무료 전자 책

배우기

azure

Free unaffiliated eBook created from
Stack Overflow contributors.

#azure

You can share this PDF with anyone you feel could benefit from it, downloaded the latest version from: azure

It is an unofficial and free azure ebook created for educational purposes. All the content is extracted from Stack Overflow Documentation, which is written by many hardworking individuals at Stack Overflow. It is neither affiliated with Stack Overflow nor official azure.

Use the content presented in this book at your own risk; it is not guaranteed to be correct nor accurate, please send your feedback and corrections to info@zzzprojects.com

1:

Azure Microsoft . Microsoft Azure .

- IaaS (Infrastructure as a Service) : Linux Windows Azure
- Platform as a Service (PaaS) : App Service ( ) ,
- : SQL noSQL
- SaaS (Software as a Service) : , , , ,

Azure Infographic : https://azure.microsoft.com/en-us/resources/infographics/azure/ . Azure .

Examples

Azure N (GPU) : UBUNTU 16.04 LTS CUDA, cudnn, Tensorflow

5 .

- CUDA GPU .

```
lspci | grep -i NVIDIA
```

(NVIDIA Tesla K80 / M60).

```
af8a:00:00.0 3D controller: NVIDIA Corporation GK210GL [Tesla K80] (rev a1)
```

- .

```
sudo -i
rmmod nouveau
```

: `sudo reboot` , :

```
lsmod | grep -i nvidia
```

- Nvidia **CUDA** .

```
wget https://developer.nvidia.com/compute/cuda/8.0/prod/local_installers/cuda-repo-ubuntu1604-8-0-local_8.0.44-1_amd64-deb
```

-... CUDA .

```
sudo dpkg -i cuda-repo-ubuntu1604-8-0-local_8.0.44-1_amd64-deb
sudo apt-get update
sudo apt-get install -y cuda
```

GPU .

```
nvidia-smi
```

, **cuDNN** ...

```
wget http://developer.download.nvidia.com/compute/redist/cudnn/v5.1/cudnn-8.0-linux-x64-
v5.1.tgz
```

-... lib64 .

```
tar -zxf cudnn-8.0-linux-x64-v5.1.tgz
sudo cp cuda/lib64/* /usr/local/cuda/lib64/
sudo cp cuda/include/* /usr/local/cuda/include/
sudo rm -R cuda
```

- :

```
rm cuda-repo-ubuntu1604-8-0-local_8.0.44-1_amd64-deb
rm cudnn-8.0-linux-x64-v5.1.tgz
```

CPU / GPU Tensorflow .

https://www.tensorflow.org/install/install_linux#installing_with_anaconda

:

1. https://www.lutzroeder.com/blog/2016-12-27-tensorflow-azure 2. https://www.tensorflow.org/install/install_linux#installing_with_anaconda

: https://riptutorial.com/ko/azure/topic/1060/-

2: Azure DocumentDB

Examples

(.NET)

DocumentDB **URI** `DocumentClient` ( ).

, using .

```
using System;
using Microsoft.Azure.Documents.Client;
```

.

```
var endpointUri = "<your endpoint URI>";
var primaryKey = "<your key>";
var client = new DocumentClient(new Uri(endpointUri), primaryKey);
```

(.NET)

DocumentDB `DocumentClient CreateDatabaseAsync` . JSON .

```
using System.Net;
using System.Threading.Tasks;
using Microsoft.Azure.Documents;
using Microsoft.Azure.Documents.Client;
```

.

```
async Task CreateDatabase(DocumentClient client)
{
    var databaseName = "<your database name>";
    await client.CreateDatabaseAsync(new Database { Id = databaseName });
}
```

.

```
async Task CreateDatabaseIfNotExists(DocumentClient client)
{
    var databaseName = "<your database name>";
    try
    {
        await client.ReadDatabaseAsync(UriFactory.CreateDatabaseUri(databaseName));
    }
    catch (DocumentClientException e)
    {
        // If the database does not exist, create a new database
        if (e.StatusCode == HttpStatusCode.NotFound)
        {
```

```
            await client.CreateDatabaseAsync(new Database { Id = databaseName });

        }
        else
        {
            // Rethrow
            throw;
        }
    }
}
```

(.NET)

`DocumentClient CreateDocumentCollectionAsync` . JSON .

```
async Task CreateCollection(DocumentClient client)
{
    var databaseName = "<your database name>";
    var collectionName = "<your collection name>";

    DocumentCollection collectionInfo = new DocumentCollection();
    collectionInfo.Id = collectionName;

    // Configure collections for maximum query flexibility including string range queries.
    collectionInfo.IndexingPolicy = new IndexingPolicy(new RangeIndex(DataType.String) {
Precision = -1 });

    // Here we create a collection with 400 RU/s.
    await client.CreateDocumentCollectionAsync(UriFactory.CreateDatabaseUri(databaseName),
        collectionInfo, new RequestOptions { OfferThroughput = 400 });
}
```

.

```
async Task CreateDocumentCollectionIfNotExists(DocumentClient client)
{
    var databaseName = "<your database name>";
    var collectionName = "<your collection name>";
    try
    {
        await
client.ReadDocumentCollectionAsync(UriFactory.CreateDocumentCollectionUri(databaseName,
collectionName));
    }
    catch (DocumentClientException e)
    {
        // If the document collection does not exist, create a new collection
        if (e.StatusCode == HttpStatusCode.NotFound)
        {
            DocumentCollection collectionInfo = new DocumentCollection();
            collectionInfo.Id = collectionName;

            // Configure collections for maximum query flexibility including string range
queries.
            collectionInfo.IndexingPolicy = new IndexingPolicy(new RangeIndex(DataType.String)
{ Precision = -1 });

            // Here we create a collection with 400 RU/s.
```

```
            await
client.CreateDocumentCollectionAsync(UriFactory.CreateDatabaseUri(databaseName),
                collectionInfo, new RequestOptions { OfferThroughput = 400 });
        }
        else
        {
            // Rethrow
            throw;
        }
    }
}
```

JSON (.NET)

`DocumentClient CreateDocumentAsync` . () JSON .

```
async Task CreateFamilyDocumentIfNotExists(DocumentClient client, string databaseName, string
collectionName, Family family)
{
    try
    {
        await client.ReadDocumentAsync(UriFactory.CreateDocumentUri(databaseName,
collectionName, family.Id));
    }
    catch (DocumentClientException e)
    {
        if (e.StatusCode == HttpStatusCode.NotFound)
        {
            await
client.CreateDocumentAsync(UriFactory.CreateDocumentCollectionUri(databaseName,
collectionName), family);
        }
        else
        {
            // Rethrow
            throw;
        }
    }
}
```

( ) :

```
public class Family
{
    [JsonProperty(PropertyName = "id")]
    public string Id { get; set; }
    public string LastName { get; set; }
    public Parent[] Parents { get; set; }
    public Child[] Children { get; set; }
    public Address Address { get; set; }
    public bool IsRegistered { get; set; }
    public override string ToString()
    {
        return JsonConvert.SerializeObject(this);
    }
}

public class Parent
```

```
{
    public string FamilyName { get; set; }
    public string FirstName { get; set; }
}

public class Child
{
    public string FamilyName { get; set; }
    public string FirstName { get; set; }
    public string Gender { get; set; }
    public int Grade { get; set; }
    public Pet[] Pets { get; set; }
}

public class Pet
{
    public string GivenName { get; set; }
}

public class Address
{
    public string State { get; set; }
    public string County { get; set; }
    public string City { get; set; }
}
```

(.NET)

DocumentDB **JSON** .

LINQ

```
IQueryable<Family> familyQuery = this.client.CreateDocumentQuery<Family>(
    UriFactory.CreateDocumentCollectionUri(databaseName, collectionName), queryOptions)
    .Where(f => f.LastName == "Andersen");
```

SQL

```
IQueryable<Family> familyQueryInSql = this.client.CreateDocumentQuery<Family>(
    UriFactory.CreateDocumentCollectionUri(databaseName, collectionName),
    "SELECT * FROM Family WHERE Family.lastName = 'Andersen'",
    queryOptions);
```

LINQ

FeedOptions RequestContinuation .

```
public async Task<IEnumerable<Family>> QueryWithPagination(int Size_of_Page)
{
```

```
    var queryOptions = new FeedOptions() { MaxItemCount = Size_of_Page };
    string continuationToken = string.Empty;
    do
    {
        if (!string.IsNullOrEmpty(continuationToken))
        {
            queryOptions.RequestContinuation = continuationToken;
        }

        IDocumentQuery<Family> familyQuery = this.client.CreateDocumentQuery<Family>(
            UriFactory.CreateDocumentCollectionUri(databaseName, collectionName),
queryOptions)
            .Where(f => f.LastName == "Andersen").AsDocumentQuery();

        var queryResult = await familyQuery.ExecuteNextAsync<Family>();
        continuationToken = queryResult.ResponseContinuation;
        yield return queryResult;

    } while (!string.IsNullOrEmpty(continuationToken));
}
```

Continuation Token . :

```
public class PagedResults<T>
{
    public PagedResults()
    {
        Results = new List<T>();
    }
    public string ContinuationToken { get; set; }
    public List<T> Results { get; set; }
}

public async Task<PagedResults<Family>> QueryWithPagination(int Size_of_Page, string
continuationToken = "")
{
    var queryOptions = new FeedOptions() { MaxItemCount = Size_of_Page };
    if (!string.IsNullOrEmpty(continuationToken))
    {
        queryOptions.RequestContinuation = continuationToken;
    }

    return await familyQuery = this.client.CreateDocumentQuery<Family>(
        UriFactory.CreateDocumentCollectionUri(databaseName, collectionName), queryOptions)
        .Where(f => f.LastName == "Andersen").ToPagedResults();
}


public static class DocumentDBExtensions
{
    public static async Task<PagedResults<T>> ToPagedResults<T>(this IQueryable<T> source)
        {
            var documentQuery = source.AsDocumentQuery();
            var results = new PagedResults<T>();
            try
            {
                var queryResult = await documentQuery.ExecuteNextAsync<T>();
                if (!queryResult.Any())
                {
                    return results;
```

```
                }
                results.ContinuationToken = queryResult.ResponseContinuation;
                results.Results.AddRange(queryResult);
            }
            catch
            {
                //documentQuery.ExecuteNextAsync throws an exception on empty queries
                return results;
            }

            return results;
        }
}
```

(.NET)

DocumentDB `DocumentClient ReplaceDocumentAsync` JSON .

```
await client.ReplaceDocumentAsync(UriFactory.CreateDocumentUri(databaseName, collectionName,
familyName), updatedFamily);
```

(.NET)

DocumentDB `DocumentClient DeleteDocumentAsync` JSON .

```
await client.DeleteDocumentAsync(UriFactory.CreateDocumentUri(databaseName, collectionName,
documentName));
```

(.NET)

(,) .

```
await this.client.DeleteDatabaseAsync(UriFactory.CreateDatabaseUri(databaseName));
```

Azure DocumentDB : https://riptutorial.com/ko/azure/topic/5176/azure-documentdb

3: Azure Media Service

Azure Azure . . . . . .

Examples

```
public static string CreateBLOBContainer(string containerName)
        {
            try
            {
                string result = string.Empty;
                CloudMediaContext mediaContext;
                mediaContext = new CloudMediaContext(mediaServicesAccountName,
mediaServicesAccountKey);
                IAsset asset = mediaContext.Assets.Create(containerName,
AssetCreationOptions.None);
                return asset.Uri.ToString();
            }
            catch (Exception ex)
            {
                return ex.Message;
            }
        }
```

```
private static void GetAllTheAssetsAndFiles(MediaServicesCredentials _medServCredentials)
       {
           try
           {
               string result = string.Empty;
               CloudMediaContext mediaContext;
               mediaContext = new CloudMediaContext(_medServCredentials);
               StringBuilder myBuilder = new StringBuilder();
               foreach (var item in mediaContext.Assets)
               {
                   myBuilder.AppendLine(Environment.NewLine);
                   myBuilder.AppendLine("--My Assets--");
                   myBuilder.AppendLine("Name: " + item.Name);
                   myBuilder.AppendLine("++++++++++++++++++++");

                   foreach (var subItem in item.AssetFiles)
                   {
                       myBuilder.AppendLine("File Name: "+subItem.Name);
                       myBuilder.AppendLine("Size: " + subItem.ContentFileSize);
                       myBuilder.AppendLine("++++++++++++++++++++++");
                   }
               }
               Console.WriteLine(myBuilder);
           }
           catch (Exception)
           {
               throw;
           }
       }
```

Azure Media Service : https://riptutorial.com/ko/azure/topic/4997/azure-media-service-

4: Azure Resource Manager

- ARM . https://azure.microsoft.com/en-us/documentation/articles/resource-group-authoring-templates/

Examples

Azure .

Azure Key Vault DiagnosticSettings .

:

- `resources` .
- `dependsOn` `dependsOn` (ARM)

```
{
  "$schema": "https://schema.management.azure.com/schemas/2015-01-
01/deploymentTemplate.json#",
  "contentVersion": "1.0.0.0",
  "parameters": {
    "keyVaultName": {
      "type": "string",
      "metadata": {
        "description": "Name of the Vault"
      }
    },
    "tenantId": {
      "type": "string",
      "metadata": {
        "description": "Tenant ID of the directory associated with this key vault"
      }
    },
    "location": {
      "type": "string",
      "metadata": {
        "description": "Key Vault location"
      }
    },
    "storageAccountResourceGroup": {
      "type": "string",
      "metadata": {
        "description": "Resource Group of the storage account where key vault activities will
be logged"
      }
    },
    "storageAccountName": {
      "type": "string",
      "metadata": {
        "description": "Name of the storage account where key vault activities will be logged.
Must be in same region as the key vault."
      }
    }
    },
  "resources": [
```

```
    {
      "type": "Microsoft.KeyVault/vaults",
      "name": "[parameters('keyVaultName')]",
      "apiVersion": "2015-06-01",
      "location": "[parameters('location')]",
      "properties": {
        "enabledForDeployment": "false",
        "enabledForDiskEncryption": "false",
        "enabledForTemplateDeployment": "false",
        "tenantId": "[variables('tenantId')]",
        "sku": {
          "name": "Standard",
          "family": "A"
        }
      },
      "resources": [
          {
      "type": "Microsoft.KeyVault/vaults/providers/diagnosticSettings",
      "name": "[concat(parameters('keyVaultName'), '/Microsoft.Insights/service')]",
      "apiVersion": "2015-07-01",
      "dependsOn": [
        "[concat('Microsoft.keyvault/vaults/', parameters('keyVaultName'))]"
      ],
      "properties": {
        "storageAccountId": "[resourceId(parameters('storageAccountResourceGroup'),
'Microsoft.Storage/storageAccounts', parameters('storageAccountName'))]",
        "logs": [{
            "category": "AuditEvent",
            "enabled": true,
            "retentionPolicy": {
                "enabled": true,
                "days": 90
            }
        }]
    }
    }]
    }
  ],
  "outputs": {
      "keyVaultUrl": {
          "type": "string",
          "value": "[reference(resourceId('Microsoft.KeyVault/vaults',
parameters('keyVaultName'))).vaultUri]"
      }
  }
}
```

Azure Resource Manager : https://riptutorial.com/ko/azure/topic/3923/azure-resource-manager-

5: Azure

Examples

ASM API Azure VM

```
# 1. Login Azure by admin account
Add-AzureAccount
#
# 2. Select subscription name
$subscriptionName = Get-AzureSubscription | Select -ExpandProperty SubscriptionName
#
# 3. Create storage account
$storageAccountName = $VMName
# here we use VMName to play the storage account name and create it, you can choose your name
or use existed one to replace the storage account creation operation
New-AzureStorageAccount -StorageAccountName $storageAccountName -Location $Location | Out-Null
#
# 4. Select subscription name and storage account name for current context
Select-AzureSubscription -SubscriptionName $subscriptionName -Current | Out-Null
Set-AzureSubscription -SubscriptionName $subscriptionName -CurrentStorageAccountName
$storageAccountName | Out-Null
#
# 5. Select a VM image name
$label = $VMLabelPattern
# take care, please ensure the VM image location resides to the same location of your storage
account and service below
$imageName = Get-AzureVMImage | where { $_.Label -like $label } | sort PublishedDate -
Descending | select -ExpandProperty ImageName -First 1
#
# 6. Create cloud service
$svcName = $VMName
# here we use VMName to play the service name and create it, you can choose your name or use
existed one to replace the service creation operation
New-AzureService -ServiceName $svcName -Location $Location | Out-Null
#
# 7. Build command set
$vmConfig = New-AzureVMConfig -Name $VMName -InstanceSize $VMSize -ImageName $imageName
#
# 8. Set local admin of this vm
$cred=Get-Credential -Message "Type the name and password of the local administrator account."
$vmConfig | Add-AzureProvisioningConfig -Windows -AdminUsername $cred.Username -Password
$cred.GetNetworkCredential().Password
#
# 9. Execute the final cmdlet to create the VM
New-AzureVM -ServiceName $svcName -VMs $vmConfig | Out-Null
```

ASM API Powershell Azure Virtual Machine (VM) .

Azure : https://riptutorial.com/ko/azure/topic/6350/azure--

6: Azure

Azure Azure PaaS . Compute ( ) . .

, Microsoft , "" , .

( ). ""

-
- " "
  -
  -
- " "

Examples

Service Fabric .NET / .

```
public interface IMyActor : IActor
{
    Task<string> HelloWorld();
}


internal class MyActor : Actor, IMyActor
{
    public Task<string> HelloWorld()
    {
        return Task.FromResult("Hello world!");
    }
}
```

/ out ref .

. . ("") .

SDK . (, `await`).

ID . ID (DB, Actor , UserID).

ID () ActorId ID

```
ActorId actorId = ActorId.NewId();
```

`ActorProxy` . . IMyActor myActor = ActorProxy.Create (actorId, Uri ("fabric : / MyApp / MyActorService"));

. ID ( ) :

```
await myActor.HelloWorld();
```

Azure : https://riptutorial.com/ko/azure/topic/3802/azure--

7: Azure

Examples

Azure Blob blob

Azure blob API . Microsoft Azure Blob Storage blob .

```
StorageCredentials cred = new StorageCredentials("[Your storage account name]", "[Your storage
account key]");

CloudBlobContainer container = new CloudBlobContainer(new Uri("http://[Your storage account
name].blob.core.windows.net/[Your container name] /"), cred);

string fileName = "OldFileName";
string newFileName = "NewFileName";

CloudBlockBlob blobCopy = container.GetBlockBlobReference(newFileName);

if (!await blobCopy.ExistsAsync())
{
    CloudBlockBlob blob = container.GetBlockBlobReference(fileName);

    if (await blob.ExistsAsync())
    {
        await blobCopy.StartCopyAsync(blob);
        await blob.DeleteIfExistsAsync();
    }
}
```

Azure Blob blob .

ASP.NET Azure SQL Server Azure Excel /

Azure Azure Excel blob Azure SQL Server DB DB Azure Excel blob .

:

- Microsoft Visual Studio 2015
- Microsoft Office Open XML SDK 2.5
- Azure
- Azure SQL Server

DocumentFormat.OpenXml .

1. DB Azure Excel BLOB
   Save Azure .

```
public static string DBExportToExcel()
{
    string result = string.Empty;
```

```
    try
    {
        //Get datatable from db
        DataSet ds = new DataSet();
        SqlConnection connection = new SqlConnection(connectionStr);
        SqlCommand cmd = new SqlCommand($"SELECT {string.Join(",", columns)} FROM
{tableName}", connection);
        using (SqlDataAdapter adapter = new SqlDataAdapter(cmd))
        {
            adapter.Fill(ds);
        }
        //Check directory
        if (!Directory.Exists(directoryPath))
        {
            Directory.CreateDirectory(directoryPath);
        }
        // Delete the file if it exists
        string filePath = $"{directoryPath}//{excelName}";
        if (File.Exists(filePath))
        {
            File.Delete(filePath);
        }

        if (ds.Tables.Count > 0 && ds.Tables[0] != null || ds.Tables[0].Columns.Count > 0)
        {
            DataTable table = ds.Tables[0];

            using (var spreadsheetDocument = SpreadsheetDocument.Create(filePath,
SpreadsheetDocumentType.Workbook))
            {
                // Create SpreadsheetDocument
                WorkbookPart workbookPart = spreadsheetDocument.AddWorkbookPart();
                workbookPart.Workbook = new Workbook();
                var sheetPart = spreadsheetDocument.WorkbookPart.AddNewPart<WorksheetPart>();
                var sheetData = new SheetData();
                sheetPart.Worksheet = new Worksheet(sheetData);
                Sheets sheets =
spreadsheetDocument.WorkbookPart.Workbook.AppendChild<Sheets>(new Sheets());
                string relationshipId =
spreadsheetDocument.WorkbookPart.GetIdOfPart(sheetPart);
                Sheet sheet = new Sheet() { Id = relationshipId, SheetId = 1, Name =
table.TableName };
                sheets.Append(sheet);

                //Add header to sheetData
                Row headerRow = new Row();
                List<String> columns = new List<string>();
                foreach (DataColumn column in table.Columns)
                {
                    columns.Add(column.ColumnName);

                    Cell cell = new Cell();
                    cell.DataType = CellValues.String;
                    cell.CellValue = new CellValue(column.ColumnName);
                    headerRow.AppendChild(cell);
                }
                sheetData.AppendChild(headerRow);

                //Add cells to sheetData
                foreach (DataRow row in table.Rows)
                {
```

```
                    Row newRow = new Row();
                    columns.ForEach(col =>
                    {
                        Cell cell = new Cell();
                        //If value is DBNull, do not set value to cell
                        if (row[col] != System.DBNull.Value)
                        {
                            cell.DataType = CellValues.String;
                            cell.CellValue = new CellValue(row[col].ToString());
                        }
                        newRow.AppendChild(cell);
                    });
                    sheetData.AppendChild(newRow);
                }
                result = $"Export {table.Rows.Count} rows of data to excel successfully.";
            }
        }

        // Write the excel to Azure storage container
        using (FileStream fileStream = File.Open(filePath, FileMode.Open))
        {
            bool exists = container.CreateIfNotExists();
            var blob = container.GetBlockBlobReference(excelName);
            blob.DeleteIfExists();
            blob.UploadFromStream(fileStream);
        }
    }
    catch (Exception ex)
    {
        result =$"Export action failed. Error Message: {ex.Message}";
    }
    return result;
}
```

2. Azure Excel DB
   BLOB .
   SqlBulkCopy db .

```
public static string ExcelImportToDB()
{
    string result = string.Empty;
    try
    {
        //Check directory
        if (!Directory.Exists(directoryPath))
        {
            Directory.CreateDirectory(directoryPath);
        }
        // Delete the file if it exists
        string filePath = $"{directoryPath}//{excelName}";
        if (File.Exists(filePath))
        {
            File.Delete(filePath);
        }
        // Download blob to server disk.
        container.CreateIfNotExists();
        CloudBlockBlob blob = container.GetBlockBlobReference(excelName);
        blob.DownloadToFile(filePath, FileMode.Create);
```

```
        DataTable dt = new DataTable();
        using (SpreadsheetDocument spreadSheetDocument = SpreadsheetDocument.Open(filePath,
false))
        {
            //Get sheet data
            WorkbookPart workbookPart = spreadSheetDocument.WorkbookPart;
            IEnumerable<Sheet> sheets =
spreadSheetDocument.WorkbookPart.Workbook.GetFirstChild<Sheets>().Elements<Sheet>();
            string relationshipId = sheets.First().Id.Value;
            WorksheetPart worksheetPart =
(WorksheetPart)spreadSheetDocument.WorkbookPart.GetPartById(relationshipId);
            Worksheet workSheet = worksheetPart.Worksheet;
            SheetData sheetData = workSheet.GetFirstChild<SheetData>();
            IEnumerable<Row> rows = sheetData.Descendants<Row>();

            // Set columns
            foreach (Cell cell in rows.ElementAt(0))
            {
                dt.Columns.Add(cell.CellValue.InnerXml);
            }

            //Write data to datatable
            foreach (Row row in rows.Skip(1))
            {
                DataRow newRow = dt.NewRow();
                for (int i = 0; i < row.Descendants<Cell>().Count(); i++)
                {
                    if (row.Descendants<Cell>().ElementAt(i).CellValue != null)
                    {
                        newRow[i] = row.Descendants<Cell>().ElementAt(i).CellValue.InnerXml;
                    }
                    else
                    {
                        newRow[i] = DBNull.Value;
                    }
                }
                dt.Rows.Add(newRow);
            }
        }

        //Bulk copy datatable to DB
        SqlBulkCopy bulkCopy = new SqlBulkCopy(connectionStr);
        try
        {
            columns.ForEach(col => { bulkCopy.ColumnMappings.Add(col, col); });
            bulkCopy.DestinationTableName = tableName;
            bulkCopy.WriteToServer(dt);
        }
        catch (Exception ex)
        {
            throw ex;
        }
        finally
        {
            bulkCopy.Close();
        }
        result = $"Import {dt.Rows.Count} rows of data to DB successfully.";
    }
    catch (Exception ex)
    {
        result = $"Import action failed. Error Message: {ex.Message}";
```

```
    }
    return result;
}
```

https://code.msdn.microsoft.com/How-to-ImportExport-Azure-0c858df9 .

Microsoft Azure BLOB

Microsoft Azure BLOB API . Microsoft Azure (PowerShell) BLOB .

```
 $key = (Get-AzureRmStorageAccountKey -ResourceGroupName
$selectedStorageAccount.ResourceGroupName -name $selectedStorageAccount.StorageAccountName -
ErrorAction Stop)[0].value
        $storageContext = New-AzureStorageContext -StorageAccountName
$selectedStorageAccount.StorageAccountName -StorageAccountKey $key -ErrorAction Stop
        $storageContainer = Get-AzureStorageContainer -Context $storageContext -Name
$ContainerName -ErrorAction Stop
        $blob = Get-AzureStorageBlob -Context $storageContext -Container  $ContainerName -Blob
$BlobName -ErrorAction Stop
        $leaseStatus = $blob.ICloudBlob.Properties.LeaseStatus;
        If($leaseStatus -eq "Locked")
        {
             $blob.ICloudBlob.BreakLease()
             Write-Host "Successfully broken lease on '$BlobName' blob."
        }
        Else
        {
            #$blob.ICloudBlob.AcquireLease($null, $null, $null, $null, $null)
            Write-Host "The '$BlobName' blob's lease status is unlocked."
        }
```

Microsoft Azure (PowerShell) ARM BLOB .

Azure : https://riptutorial.com/ko/azure/topic/5405/azure--

8: Azure

Examples

Azure

Azure "REST"API (HTTP API) .

Azure SDK . C # () .

Azure Storage . Azure CLI, PowerShell, Azure Resource Manager (ARM) .

`app.config` .

```
// Retrieve storage account from connection string.
CloudStorageAccount storageAccount = CloudStorageAccount.Parse(
    CloudConfigurationManager.GetSetting("StorageConnectionString"));
```

URL . `http://<storage account>.queue.core.windows.net/<queue>`

URL . ( ) . . ( ).

```
CloudQueueClient queueClient = storageAccount.CreateCloudQueueClient();
```

.

```
CloudQueue queue = queueClient.GetQueueReference("<queue>");
```

`queue` .

.

```
queue.CreateIfNotExists();
```

. " "? .

- "" ("" Compute Service Web App, Fabric Service,). VM ...)
- . PaaS . .

API .

```
await queue.CreateIfNotExistsAsync();
```

(blob,) .

.

Azure : https://riptutorial.com/ko/azure/topic/6008/azure--

9: Azure-Automation

resourceGroupName	Azure
connectionName	Azure (pricipal)
StorageAccountName	Azure
DaysOld	BLOB

Azure Active Directory Azure RunAs . .

Examples

Blob Blob

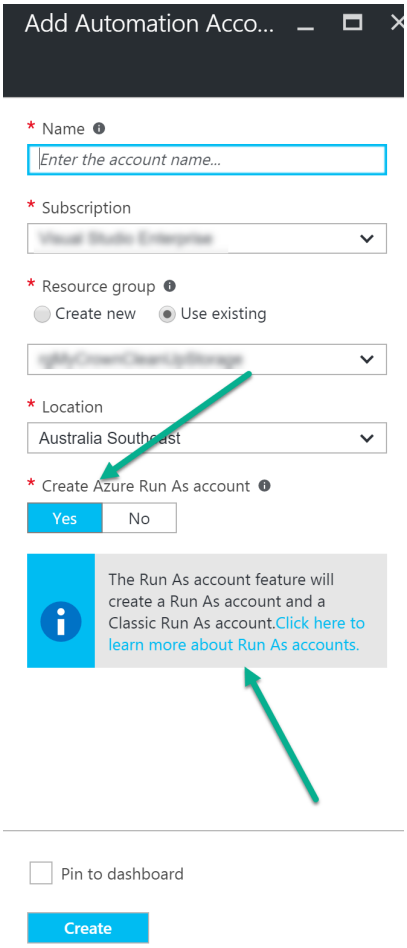
Azure BLOB Azure Powershell .

SQL .

.

: **.**

Azure Azure . Azure Active Directory . :

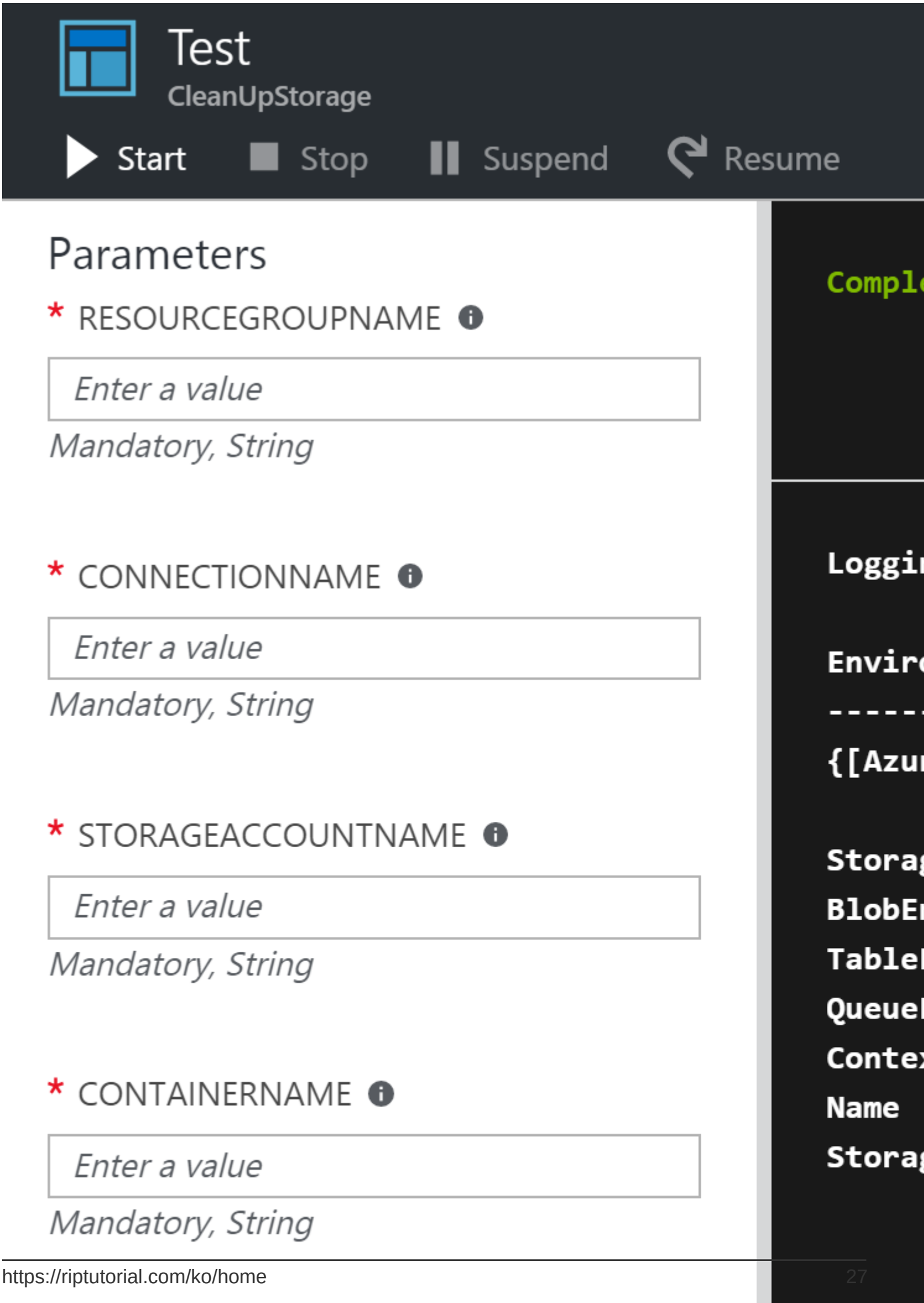



```
<#
.DESCRIPTION
    Removes all blobs older than a number of days back using the Run As Account (Service
Principal)

.NOTES
    AUTHOR: Russ
    LASTEDIT: Oct 03, 2016   #>

param(
    [parameter(Mandatory=$true)]
    [String]$resourceGroupName,

    [parameter(Mandatory=$true)]
    [String]$connectionName,

    # StorageAccount name for content deletion.
    [Parameter(Mandatory = $true)]
    [String]$StorageAccountName,

    # StorageContainer name for content deletion.
    [Parameter(Mandatory = $true)]
    [String]$ContainerName,

    [Parameter(Mandatory = $true)]
    [Int32]$DaysOld

)
$VerbosePreference = "Continue";
try
{
# Get the connection "AzureRunAsConnection "
```

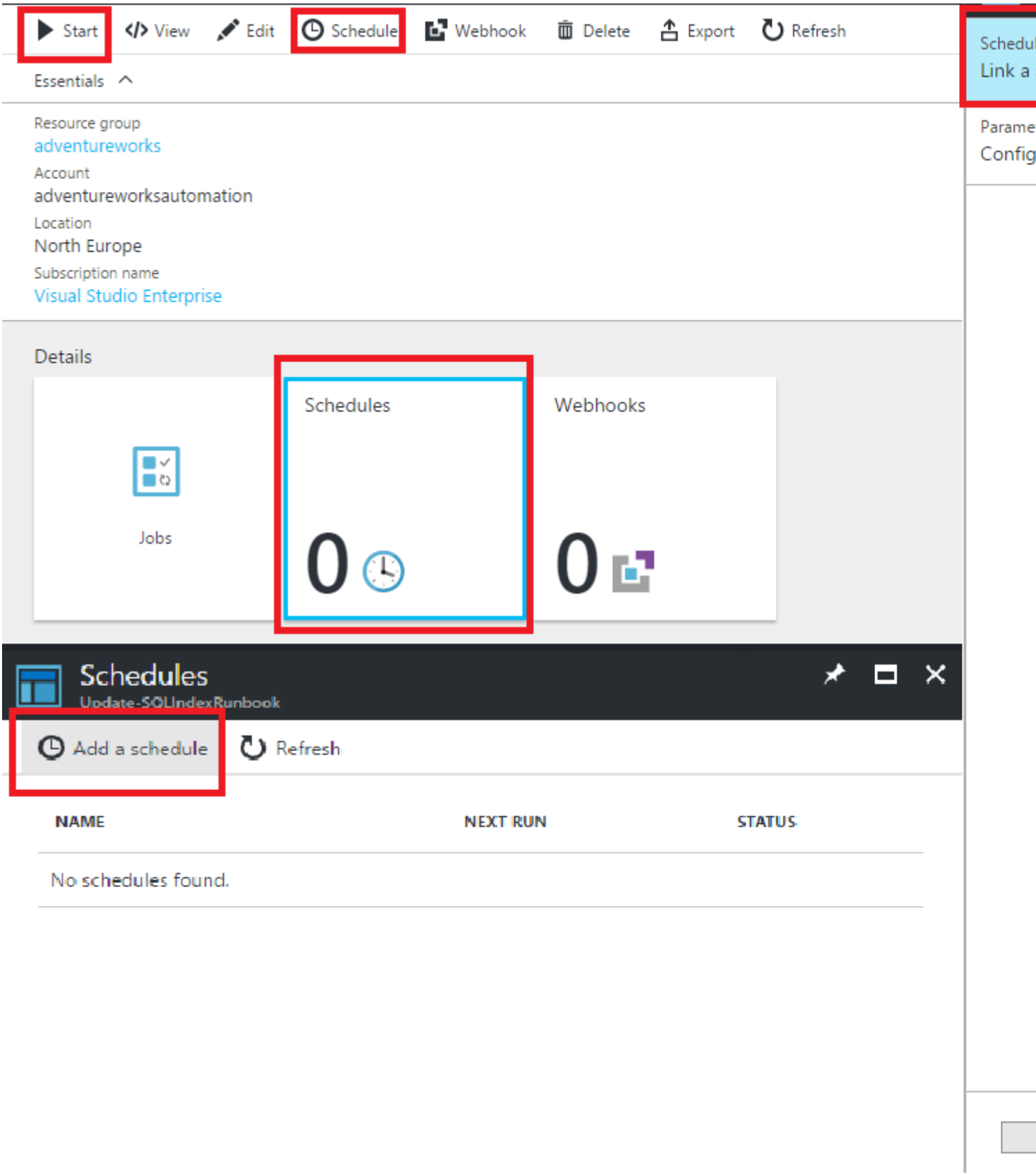
```
$servicePrincipalConnection=Get-AutomationConnection -Name $connectionName

"Logging in to Azure..."
Add-AzureRmAccount `
    -ServicePrincipal `
    -TenantId $servicePrincipalConnection.TenantId `
    -ApplicationId $servicePrincipalConnection.ApplicationId `
    -CertificateThumbprint $servicePrincipalConnection.CertificateThumbprint
catch {
if (!$servicePrincipalConnection)
{
    $ErrorMessage = "Connection $connectionName not found."
    throw $ErrorMessage
} else{
    Write-Error -Message $_.Exception
    throw $_.Exception
}
$keys = Get-AzureRMStorageAccountKey -ResourceGroupName $resourceGroupName -AccountName
$StorageAccountName
# get the storage account key
Write-Host "The storage key is: "$StorageAccountKey;
# get the context
$StorageAccountContext = New-AzureStorageContext -storageAccountName $StorageAccountName -
StorageAccountKey $keys.Key1 #.Value;
$StorageAccountContext;
$existingContainer = Get-AzureStorageContainer -Context $StorageAccountContext -Name
$ContainerName;
#$existingContainer;
if (!$existingContainer)
{
 "Could not find storage container";
}
else
{
$containerName = $existingContainer.Name;
Write-Verbose ("Found {0} storage container" -f $containerName);
$blobs = Get-AzureStorageBlob -Container $containerName -Context $StorageAccountContext;
$blobsremoved = 0;

if ($blobs -ne $null)
{
    foreach ($blob in $blobs)
    {
        $lastModified = $blob.LastModified
        if ($lastModified -ne $null)
        {
            #Write-Verbose ("Now is: {0} and LastModified is:{1}" -f [DateTime]::Now,
[DateTime]$lastModified);
            #Write-Verbose ("lastModified: {0}" -f $lastModified);
            #Write-Verbose ("Now: {0}" -f [DateTime]::Now);
            $blobDays = ([DateTime]::Now - $lastModified.DateTime)  #[DateTime]

            Write-Verbose ("Blob {0} has been in storage for {1} days" -f $blob.Name,
$blobDays);

            Write-Verbose ("blobDays.Days: {0}" -f $blobDays.Hours);
            Write-Verbose ("DaysOld: {0}" -f $DaysOld);

            if ($blobDays.Days -ge $DaysOld)
            {
                Write-Verbose ("Removing Blob: {0}" -f $blob.Name);
```

```
                Remove-AzureStorageBlob -Blob $blob.Name -Container $containerName -Context
$StorageAccountContext;
                $blobsremoved += 1;
            }
            else {
                Write-Verbose ("Not removing blob as it is not old enough.");
            }
        }
    }
}

Write-Verbose ("{0} blobs removed from container {1}." -f $blobsremoved, $containerName);
}
```

.


Test
CleanUpStorage
Start
Stop
Suspend
Resume
Parameters
* RESOURCEGROUPNAME
Enter a value
Mandatory, String
* CONNECTIONNAME
Enter a value
Mandatory, String
* STORAGEACCOUNTNAME
Enter a value
Mandatory, String
* CONTAINERNAME
Enter a value
Mandatory, String
Compl
Loggi
Envir
{[Azu
Storag
BlobE
Table
Queue
Conte
Name
Storag

. runbook ( ).


Start
View
Edit
Schedule
Webhook
Delete
Export
Refresh
Essentials
Resource group
adventureworks
Account
adventureworksautomation
Location
North Europe
Subscription name
Visual Studio Enterprise
Details
Jobs
Schedules
0
Webhooks
0
Schedules
Update-SQLIndexRunbook
Add a schedule
Refresh
NAME
NEXT RUN
STATUS
No schedules found.

.

, . .

```
SELECT  t.name AS TableName, t.OBJECT_ID FROM sys.tables t
```

:

```
SELECT  '['+SCHEMA_NAME(t.schema_id)+'].['+t.name+']' AS TableName, t.OBJECT_ID FROM
sys.tables t
```

(: "," =) . ( ) .

```
$connStringBuilder = New-Object System.Data.SqlClient.SqlConnectionStringBuilder
$connStringBuilder["Server"] = "tcp:$using:SqlServer,$using:SqlServerPort"
$connStringBuilder["Database" ] = "$using:Database"
$connStringBuilder["User ID"] = "$using:SqlUsername"
$connStringBuilder["Password"] = "$using:SqlPass"
$connStringBuilder["Trusted_Connection"] = $False
$connStringBuilder["Encrypt"] = $True
$connStringBuilder["Connection Timeout"] = "30"
$connString = $connStringBuilder.ConnectionString
$Conn = New-Object System.Data.SqlClient.SqlConnection($connString)
```

. .

```
SELECT a.object_id, avg_fragmentation_in_percent
    FROM sys.dm_db_index_physical_stats (
           DB_ID(N'$Database')
         , OBJECT_ID(0)
         , NULL
         , NULL
         , NULL) AS a
    JOIN sys.indexes AS b
    ON a.object_id = b.object_id AND a.index_id = b.index_id;
```

sys.dm_db_index_physical_stats NULL 'DETAILED' .

Github : https://github.com/conwid/IndexRebuildScript

Azure-Automation : https://riptutorial.com/ko/azure/topic/7258/azure-automation

10: Powershell

Examples

ARM

PowerShell Azure Microsoft .

" ( )"

Azure Azure . Azure . ARM .

.

```
Get-Module -ListAvailable Azure.*
```

" (ARM)"

Azure (REST API). Powershell Azure . ARM Azure .

ARM .

```
Get-Module -ListAvailable AzureRM*
```

Azure

( ) :

```
Add-AzureAccount
```

Azure Active Directory PowerShell 12 . 12 .

cmdlet .

```
Get-AzurePublishSettingsFile
```

. PowerShell . .

```
Import-AzurePublishSettingsFile
```

. .

Azure Active Directory 12 . .

```
Login-AzureRmAccount
Add-AzureRmAccount
```

Azure ; ( ); .

```
Set-AzureSubscription
Select-AzureSubscription
```

```
Select-AzureRmSubscription
```

(: ID) . .

```
Get-AzureSubscription
```

Azure PowerShell

Azure PowerShell .

```
Get-Module -ListAvailable -Name Azure -Refresh
```

PowerShell Azure PowerShell .

Azure

Azure Cmdlet C # Azure Azure PowerShell .

, Azure BLOB .

```
New-Item -Path .\myblob -ItemType Directory
$context = New-AzureStorageContext -StorageAccountName MyAccountName -StorageAccountKey {key
from the Azure portal}
$blob = Get-AzureStorageBlob -Container MyContainerName -Context $context
$blob | Get-AzureStorageBlobContent -Destination .\myblob\
```

Azure PowerShell Azure Portal .

- .
- Azure `ResourceId` Azure .

RM .

TrafficManager

PowerShell .

1. TM :
   `$profile = Get-AzureRmTrafficManagerProfile -ResourceGroupName my-resource-group -Name my-traffic-manager`
   .
2. TM
   `$profile` `$profile.Endpoints` .

3. `Set-AzureRmTrafficManagerProfile -TrafficManagerProfile $profile` .

`$profile.Endpoints` .

```
$profile.Endpoints[0].Weight = 100
```

```
$profile.Endpoints | ?{ $_.Name -eq 'my-endpoint' } | %{ $_.Weight = 100 }
```

.

```
$profile.Endpoints.Clear()
```

```
Remove-AzureRmTrafficManagerEndpointConfig -TrafficManagerProfile $profile -EndpointName 'my-
endpoint'
```

```
Add-AzureRmTrafficManagerEndpointConfig -TrafficManagerProfile $profile -EndpointName "my-
endpoint" -Type AzureEndpoints -TargetResourceId "/subscriptions/00000000-0000-0000-0000-
000000000000/resourceGroups/my-resource-group/providers/Microsoft.ClassicCompute/domainNames/my-
azure-service" -EndpointStatus Enabled -Weight 100
```

, ResourceId .

▪

TM `Set-AzureRmTrafficManagerProfile -TrafficManagerProfile $profile` . TM .

DNS IP (TTL. `$profile.Ttl`). TM TTL .

Powershell : https://riptutorial.com/ko/azure/topic/3961/-powershell

S. No		Contributors
1		awh112, Bernard Vander Beken, Community, KARANJ, lorenzo montanari, Sibeesh Venu, user2314737
2	Azure DocumentDB	gbellmann, Matias Quaranta
3	Azure Media Service	Sibeesh Venu
4	Azure Resource Manager	BenV
5	Azure	Dale Chen
6	Azure	Lorenzo Dematté, Stephen Leppik
7	Azure	Dale Chen, Gaurav Mantri
8	Azure-Automation	Akos Nagy, RuSs
9	Powershell	Anton Purin, CmdrTchort, frank tan, juunas, RedGreenCode