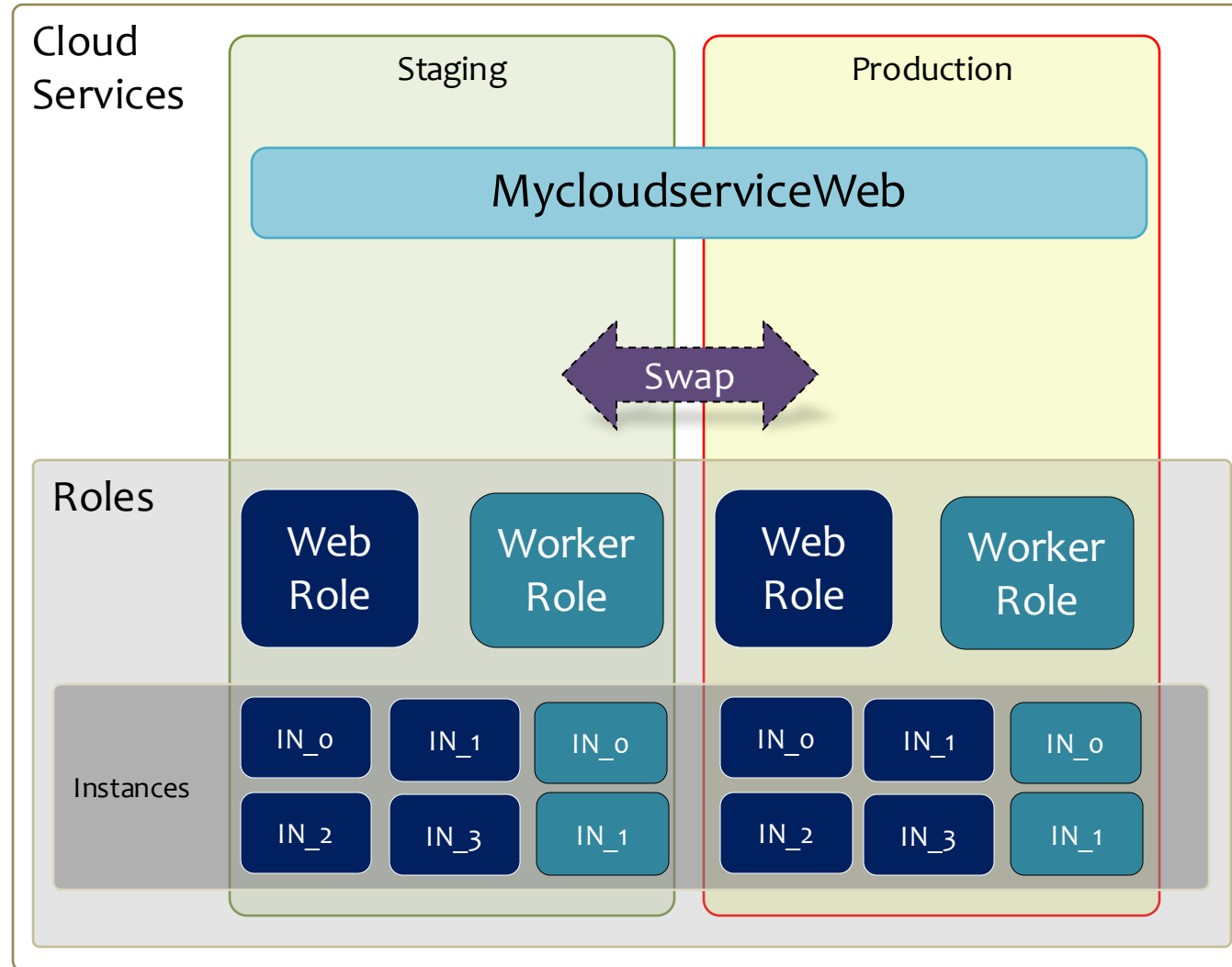
Cloud Service Topology: Roles vs Instances

- Role is a logical boundary of virtual machine.
- A role can have multiple virtual machines in it.
- All VMs created must have a role associated.
- A role provides following functionalities as OOB feature:
 - AutoScaling
 - Inter VM networking
 - Region binding
- There are 3 roles
 - Web role
 - Worker role
 - VM role (now deprecated)

Cloud Service Topology

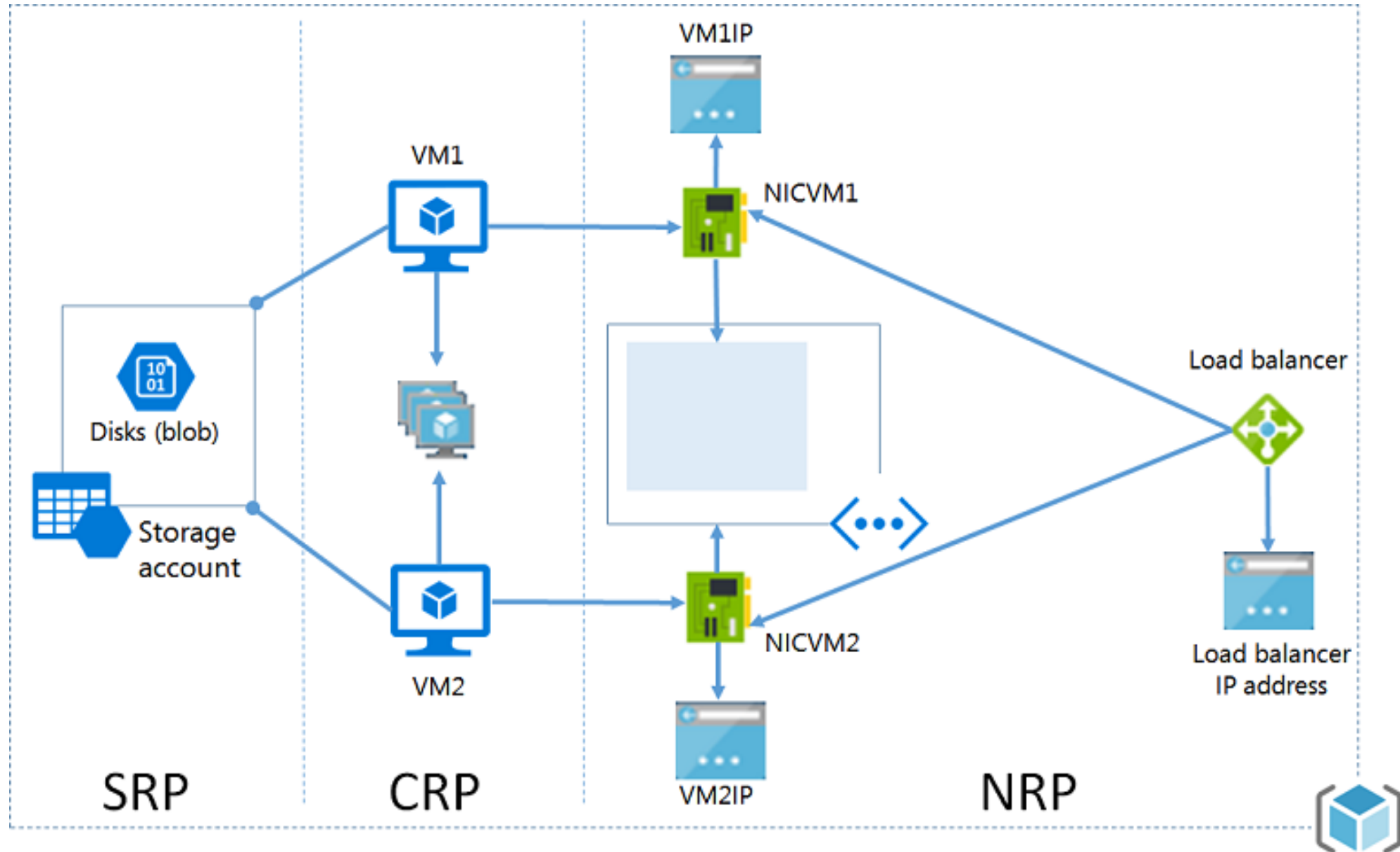


Cloud Service Topology

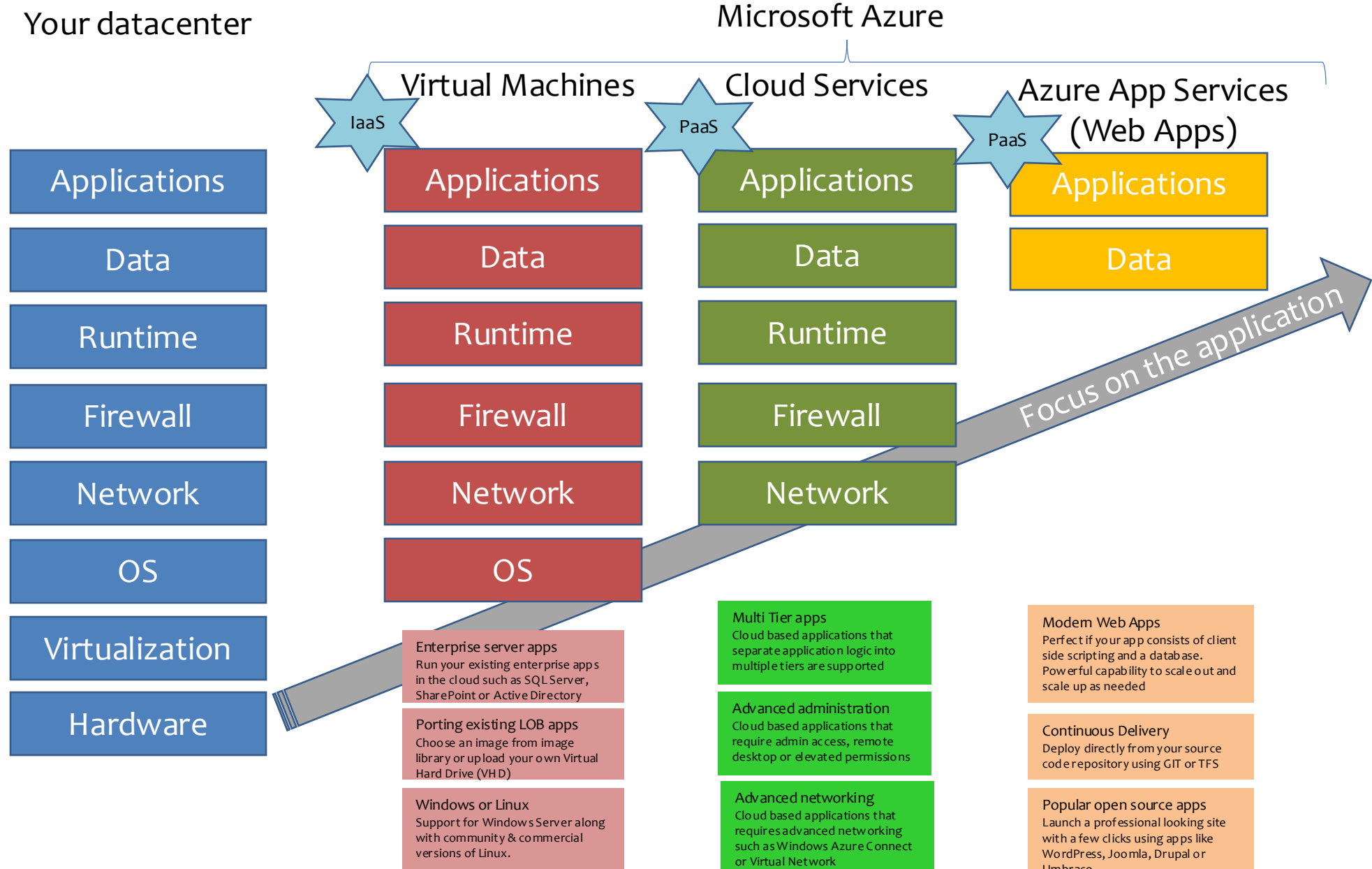


- **Compute** - Supports instances of virtual machines and optional availability sets.
- **Storage** - Supports required storage accounts that store the VHDs for virtual machines, including their operating system and additional data disks.
- **Network** - Supports required NICs, virtual machine IP addresses, and subnets within virtual networks and optional load balancers, load balancer IP addresses, and Network Security Groups.

ARM



Azure VM vs Cloud Services vs App Services





Cloud Computing

Part – II

Demo and Hands on Activities

Lets create a

Virtual Machine

Azure Virtual Machine

Virtual Machines

MARKETPLACE [See all](#)

- Virtual Machines**
- Web + Mobile
- Data + Storage
- Data + Analytics
- Internet of Things
- Networking
- Media + CDN
- Hybrid Integration
- Security + Identity
- Developer Services
- Management
- Intelligence
- Containers

RECENT

- Windows 7 Enterprise N SP1 (x64) Microsoft
- Batch Service Microsoft
- Data Factory Microsoft
- Resource group Microsoft

FEATURED APPS [See all](#)

- Windows Server 2012 R2 Datacenter**
Enterprise-class solutions that are simple to deploy, cost-effective.
- Ubuntu Server 14.04 LTS**
Ubuntu Server delivers the best value scale-out performance available.
- SQL Server 2014 Enterprise on Windows Server 2012 R2**
Enterprise version of SQL Server 2014 for transactional data.
- SharePoint 2013 HA Farm**
Deploy a SharePoint server farm in Azure with the click of a button.
- Dynamics AX 2012 R3 (preview)**
Microsoft Dynamics AX is the Microsoft ERP solution designed for enterprises.
- RemoteApp**
Deploy Windows client apps in the cloud, run on any device.
- Batch Service**
Azure Batch provides job scheduling and resource management for HPC applications.
- Cloud service**
Deploy highly-available, infinitely-scalable applications and APIs.

Windows Server 2012 R2 Datacenter
Microsoft

At the heart of the Microsoft Cloud OS vision, Windows Server 2012 R2 brings Microsoft's experience delivering global-scale cloud services into your infrastructure. The virtual machine (VM) offers enterprise-class performance, flexibility for your applications and excellent economics for your datacenter and hybrid cloud environment. This image includes Windows Server 2012 R2 Update (KB2919355).

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PUBLISHER Microsoft

USEFUL LINKS [Learn more](#) [Documentation](#) [Pricing details](#)

Select a deployment model

Resource Manager

Create

Azure Virtual Machine

Create virtual machine

Basics

1 Basics

Configure basic settings

2 Size

Choose virtual machine size

3 Settings

Configure optional features

4 Summary

Windows Server 2012 R2 Datacen...

* Name

jaipurpoc1

* User name

jaipuruser

* Password

.....

* Confirm password

.....

Subscription

Visual Studio Professional with MSDN

* Resource group

Create new ☒ Use existing ☐

jaipurRG

Location

East US

OK

Create virtual machine

Choose a size

Browse the available sizes and their features

1 Basics

Done

2 Size

Choose virtual machine size

3 Settings

Configure optional features

4 Summary

Windows Server 2012 R2 Datacen...

8 Cores	0.25 Cores	1 Core
56 GB	0.75 GB	1.75 GB
16 Data disks	1 Data disks	2 Data disks
16x500 Max IOPS	1x300 Max IOPS	2x300 Max IOPS
Load balancing		
Auto scale		
34,869.98 INR/MONTH (ESTIMATED)	804.69 INR/MONTH (ESTIMATED)	1,967.02 INR/MONTH (ESTIMATED)
A2 Basic	A3 Basic	A4 Basic
2 Cores	4 Cores	8 Cores
3.5 GB	7 GB	14 GB
4 Data disks	8 Data disks	16 Data disks
4x300 Max IOPS	8x300 Max IOPS	16x300 Max IOPS
3,934.05 INR/MONTH (ESTIMATED)	7,868.10 INR/MONTH (ESTIMATED)	15,736.20 INR/MONTH (ESTIMATED)
DS5_V2 Standard	DS14_V2 Standard	DS15_V2 Standard
16 Cores	16 Cores	20 Cores
56 GB	112 GB	140 GB
32	32	40

Select

Create virtual machine

Settings

1 Basics

Done

2 Size

Done

3 Settings

Configure optional features

4 Summary

Windows Server 2012 R2 Datacen...

Storage

Disk type

Standard Premium (SSD)

* Storage account

(new) jaipurrg3839

Network

* Virtual network

(new) jaipurRG

* Subnet

default (10.7.0.0/24)

* Public IP address

(new) jaipurpoc1

* Network security group

(new) jaipurpoc1

Extensions

Extensions

No extensions

Monitoring

Diagnostics

Disabled Enabled

Availability

* Availability set

None

OK

Azure Virtual Machine

Create virtual machine

1 Basics
Done ✓

2 Size
Done ✓

3 Settings
Done ✓

4 Summary
Windows Server 2012 R2 Datacen... >

Summary

Validation passed

Basics

Subscription

Visual Studio Professional with MSDN

Resource group

(new) jaipurRG

Location

East US

Settings

Computer name

jaipurpoc1

User name

jaipuruser

Size

Basic A4

Disk type

Standard

Storage account

(new) jaipurrg3839

Virtual network

(new) jaipurRG

Subnet

(new) default (10.7.0.0/24)

Public IP address

(new) jaipurpoc1

Network security group

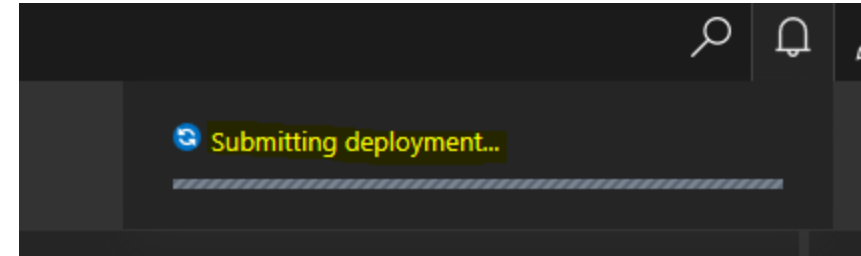
(new) jaipurpoc1

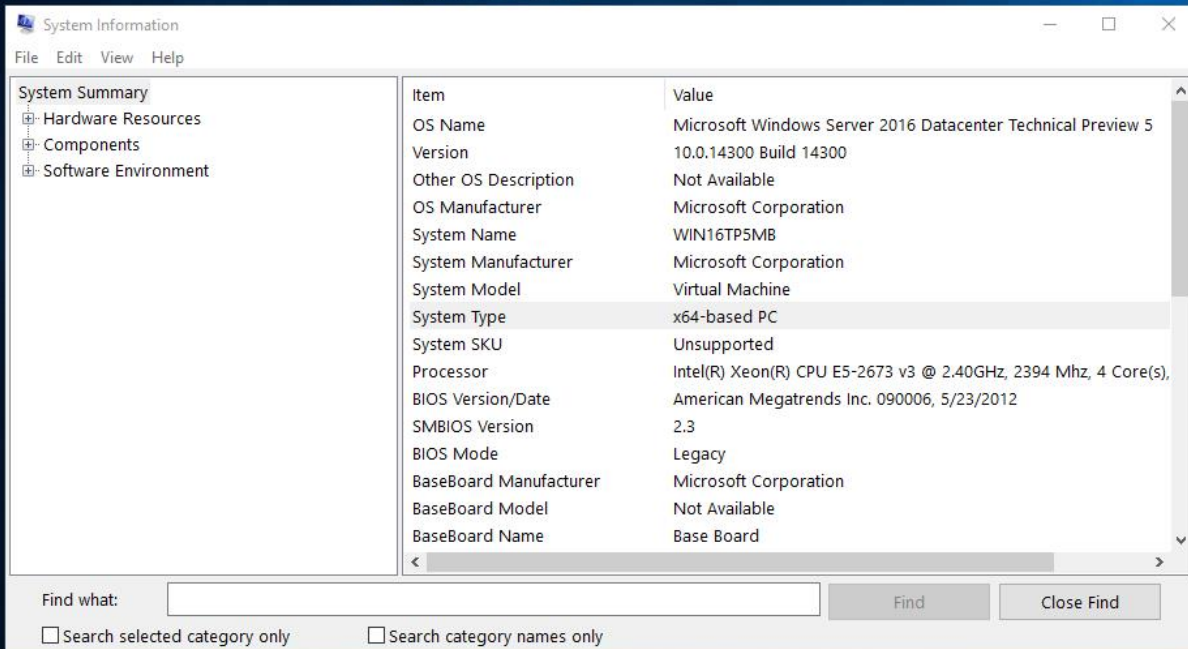
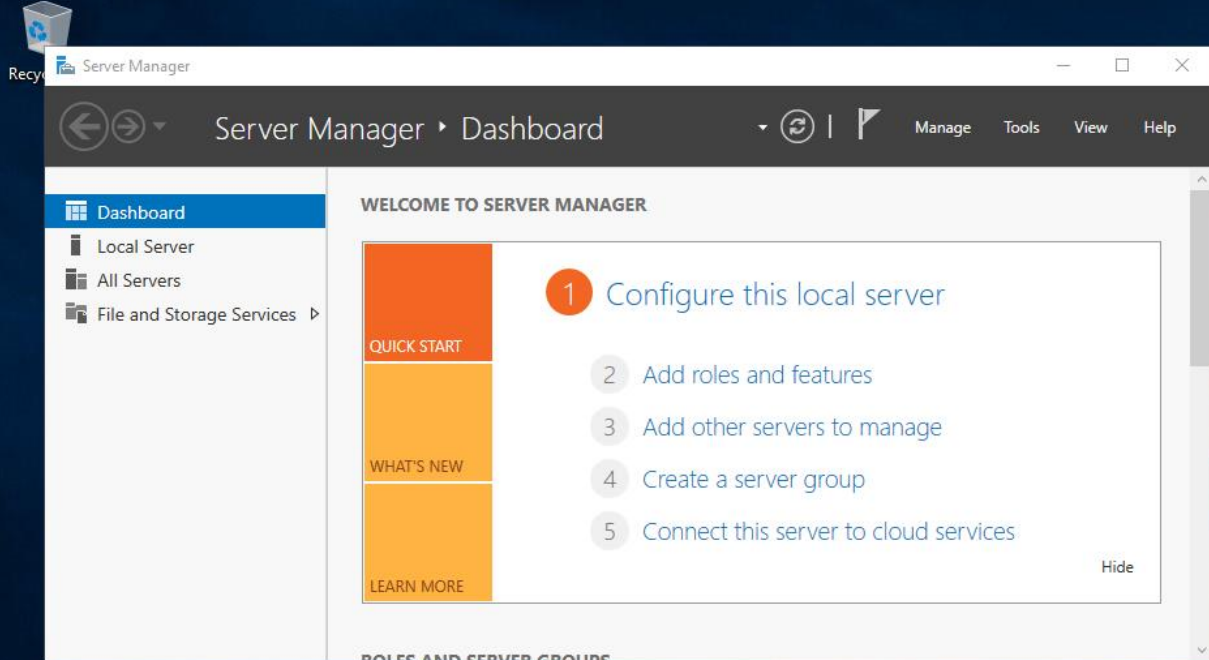
Availability set

None

Diagnostics

Disabled





Make sure you **stop** the VM from portal and delete it if not required.
Do not shut it down from RDP or SSH.

Now.. Lets get into some coding

Deploy an application on Azure cloud service

Azure environment setup for Java

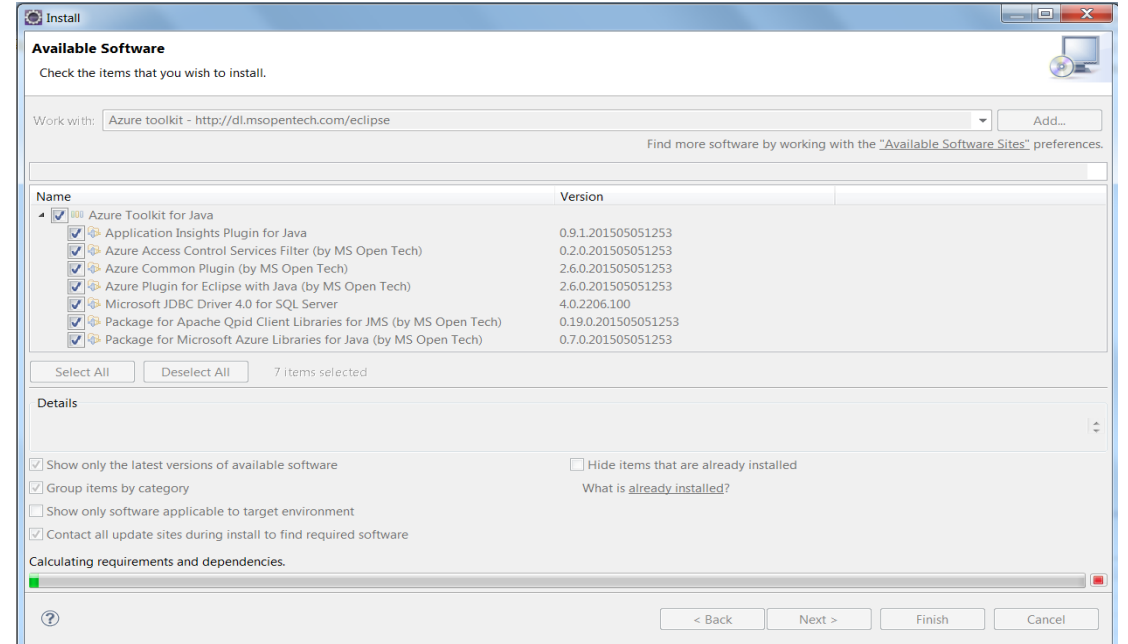
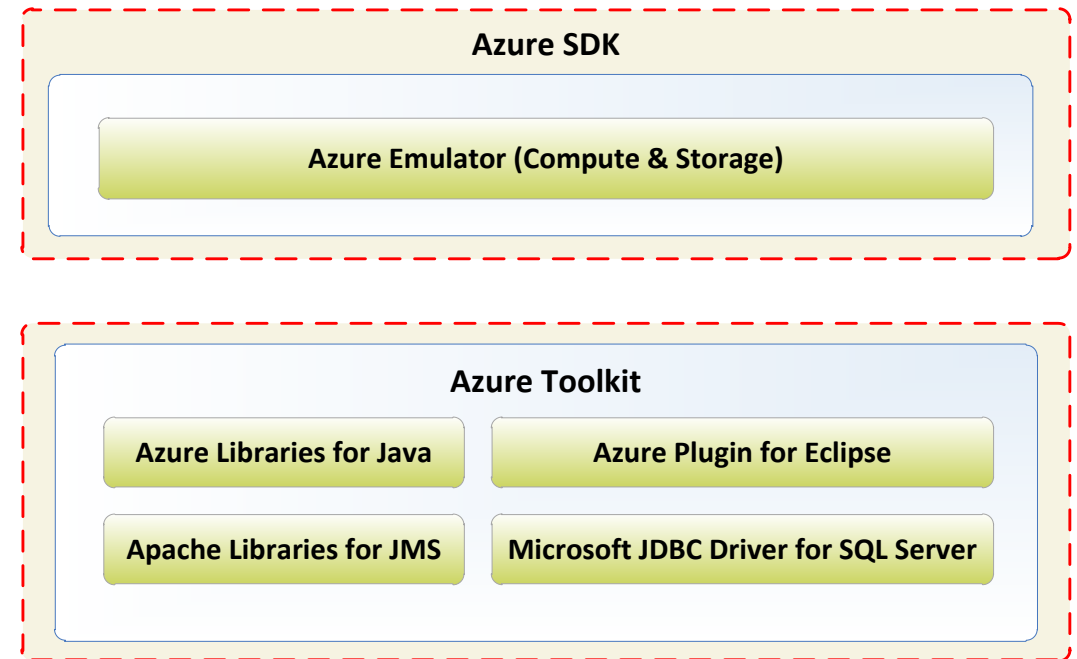
First install Azure SDK by using Web Platform Installer (WPI)

<http://go.microsoft.com/fwlink/?LinkID=252838>

Then install Azure Toolkit for Eclipse

<https://msdn.microsoft.com/en-us/library/azure/hh690946.aspx>

Azure Plugin contains Windows Azure project creation wizard & utility scripts.

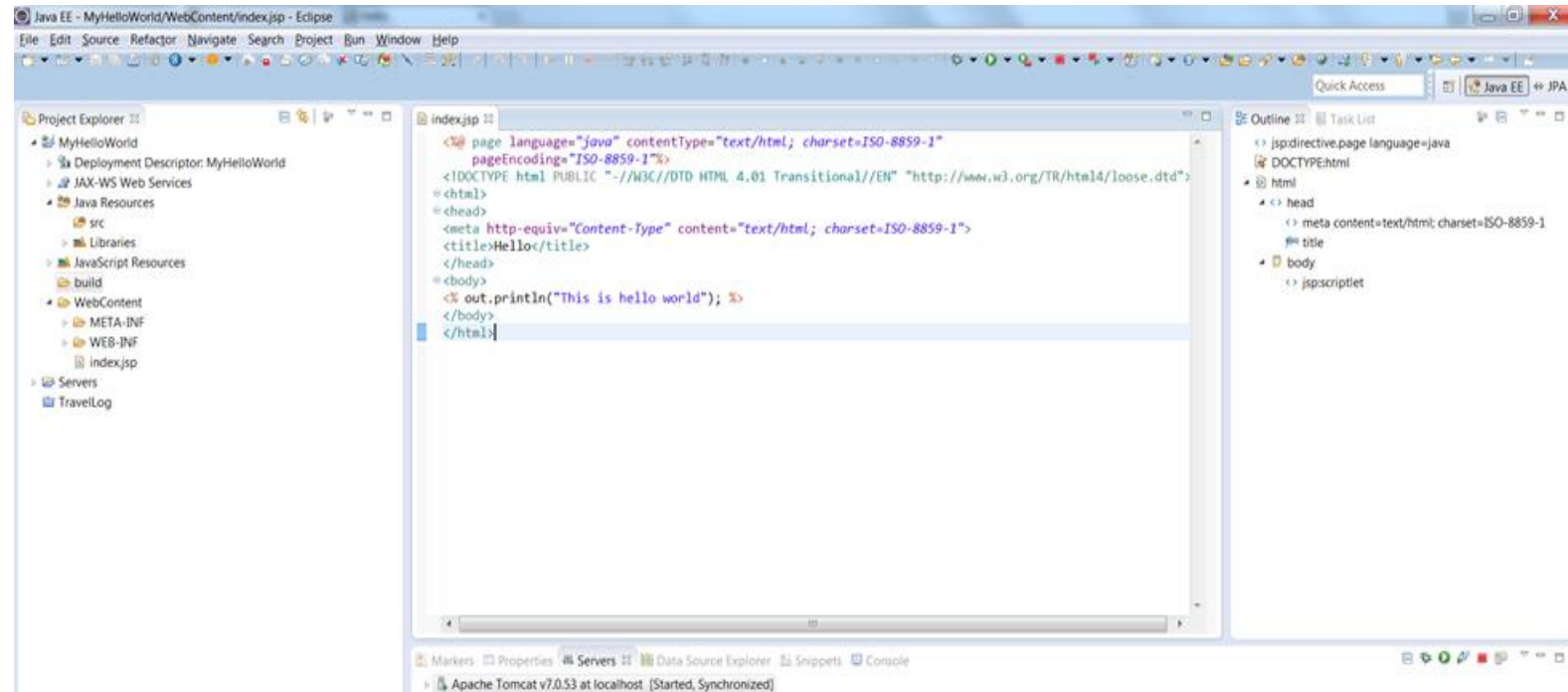


Deploy Java App on Azure Cloud Service (as Worker Role)

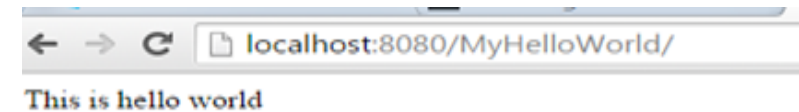
Deploy Java App as Azure Cloud Service

Create a Dynamic Web Project (named MyHelloWorld) and add a JSP file (index.jsp)

Update the JSP file with sample code to print “This is hello world”



Run it locally and verify the output:

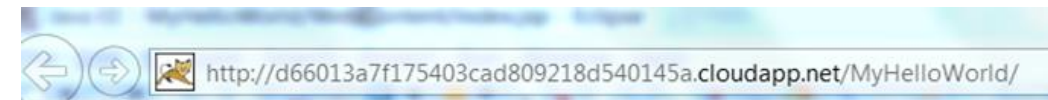
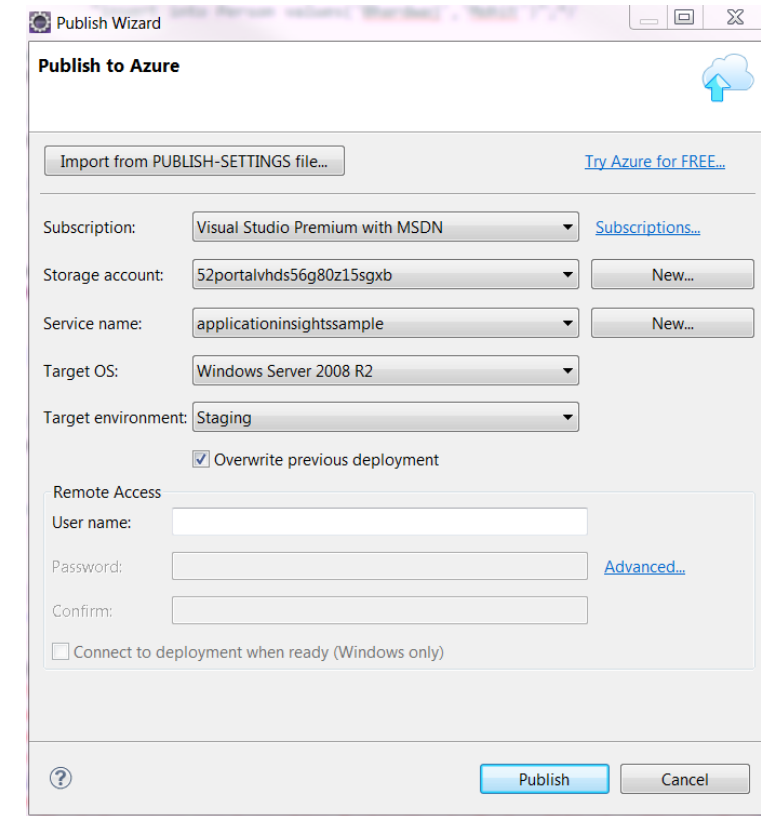
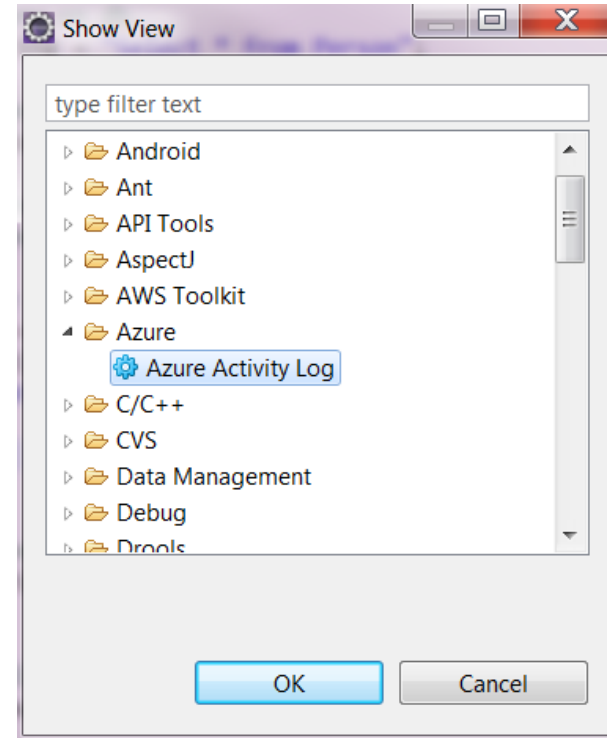


Deploy Java App as Azure Cloud Service

Select the project and on Eclipse toolbar, click “**Publish as Cloud Service**” button or choose from right click menu -> Azure -> Publish to Azure option.

In the Publish to Azure dialog:

- For the first time, **Import Subscription Information** by clicking on **Download Publish Settings file**.
- Then using **Browse** button, select the downloaded subscription file.
- You may change the storage account, service name, target OS and other options.
- Click OK
- See the status using **Azure Activity Log**
- Once published on cloud, you can open the public URL and see the application in working.



This is hello world

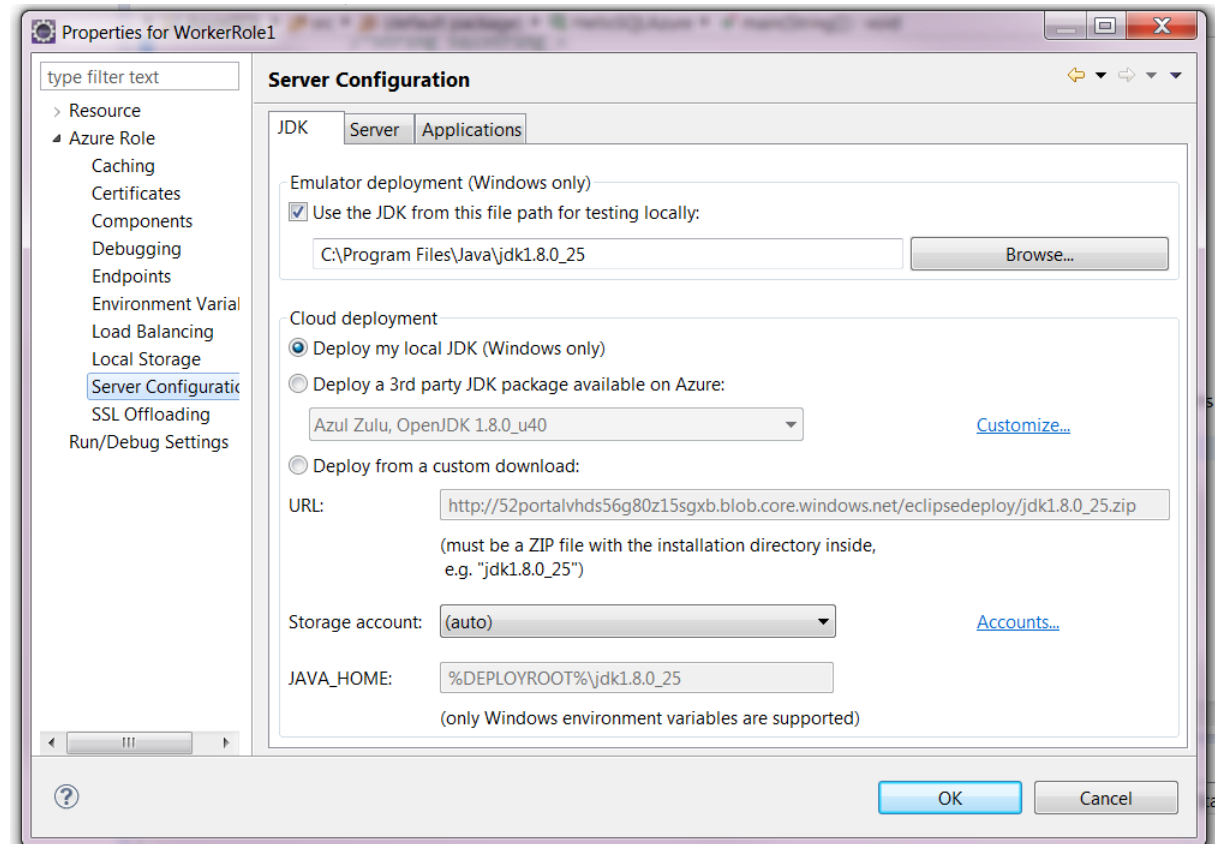
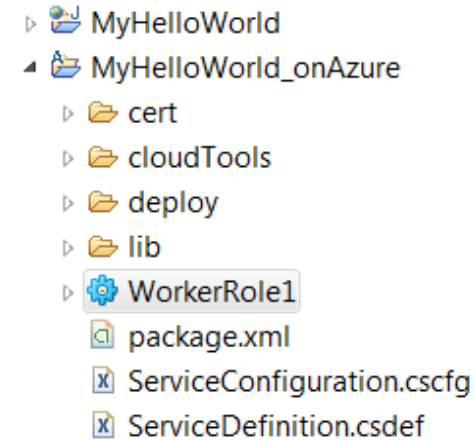
Deploy Java App as Azure Cloud Service

Learnings:

To deploy one or more Java applications, an Azure Deployment Project is needed.

To change the JDK or settings of the project:

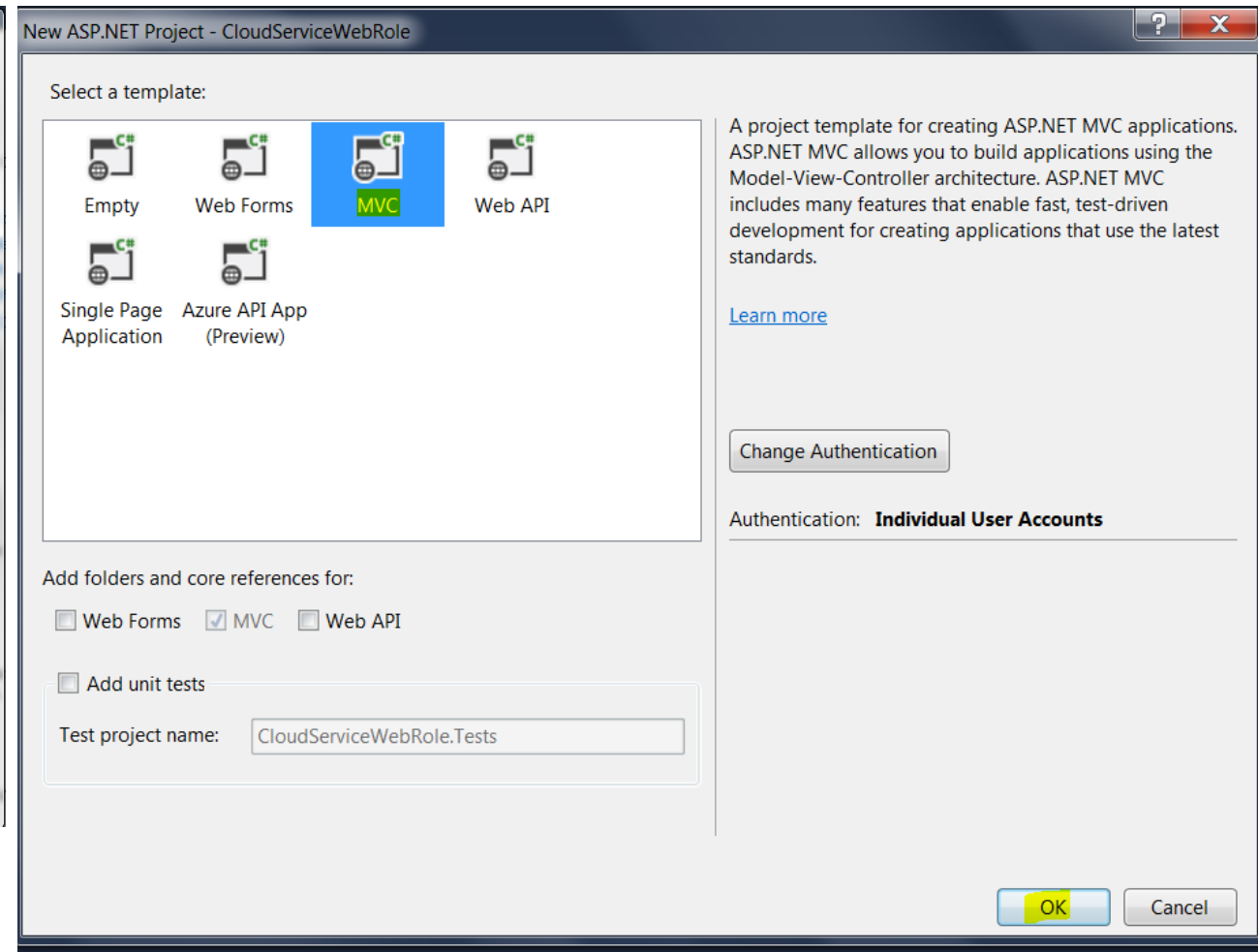
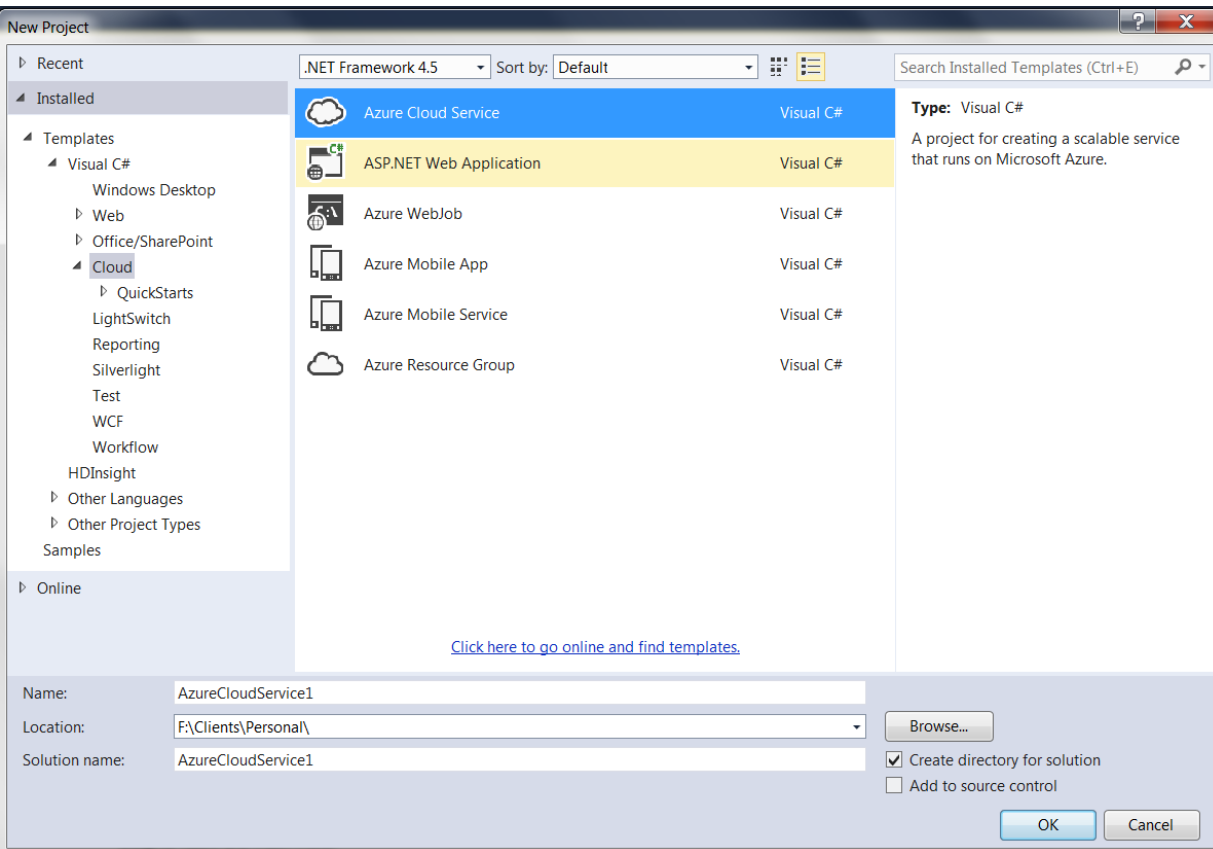
- Expand the Azure Wrapper Project
- Right click WorkerRole1
- Expand the Azure submenu
- Click Server Configuration



.NET Implementation


Cloud Service (Web Role)

Cloud service



Cloud service

Publish Azure Application

 **Microsoft Azure Publish Settings**

Sign in

Settings

Summary

Common Settings | Advanced Settings

Cloud Service:
MBTestCloudService (Central US)

Environment:
Staging

Build configuration:
Debug

Service configuration:
Cloud

☐ Enable Remote Desktop for all roles [Settings...](#)

☐ Enable Web Deploy for all web roles (requires Remote Desktop)

[Online privacy statement](#) < Previous Next > Publish Cancel


New Microsoft Azure Cloud Service

Microsoft Azure Tools - v2.6

.NET Framework 4.5 roles:

- Visual Basic
- Visual C#
 - ASP.NET Web Role**
Service with a web user interface
 - WCF Service Web Role
Web role for WCF services
 - Worker Role
Background processing service
 - Cache Worker Role
Background processing service that hosts...
 - Worker Role with Service Bus Queue
Worker role processing messages from a...
- Visual F#

Microsoft Azure Cloud Service solution:

 **CloudServiceWebRole**
ASP.NET Web Role

> <

OK Cancel

Cloud service

Publish Azure Application

Microsoft Azure Publish Sign In

Sign in

Signed in as: mohit.bhardwaj01@outlook.com

Settings

Summary

Choose your subscription:

Visual Studio Professional with MSDN (mohit.bhardwaj01@outlook.com)

[Online privacy statement](#)

< Previous Next > Publish Cancel

Publish Azure Application

Microsoft Azure Publish Settings

Sign in

Settings

Summary

Common Settings Advanced Settings

Deployment label:

AzureCloudService1

☒ Append current date and time

Storage account:

mbcdnstorage (Central US)

☐ Delete deployment on failure

☒ Deployment update [Settings...](#)

☐ Enable profiling [Settings...](#)

☐ Enable Remote Debugger for all roles

[Online privacy statement](#)

< Previous Next > Publish Cancel

Microsoft Azure Activity Log

Deployment Storage Log Requests Virtual Machines Extensions Remove all completed

Description

Deploying to mbtestcloudservice - Staging

Staging

Validation warnings
[View warnings](#)

Web app URL
[Pending](#)

Deployment ID
[Open in Server Explorer](#)

History

12:57:28 - Warning: There are package validation warnings.
12:57:29 - Applying Diagnostics extension

Cloud service



mbtestcloudservice

DASHBOARD MONITOR CONFIGURE SCALE INSTANCES LINKED RESOURCES CERTIFICATES



Your cloud service has been created!
Here are a few options to get you started:

☐ Skip Quick Start the next time I visit



Get the tools
Install a Windows Azure SDK



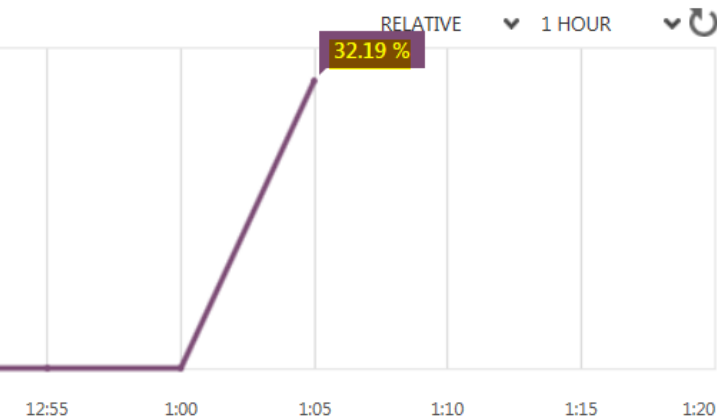
Deployment settings
New production deployment New staging deployment



Integrate source control
Set up publishing with Visual Studio Online

SOURCES

CERTIFICATES



Microsoft Azure Activity Log

Deployment Storage Log Requests Virtual Machines Extensions Remove all completed

Description

Deploying to mbtestcloudservice - Staging

Staging

Validation warnings

[View warnings](#)

Web app URL

<http://f7c29620e82f480a8f8771203b384425.cloudapp.net/>

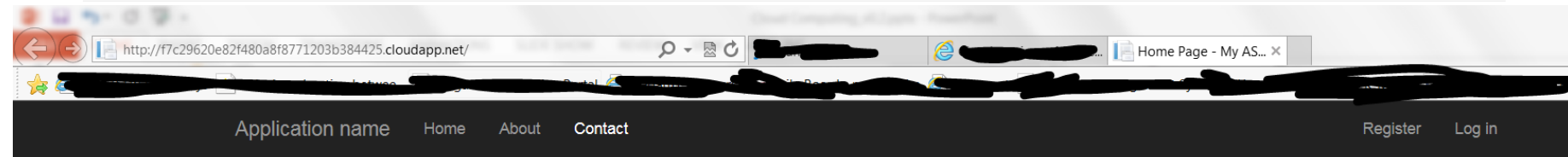
Deployment ID

f7c29620e82f480a8f8771203b384425

[Open in Server Explorer](#)

History

12:59:56 - Instance 0 of role CloudServiceWebRole is creating the virtual machine
13:01:31 - Instance 0 of role CloudServiceWebRole is starting the virtual machine
13:06:19 - Instance 0 of role CloudServiceWebRole is busy
Details: Starting role... System is initializing. [2015-05-26T07:33:35Z]
13:08:24 - Instance 0 of role CloudServiceWebRole is ready
13:08:24 - Created web app URL: <http://f7c29620e82f480a8f8771203b384425.cloudapp.net/>
13:08:24 - Complete.



ASP.NET on Cloud Service Web Role

ASP.NET is a free web framework for building great Web sites and Web applications using HTML, CSS and JavaScript.

[Learn more »](#)

Working with Azure SQL database

Azure SQL Database

Azure SQL Database is RDBMS for Azure based on SQL Server technology.

Create an Azure SQL Database

Login to Azure Management Portal

Click **SQL Databases** -> **Create SQL Database**

Enter database name as “gettingstarted”

NEW SQL DATABASE - CUSTOM CREATE

Specify database settings

NAME
gettingstarted

SUBSCRIPTION
Visual Studio Professional with MSDN (5010282)

SERVICE TIERS
BASIC STANDARD PREMIUM WEB BUSINESS RETIRED (SEPTEMBER 12, 2015)

PERFORMANCE LEVEL
Basic (5 DTUs)

MAX SIZE
2 GB

COLLATION
SQL_Latin1_General_CP1_CI_AS

SERVER
New SQL database server

2

Azure SQL Database

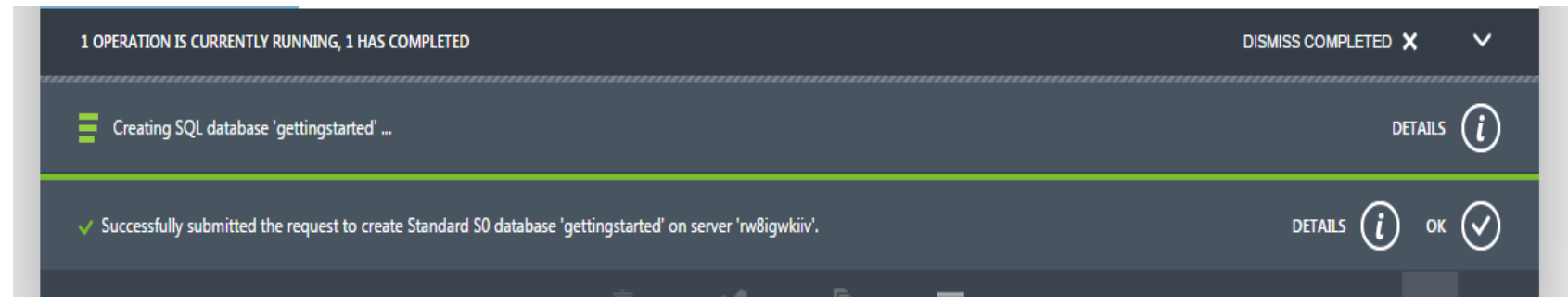
Update the settings for server: Region, Login name and Password and click on completion button.

The screenshot shows a 'CREATE SERVER' dialog box titled 'SQL database server settings'. It contains the following fields and options:

- LOGIN NAME:** A text box containing 'azure'.
- LOGIN PASSWORD:** A password box with masked characters '.....'.
- CONFIRM PASSWORD:** A password box with masked characters '.....'.
- REGION:** A dropdown menu currently showing 'East Asia'.
- Checkboxes:**
 - ☒ ALLOW WINDOWS AZURE SERVICES TO ACCESS THE SERVER.
 - ☒ ENABLE LATEST SQL DATABASE UPDATE (V12).

At the bottom left of the dialog is a blue vertical bar with the number '1'. At the bottom right are two circular buttons: a back arrow and a checkmark.

You will see a successful creation notification



Azure SQL Database

- Copy the connection strings (JDBC option)

gettingstarted

DASHBOARD MONITOR SCALE CONFIGURE GEO-REPLICATION AUDITING & SECURITY

You created a new SQL database
Here are a few options to get you started
☐ Skip Quick Start the next time I visit

Get Microsoft database design tools
Install Microsoft SQL Server Data Tools

Design your SQL database
Download a starter project for your SQL database Set up Windows Azure firewall rules for this IP address Download the Elastic Scale APIs preview Try Row-Level Security preview

Connect to your database
Get Microsoft database management tools View SQL Database connection strings for ADO .Net, ODBC, PHP, and JDBC
Server: j4kkhzyqy0.database.windows.net,1433

Connection Strings

ADO.NET:

```
Server=tcp:j4kkhzyqy0.database.windows.net,1433;Database=gettingstarted;User ID=azure@j4kkhzyqy0;Password={your_password_here};Trusted_Connection=False;Encrypt=True;Connection Timeout=30;
```

ODBC:

```
Driver={SQL Server Native Client 10.0};Server=tcp:j4kkhzyqy0.database.windows.net,1433;Database=gettingstarted;Uid=azure@j4kkhzyqy0;Pwd={your_password_here};Encrypt=yes;Connection Timeout=30;
```

PHP:

```
Server: j4kkhzyqy0.database.windows.net,1433 \r\nSQL Database: gettingstarted\r\nUser Name: azure\r\n\r\nPHP Data Objects(PDO) Sample Code:\r\n\r\ntry {\r\n    $conn = new PDO ( \r\n        \"sqlsrv:server = tcp:j4kkhzyqy0.database.windows.net,1433; Database = gettingstarted\", \"azure\", \"\r\n        {your_password_here}\");\r\n    $conn->setAttribute(
```

JDBC:

```
jdbc:sqlserver://j4kkhzyqy0.database.windows.net:1433;database=gettingstarted;user=azure@j4kkhzyqy0;password={your_password_here};encrypt=true;hostNameInCertificate=*.database.windows.net;loginTimeout=30;
```

⚠ Allow the connection in firewall rules

Use the Azure Db connection String in Java code

TODO activity

- Create a Java class which creates a table on Azure Cloud
- Insert some records in table
- Query the cloud table and print the result set

```

zure.java
src (default package) > HelloSQLAzure > main(String[]) : void
java.sql.*;
com.microsoft.sqlserver.jdbc.*;

class HelloSQLAzure {
public static void main(String[] args)
{
    // Connection string for your SQL Database server.
    // Change the values assigned to your_server,
    // your_user@your_server,
    // and your_password.
    String connectionString =
        "jdbc:sqlserver://rw8igwkiiv.database.windows.net:1433;" +
        "database=gettingstarted;user=azure@rw8igwkiiv;" +
        "password=Microsoft1;encrypt=true;hostNameInCertificate=japaneast1-a.control.database.windows.net;loginTimeout=30";

    // The types for the following variables are
    // defined in the java.sql library.
    Connection connection = null; // For making the connection
    Statement statement = null;   // For the SQL statement
    ResultSet resultSet = null;   // For the result set, if applicable

    try
    {
        // Ensure the SQL Server driver class is available.
        Class.forName("com.microsoft.sqlserver.jdbc.SQLServerDriver");

        // Establish the connection
    }
}
}

```

```

@ Javadoc Declaration Search Console Call Hierarchy Servers History Azure Activity Log
HelloSQLAzure [Java Application] C:\Program Files\Java\jre1.8.0_25\bin\javaw.exe (04-Jul-2016 2:20:04 PM)
Cannot open server 'rw8igwkiiv' requested by the login. Client with IP address '103.56.173.1' is not allowed to access the server.
com.microsoft.sqlserver.jdbc.SQLServerException: Cannot open server 'rw8igwkiiv' requested by the login. Client with IP address '103.56.173.1'
: com.microsoft.sqlserver.jdbc.SQLServerException.makeFromDatabaseError(SQLServerException.java:196)
: com.microsoft.sqlserver.jdbc.TDSTokenHandler.onEOF(tdsparser.java:246)
: com.microsoft.sqlserver.jdbc.TDSParse.parse(tdsparser.java:83)
: com.microsoft.sqlserver.jdbc.SQLServerConnection.sendLogon(SQLServerConnection.java:2532)
: com.microsoft.sqlserver.jdbc.SQLServerConnection.logon(SQLServerConnection.java:1929)
: com.microsoft.sqlserver.jdbc.SQLServerConnection.access$000(SQLServerConnection.java:41)
: com.microsoft.sqlserver.jdbc.SQLServerConnection$LogonCommand.doExecute(SQLServerConnection.java:1917)
: com.microsoft.sqlserver.jdbc.TDSCommand.execute(IOBuffer.java:4026)

```

To allow access to range of IP address

Login to Azure Management Portal

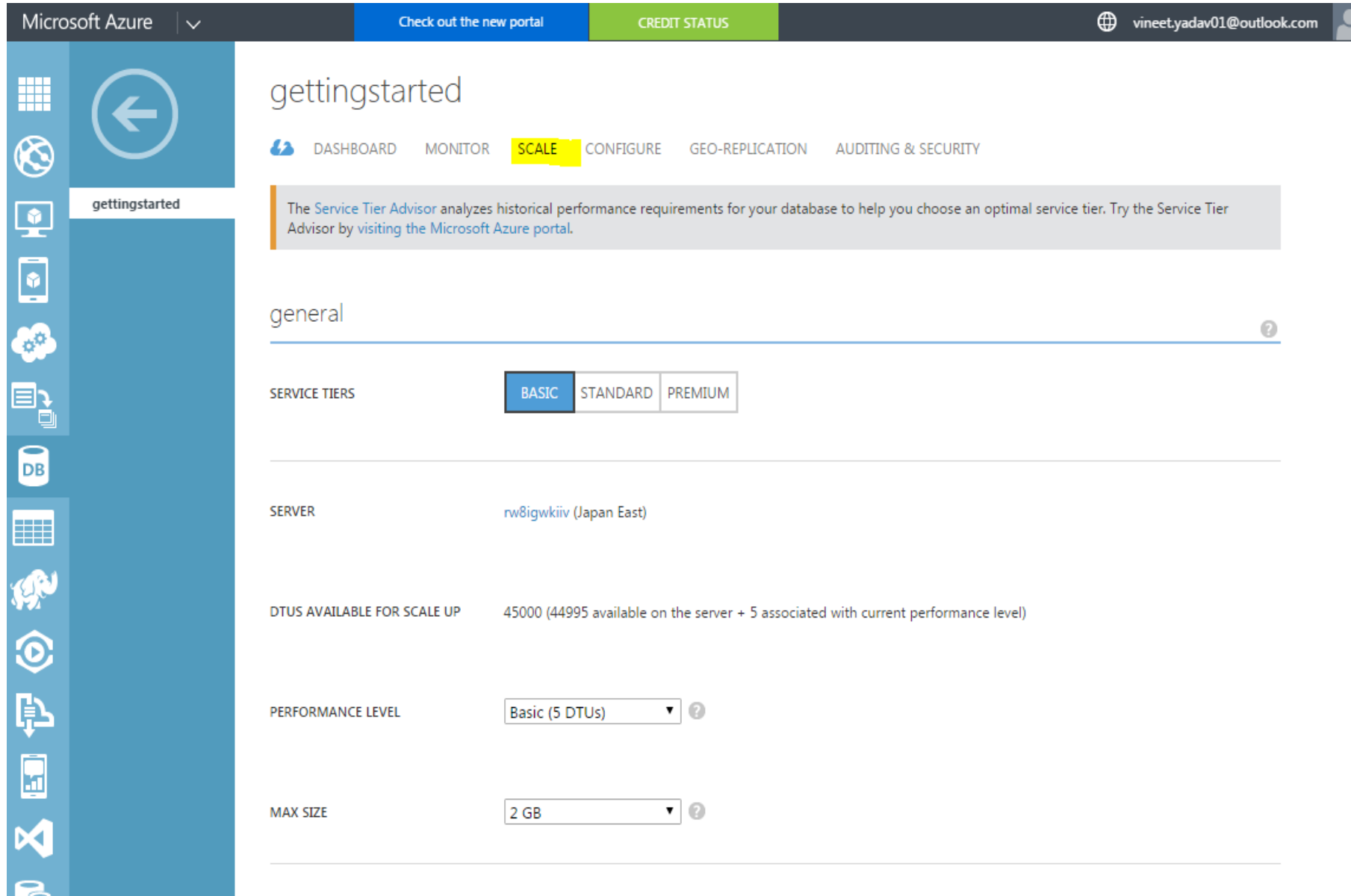
Click **SQL Database** and click **Configure**

Under Allowed IP address, select the **Current Client IP address**

Now re-execute Java code, it works fine!

The screenshot shows the Microsoft Azure portal interface. The top navigation bar includes 'Microsoft Azure', a 'Check out the new portal' button, a 'CREDIT STATUS' button, and a user profile for 'vineet.yadav01@outlook.com'. The left sidebar contains various service icons, with 'SQL Database' selected. The main content area is titled 'rw8igwkiiv' and includes tabs for 'DASHBOARD', 'DATABASES', 'CONFIGURE', 'HISTORY', 'BACKUPS', and 'AUDITING & SECURITY'. The 'CONFIGURE' tab is active, showing the 'allowed ip addresses' section. This section displays the 'CURRENT CLIENT IP ADDRESS' as '103.56.173.1' and provides an 'ADD TO THE ALLOWED IP ADDRESSES' button. Below this, there is a table with columns for 'RULE NAME', 'START IP ADDRESS', and 'END IP ADDRESS'. The 'allowed services' section is also visible, with a 'WINDOWS AZURE SERVICES' toggle set to 'YES'.

Scaling options on Azure Cloud for SQL Database



Microsoft Azure | [Check out the new portal](#) | CREDIT STATUS | vineetyadav01@outlook.com

gettingstarted

DASHBOARD MONITOR **SCALE** CONFIGURE GEO-REPLICATION AUDITING & SECURITY

The [Service Tier Advisor](#) analyzes historical performance requirements for your database to help you choose an optimal service tier. Try the Service Tier Advisor by visiting the [Microsoft Azure portal](#).

general

SERVICE TIERS **BASIC** STANDARD PREMIUM

SERVER [rw8igwkiiv](#) (Japan East)

DTUS AVAILABLE FOR SCALE UP 45000 (44995 available on the server + 5 associated with current performance level)

PERFORMANCE LEVEL Basic (5 DTUs) ?

MAX SIZE 2 GB ?

Execute code & Monitor the activity on Cloud

```

HelloSQLAzure.java
src \ (default package) \ HelloSQLAzure \ main(String[]) : void
/*String sqlString =
    "insert into Person values('Bhardwaj','Mohit')";*/

// Query SQL query on db.
String sqlString = "Select * from Person";

// Use the connection to create the SQL statement.
statement = connection.createStatement();

// Execute the statement for option 1 & 2
//statement.executeUpdate(sqlString);

// Execute the statement for option 3
ResultSet rs = statement.executeQuery(sqlString);
while(rs.next()){
    System.out.println(rs.getInt("PersonID")+" "+rs.getString("LastName")+" "+rs.getString("FirstName"));
}

// Provide a message when processing is complete.
System.out.println("Processing complete.");

}
// Exception handling
catch (ClassNotFoundException cnfe)
{

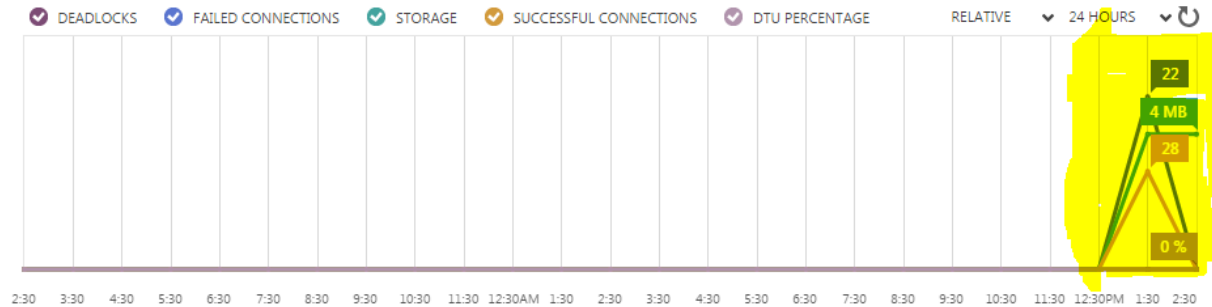
}

<terminated> HelloSQLAzure [Java Application] C:\Program Files\Java\jre1.8.0_25\bin\javaw.exe (04-Jul-2016 2:42:47 PM)
1 Balhara Ashish
2 Bhardwaj Mohit
Processing complete.
  
```

gettingstarted

[DASHBOARD](#) [MONITOR](#) [SCALE](#) [CONFIGURE](#) [GEO-REPLICATION](#) [AUDITING & SECURITY](#)

The [Query Performance Insight](#) shows you CPU consumption of your top queries over time, and it helps you pinpoint the potential issues by providing additional details for each query. Try the Query Performance Insight by [visiting the Microsoft Azure portal](#).



	NAME	MIN	MAX	AVG	TOTAL	ALERT RULES	
✓	Deadlocks	0	0	0	0	Not Configured	
✓	Failed Connections	0	22	0.88	22	Not Configured	
✓	Storage	0 B	4 MB	327.68 KB	---	Not Configured	
✓	Successful Connections	0	28	1.12	28	Not Configured	
✓	DTU percentage	0 %	0 %	0 %	---	Not Configured	

Working with Redis Cache on Azure

Azure Redis Cache

Create a Redis Cache Service and configure it

The screenshot displays the Microsoft Azure portal interface for configuring a Redis Cache instance. The breadcrumb navigation shows the path: Resource groups > cacheResourceGroup > dns1 > Settings > Access Ports.

cacheResourceGroup Overview:

- Subscription name: Visual Studio Professional with MSDN
- Subscription ID: 50102825-e2ae-495a-91bd-8f424fc180e7
- Last deployment: 7/4/2016 (Deploying)
- Location: Central US

dns1 Redis Cache Overview:

- Resource group: cacheResourceGroup
- Status: Running
- Location: Central US
- Subscription: Visual Studio Professional with MSDN
- Subscription ID: 50102825-e2ae-495a-91bd-8f424fc180e7
- Host name: dns1.redis.cache.windows.net
- Ports: Non-SSL port (6379) enabled
- Keys: Show access keys...
- Pricing tier: Standard 1 GB
- *New features: http://aka.ms/newfeatures

Access Ports Configuration:

- Allow access only via SSL: Yes
- NON-SSL PORT: 6379
- SSL PORT: 6380

Monitoring and Diagnostics:

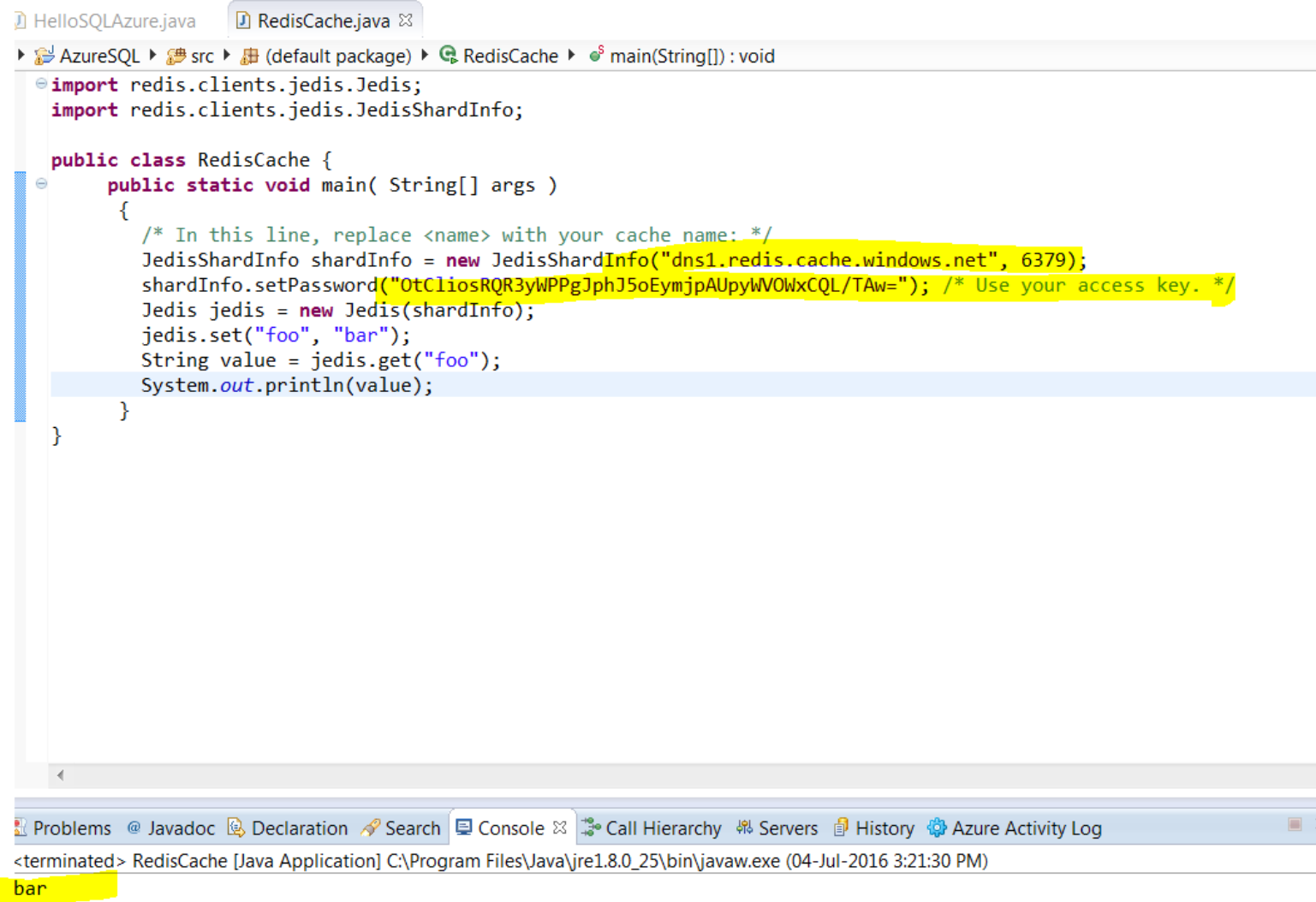
- Hits and Misses:** Graph showing CACHE HITS and CACHE MISSES over time. No data is available as diagnostics were just configured.
- Gets and Sets:** Graph showing GETS and SETS over time. No data is available as diagnostics were just configured.
- Connections (1000 max):** Graph showing connection counts over time. No data is available as diagnostics were just configured.
- Total Commands:** Graph showing command counts over time. No data is available as diagnostics were just configured.

Settings and Management:

- SUPPORT + TROUBLESHOOTING:** Troubleshoot, Audit logs, Resource health, New support request.
- GENERAL:** Properties, Access keys, Access Ports (selected), Maxmemory policy, Advanced settings, Redis Cache Advisor.
- SCALE:** (PREVIEW) Pricing tier, (PREVIEW) Redis Cluster Size.
- DATA MANAGEMENT:** Redis data persistence, (PREVIEW) Import data, (PREVIEW) Export data.
- ADMINISTRATION:**

Azure Redis Cache via Java Code

Create a Java class file to access the Azure Redis Cache service and populate it.



```

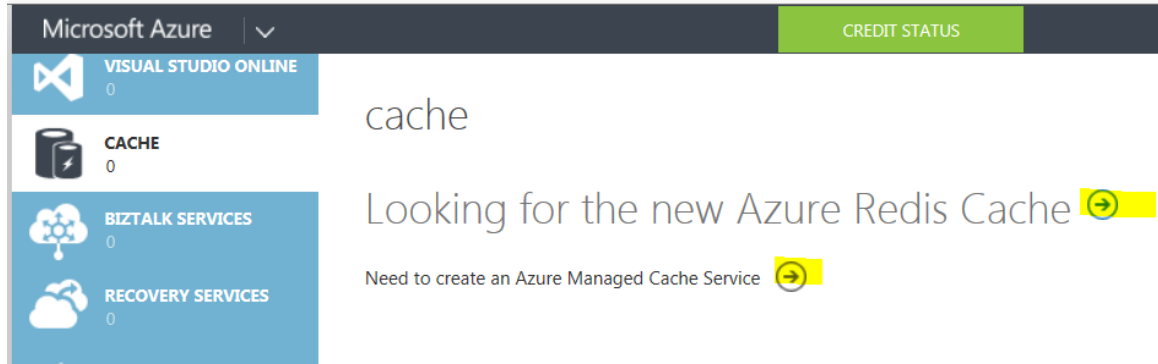
HelloSQLAzure.java  RedisCache.java
AzureSQL  src  (default package)  RedisCache  main(String[]) : void
import redis.clients.jedis.Jedis;
import redis.clients.jedis.JedisShardInfo;

public class RedisCache {
    public static void main( String[] args )
    {
        /* In this line, replace <name> with your cache name: */
        JedisShardInfo shardInfo = new JedisShardInfo("dns1.redis.cache.windows.net", 6379);
        shardInfo.setPassword("OtClioSRQR3yWPPgJphJ5oEymjpAUpyWVOWxCQL/TAw="); /* Use your access key. */
        Jedis jedis = new Jedis(shardInfo);
        jedis.set("foo", "bar");
        String value = jedis.get("foo");
        System.out.println(value);
    }
}

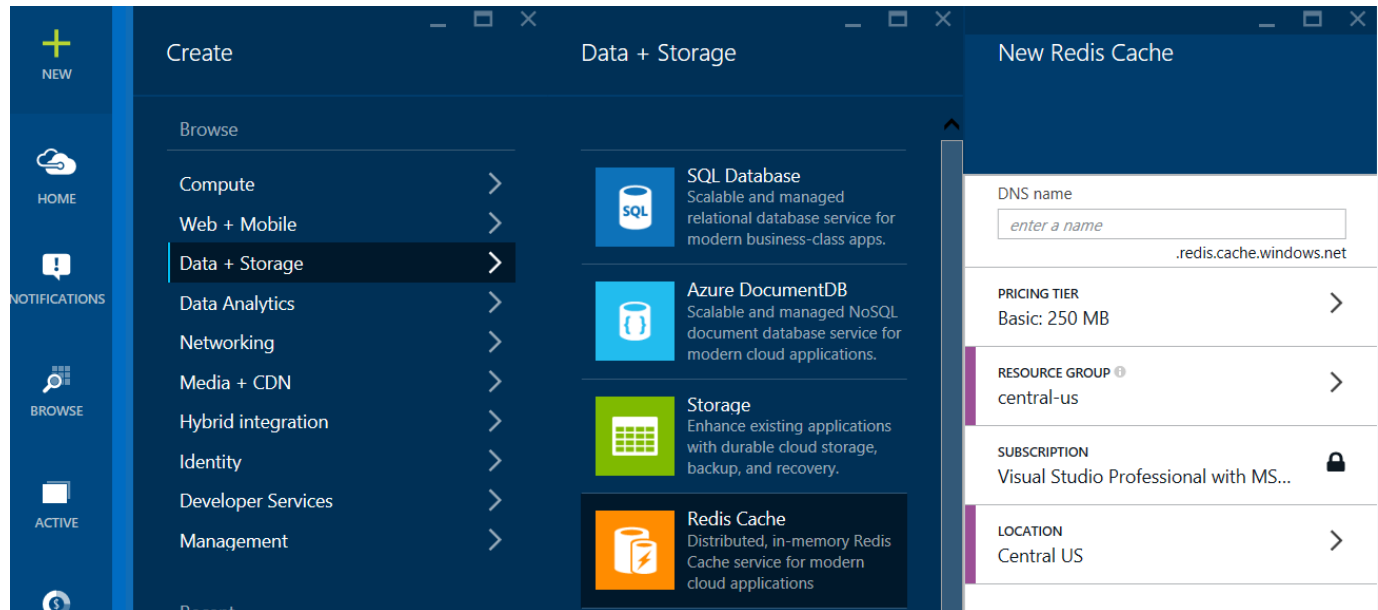
Problems  Javadoc  Declaration  Search  Console  Call Hierarchy  Servers  History  Azure Activity Log
<terminated> RedisCache [Java Application] C:\Program Files\Java\jre1.8.0_25\bin\javaw.exe (04-Jul-2016 3:21:30 PM)
bar

```

Redis Cache



If you have configured Azure PowerShell with a certificate for your account then you can skip this step. For more information about connecting Azure PowerShell with your Azure account, see [How to install and configure Azure PowerShell](#).



C#

csredis	🔗	Async (and sync) client for Redis and Sentinel	
Nhiredis	😊 🔗	A lightweight wrapper around the C client hiredis.	
redis-sharp	🔗		
redisboost	🏠 🔗	Thread-safe async Redis client. Offers high performance and simple api	
ServiceStack.Redis	😊 ★ 🏠	This is a fork and improvement of the original C# client written by Miguel De Icaza.	
Sider	🏠	Minimalistic client for C#.NET 4.0	
StackExchange.Redis	😊 ★ 🏠	This .NET client was developed by Stack Exchange for very high performance needs (replacement to the earlier BookSleeve).	
TeamDev Redis Client	🔗	Redis Client is based on redis-sharp for the basic communication functions, but it offers some differences.	

Redis Cache

mbcache
REDIS CACHE

Settings Delete

Essentials

Resource group: [central-us](#)
Status: **Running**
Location: **Central US**
Subscription: [Visual Studio Professional with MSDN](#)
Subscription ID: ~~xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx~~

Host name: **mbcache.redis.cache.windows.net**
Ports: **Non-SSL port (6379) disabled**
Keys: [Show access keys...](#)
Pricing tier: **Basic 250 MB**
Monitoring changes... click here! <http://aka.ms/ub>

[All settings](#)

Settings
MBCACHE

Search settings

- Properties
- Access keys
- Access Ports
- Diagnostics
- Maxmemory policy
- Users
- Roles
- Tags

Hits and Misses

Monitoring may not be enabled. Click here to turn on Diagnostics.

Gets and Sets

Monitoring may not be enabled. Click here to turn on Diagnostics.

Redis Cache

```
PM> Install-Package StackExchange.Redis
Installing 'StackExchange.Redis 1.0.450'.
Successfully installed 'StackExchange.Redis 1.0.450'.
Adding 'StackExchange.Redis 1.0.450' to AzureSample1.
Successfully added 'StackExchange.Redis 1.0.450' to AzureSample1.
```

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.Mvc;
using StackExchange.Redis;

namespace AzureSample1.Controllers
{
    public class HomeController : Controller
    {
        public ActionResult Index()
        {
            ConnectionMultiplexer connection = ConnectionMultiplexer.Connect("mbcache.redis.cache.windows.net,ssl=true,password=mbcache.redis.cache.windows.net,ssl=true,password=");
            IDatabase cache = connection.GetDatabase();
            cache.StringSet("key1", "value");
            cache.StringSet("key2", 25);

            // Simple get of data types from the cache
            string key1 = cache.StringGet("key1");
            int key2 = (int)cache.StringGet("key2");
            return View();
        }
    }
}
```

.NET Implementation

Content Delivery Network

<http://azure.microsoft.com/en-in/documentation/articles/cdn-serve-content-from-cdn-in-your-web-application/>

Server Explorer

- Azure (1 subscriptions)
 - App Service
 - Cloud Services
 - HDInsight
 - Mobile Services
 - Notification Hubs
 - Service Bus
 - SQL Databases
 - Storage
 - (Development)
 - devtestvhdsca31255feca
 - hortonpoc
 - mbcdnstorage
 - Blobs
 - \$logs
 - cdn
 - Queues
 - Tables

cdn [Container]

Filter by prefix (case-sensitive)

Name	Size	Last Modified (UTC)	Content Type	URL
Scality-Infographic.png	678.8 KB	24-05-2015 12:49:18	image/png	https://mbcdnstorage.blob.core.windows.net/cdn/Scality-Infographic.png

```

<div class="col-md-4">
  <h2>Web Hosting</h2>
  <p>You can easily find a web hosting company that offers the right mix of features and price for your applications.</p>
  <p><a class="btn btn-default" href="http://go.microsoft.com/fwlink/?LinkId=301867">Learn more &raquo;</a></p>
</div>


```

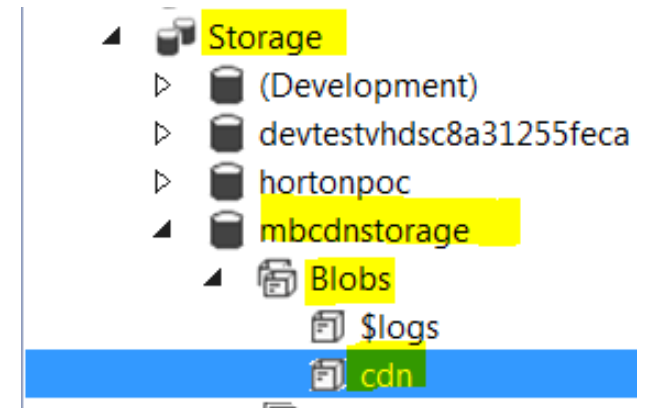
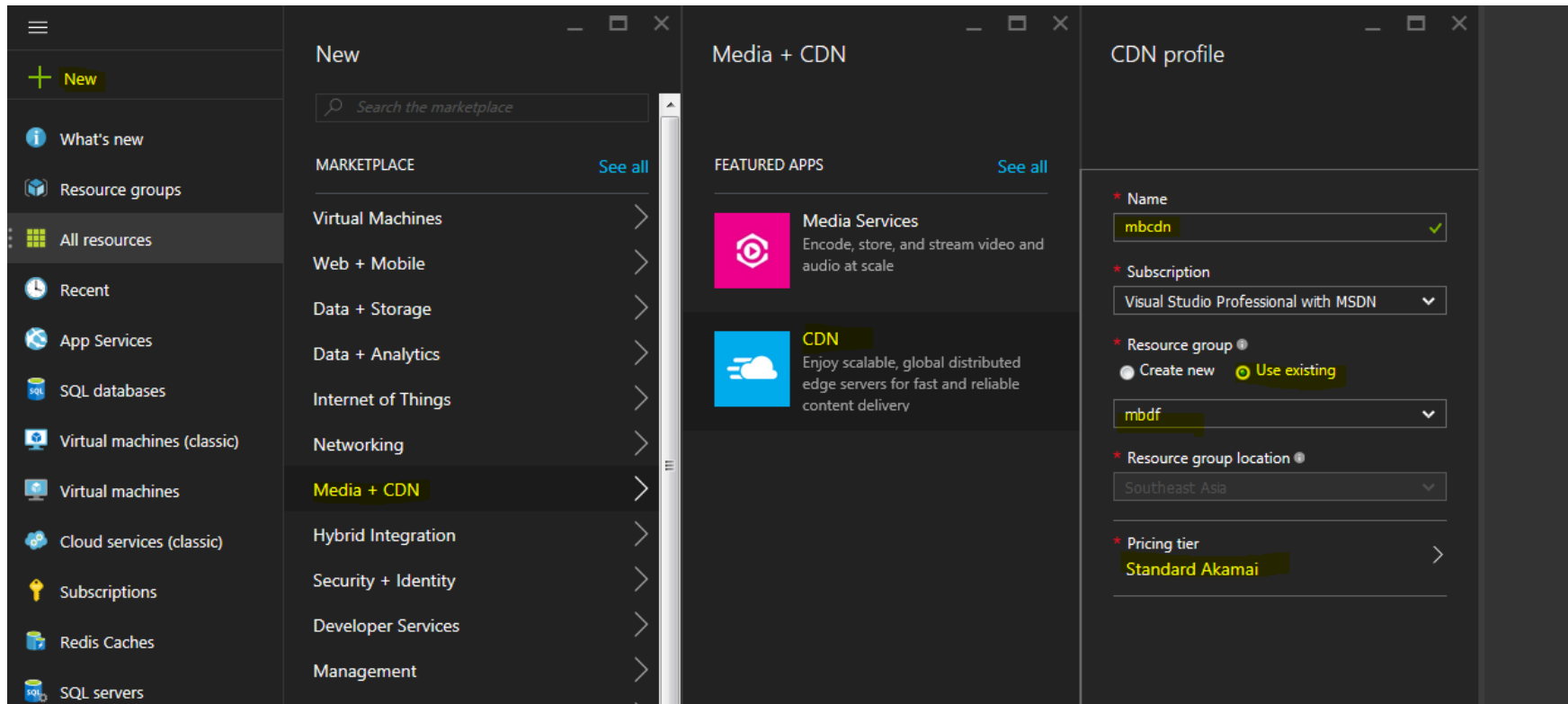
Properties

cdn Blob Container Properties

ETag	"0x8D26436A8514FF3"
Last Modified	24-05-2015 12:45
Name	cdn
Public Read Access	Blob
URL	https://mbcdnstorage.blob.core

Name	Method	Status	Type	Initiator	Size	Time
Scality-Infographic.png	GET	200	png	Index:69	679 KB	5.20 s

<http://azure.microsoft.com/en-in/documentation/articles/cdn-serve-content-from-cdn-in-your-web-application/>



```

```

Name	Method	Status	Type	Initiator	Size	Time	Timeline
<u>Scality-Infographic.png</u>	GET	200	png	Index:70	679 KB	2.84 s	

How to calculate costing on Azure

Azure Calculator

Azure Calculator

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

https://azure.microsoft.com/en-us/pricing/calculator/

Microsoft Azure

SALES 000-800-100-3928 MY ACCOUNT PORTAL Search

Why Azure Products Documentation Pricing Partners Blog Resources Support

FREE ACCOUNT >

Pricing calculator

Price and configure Azure features for your scenarios

+ Add items

Virtual Machines

REGION: West US TYPE: Windows

PRICING TIER: Standard

INSTANCE SIZE: D1 SSD 1 cores 3.5 GB RAM 50 GB disk ₹8,412/hr

1 Virtual Machines × 744 Hours = ₹6,258.71/MO

Your estimate

Indian Rupee (₹)

Virtual Machi... ₹6,258.71

Support Options ₹0.00

₹6,258.71

Estimated monthly cost

Purchase options >

Export estimate

