McKesson Azure Lab 08: Demo1

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Demo1: CLI Azure Storage Queue Services **November 30, 2017**

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Perform Azure Queue storage operations with Azure PowerShell (Command Line)
Azure Queue storage is a service for storing large numbers of messages that can be accessed via authenticated calls using HTTP or HTTPS. This is an example of direct messaging (that is, TCP or HTTP), where the web tier connects to the middle tier directly (versus the next demo showing service bus queues brokered through web /worker roles)

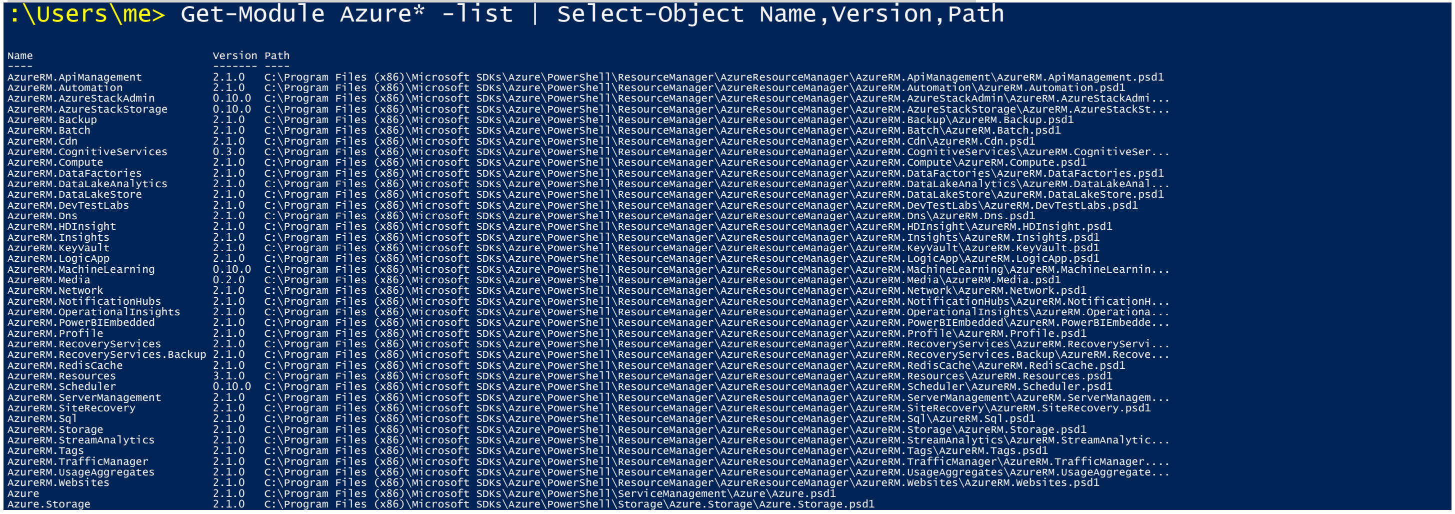
Power Shell examples
https://github.com/Azure/azure-service-bus/blob/master/samples/DotNet/Microsoft.ServiceBus.Messaging/README.md

Demo covers common Queue storage operations
Learn basic Queue storage management with PowerShell, including how to:

- Create a queue
- Retrieve a queue
- Add a message
- Read the next message
- Delete a message
- Delete a queue

Check version … preferably Azure PowerShell module version 3.6 or later
Note Azure resource manger (AzureRM.*) does not have a specific queue object, queue operations use the .NET storage client library as exposed in PowerShell.

```
Get-Module -ListAvailable
Get-Module AzureRM* -list | Select-Object Name,Version,Path
Get-Module -l *zure*| Select-Object Name, Version, Path
```



```
:\Users\me> Get-Module Azure* -list | Select-Object Name,Version,Path

Name                            Version Path
----                            ------- ----
AzureRM.ApiManagement           2.1.0   C:\Program Files (x86)\Microsoft SDKs\Azure\PowerShell\ResourceManager\AzureResourceManager\AzureRM.ApiManagement\AzureRM.ApiManagement.psd1
AzureRM.Automation              2.1.0   C:\Program Files (x86)\Microsoft SDKs\Azure\PowerShell\ResourceManager\AzureResourceManager\AzureRM.Automation\AzureRM.Automation.psd1
AzureRM.AzureStackAdmin         0.10.0  C:\Program Files (x86)\Microsoft SDKs\Azure\PowerShell\ResourceManager\AzureResourceManager\AzureRM.AzureStackAdmin\AzureRM.AzureStackAdmi...
AzureRM.AzureStackStorage       0.10.0  C:\Program Files (x86)\Microsoft SDKs\Azure\PowerShell\ResourceManager\AzureResourceManager\AzureRM.AzureStackStorage\AzureRM.AzureStackSt...
AzureRM.Backup                  2.1.0   C:\Program Files (x86)\Microsoft SDKs\Azure\PowerShell\ResourceManager\AzureResourceManager\AzureRM.Backup\AzureRM.Backup.psd1
AzureRM.Batch                   2.1.0   C:\Program Files (x86)\Microsoft SDKs\Azure\PowerShell\ResourceManager\AzureResourceManager\AzureRM.Batch\AzureRM.Batch.psd1
AzureRM.Cdn                     2.1.0   C:\Program Files (x86)\Microsoft SDKs\Azure\PowerShell\ResourceManager\AzureResourceManager\AzureRM.Cdn\AzureRM.Cdn.psd1
AzureRM.CognitiveServices       0.3.0   C:\Program Files (x86)\Microsoft SDKs\Azure\PowerShell\ResourceManager\AzureResourceManager\AzureRM.CognitiveServices\AzureRM.CognitiveSer...
AzureRM.Compute                 2.1.0   C:\Program Files (x86)\Microsoft SDKs\Azure\PowerShell\ResourceManager\AzureResourceManager\AzureRM.Compute\AzureRM.Compute.psd1
AzureRM.DataFactories           2.1.0   C:\Program Files (x86)\Microsoft SDKs\Azure\PowerShell\ResourceManager\AzureResourceManager\AzureRM.DataFactories\AzureRM.DataFactories.psd1
AzureRM.DataLakeAnalytics       2.1.0   C:\Program Files (x86)\Microsoft SDKs\Azure\PowerShell\ResourceManager\AzureResourceManager\AzureRM.DataLakeAnalytics\AzureRM.DataLakeAnal...
AzureRM.DataLakeStore           2.1.0   C:\Program Files (x86)\Microsoft SDKs\Azure\PowerShell\ResourceManager\AzureResourceManager\AzureRM.DataLakeStore\AzureRM.DataLakeStore.psd1
AzureRM.DevTestLabs             2.1.0   C:\Program Files (x86)\Microsoft SDKs\Azure\PowerShell\ResourceManager\AzureResourceManager\AzureRM.DevTestLabs\AzureRM.DevTestLabs.psd1
AzureRM.Dns                     2.1.0   C:\Program Files (x86)\Microsoft SDKs\Azure\PowerShell\ResourceManager\AzureResourceManager\AzureRM.Dns\AzureRM.Dns.psd1
AzureRM.HDInsight               2.1.0   C:\Program Files (x86)\Microsoft SDKs\Azure\PowerShell\ResourceManager\AzureResourceManager\AzureRM.HDInsight\AzureRM.HDInsight.psd1
AzureRM.Insights                2.1.0   C:\Program Files (x86)\Microsoft SDKs\Azure\PowerShell\ResourceManager\AzureResourceManager\AzureRM.Insights\AzureRM.Insights.psd1
AzureRM.KeyVault                2.1.0   C:\Program Files (x86)\Microsoft SDKs\Azure\PowerShell\ResourceManager\AzureResourceManager\AzureRM.KeyVault\AzureRM.KeyVault.psd1
AzureRM.LogicApp                2.1.0   C:\Program Files (x86)\Microsoft SDKs\Azure\PowerShell\ResourceManager\AzureResourceManager\AzureRM.LogicApp\AzureRM.LogicApp.psd1
AzureRM.MachineLearning         0.10.0  C:\Program Files (x86)\Microsoft SDKs\Azure\PowerShell\ResourceManager\AzureResourceManager\AzureRM.MachineLearning\AzureRM.MachineLearnin...
AzureRM.Media                   0.2.0   C:\Program Files (x86)\Microsoft SDKs\Azure\PowerShell\ResourceManager\AzureResourceManager\AzureRM.Media\AzureRM.Media.psd1
AzureRM.Network                 2.1.0   C:\Program Files (x86)\Microsoft SDKs\Azure\PowerShell\ResourceManager\AzureResourceManager\AzureRM.Network\AzureRM.Network.psd1
AzureRM.NotificationHubs        2.1.0   C:\Program Files (x86)\Microsoft SDKs\Azure\PowerShell\ResourceManager\AzureResourceManager\AzureRM.NotificationHubs\AzureRM.NotificationH...
AzureRM.OperationalInsights     2.1.0   C:\Program Files (x86)\Microsoft SDKs\Azure\PowerShell\ResourceManager\AzureResourceManager\AzureRM.OperationalInsights\AzureRM.Operationa...
AzureRM.PowerBIEmbedded         2.1.0   C:\Program Files (x86)\Microsoft SDKs\Azure\PowerShell\ResourceManager\AzureResourceManager\AzureRM.PowerBIEmbedded\AzureRM.PowerBIEmbedde...
AzureRM.Profile                 2.1.0   C:\Program Files (x86)\Microsoft SDKs\Azure\PowerShell\ResourceManager\AzureResourceManager\AzureRM.Profile\AzureRM.Profile.psd1
AzureRM.RecoveryServices        2.1.0   C:\Program Files (x86)\Microsoft SDKs\Azure\PowerShell\ResourceManager\AzureResourceManager\AzureRM.RecoveryServices\AzureRM.RecoveryServi...
AzureRM.RecoveryServices.Backup 2.1.0   C:\Program Files (x86)\Microsoft SDKs\Azure\PowerShell\ResourceManager\AzureResourceManager\AzureRM.RecoveryServices.Backup\AzureRM.Recove...
AzureRM.RedisCache              2.1.0   C:\Program Files (x86)\Microsoft SDKs\Azure\PowerShell\ResourceManager\AzureResourceManager\AzureRM.RedisCache\AzureRM.RedisCache.psd1
AzureRM.Resources               3.1.0   C:\Program Files (x86)\Microsoft SDKs\Azure\PowerShell\ResourceManager\AzureResourceManager\AzureRM.Resources\AzureRM.Resources.psd1
AzureRM.Scheduler               0.10.0  C:\Program Files (x86)\Microsoft SDKs\Azure\PowerShell\ResourceManager\AzureResourceManager\AzureRM.Scheduler\AzureRM.Scheduler.psd1
AzureRM.ServerManagement        2.1.0   C:\Program Files (x86)\Microsoft SDKs\Azure\PowerShell\ResourceManager\AzureResourceManager\AzureRM.ServerManagement\AzureRM.ServerManagem...
AzureRM.SiteRecovery            2.1.0   C:\Program Files (x86)\Microsoft SDKs\Azure\PowerShell\ResourceManager\AzureResourceManager\AzureRM.SiteRecovery\AzureRM.SiteRecovery.psd1
AzureRM.Sql                     2.1.0   C:\Program Files (x86)\Microsoft SDKs\Azure\PowerShell\ResourceManager\AzureResourceManager\AzureRM.Sql\AzureRM.Sql.psd1
AzureRM.Storage                 2.1.0   C:\Program Files (x86)\Microsoft SDKs\Azure\PowerShell\ResourceManager\AzureResourceManager\AzureRM.Storage\AzureRM.Storage.psd1
AzureRM.StreamAnalytics         2.1.0   C:\Program Files (x86)\Microsoft SDKs\Azure\PowerShell\ResourceManager\AzureResourceManager\AzureRM.StreamAnalytics\AzureRM.StreamAnalytic...
AzureRM.Tags                    2.1.0   C:\Program Files (x86)\Microsoft SDKs\Azure\PowerShell\ResourceManager\AzureResourceManager\AzureRM.Tags\AzureRM.Tags.psd1
AzureRM.TrafficManager          2.1.0   C:\Program Files (x86)\Microsoft SDKs\Azure\PowerShell\ResourceManager\AzureResourceManager\AzureRM.TrafficManager\AzureRM.TrafficManager....
AzureRM.UsageAggregates         2.1.0   C:\Program Files (x86)\Microsoft SDKs\Azure\PowerShell\ResourceManager\AzureResourceManager\AzureRM.UsageAggregates\AzureRM.UsageAggregate...
AzureRM.Websites                2.1.0   C:\Program Files (x86)\Microsoft SDKs\Azure\PowerShell\ResourceManager\AzureResourceManager\AzureRM.Websites\AzureRM.Websites.psd1
Azure                           2.1.0   C:\Program Files (x86)\Microsoft SDKs\Azure\PowerShell\ServiceManagement\Azure\Azure.psd1
Azure.Storage                   2.1.0   C:\Program Files (x86)\Microsoft SDKs\Azure\PowerShell\Storage\Azure.Storage\Azure.Storage.psd1
```

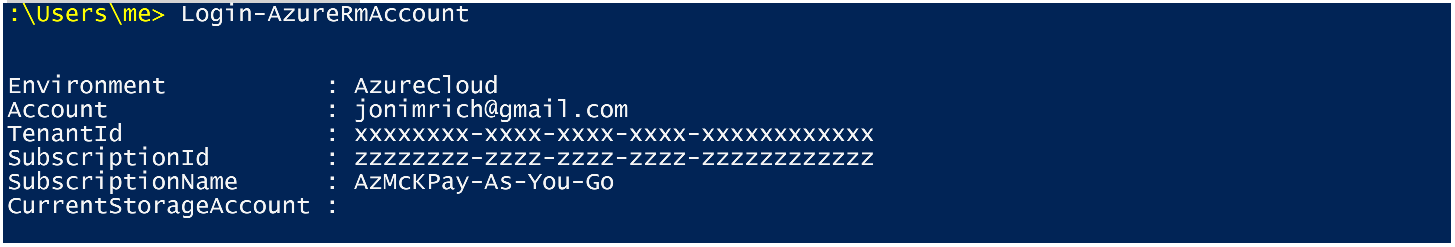
If you need to upgrade, see Install Azure PowerShell module.
To perform data operations such as add a message, read a message, and delete a message, you have to use the .NET storage client library as it is exposed in PowerShell.

First create a message object and then use commands such as **AddMessage** to perform operations on that message.

Sign in to Azure

Log in to your Azure subscription with the Login-AzureRmAccount

```
Login-AzureRmAccount
```

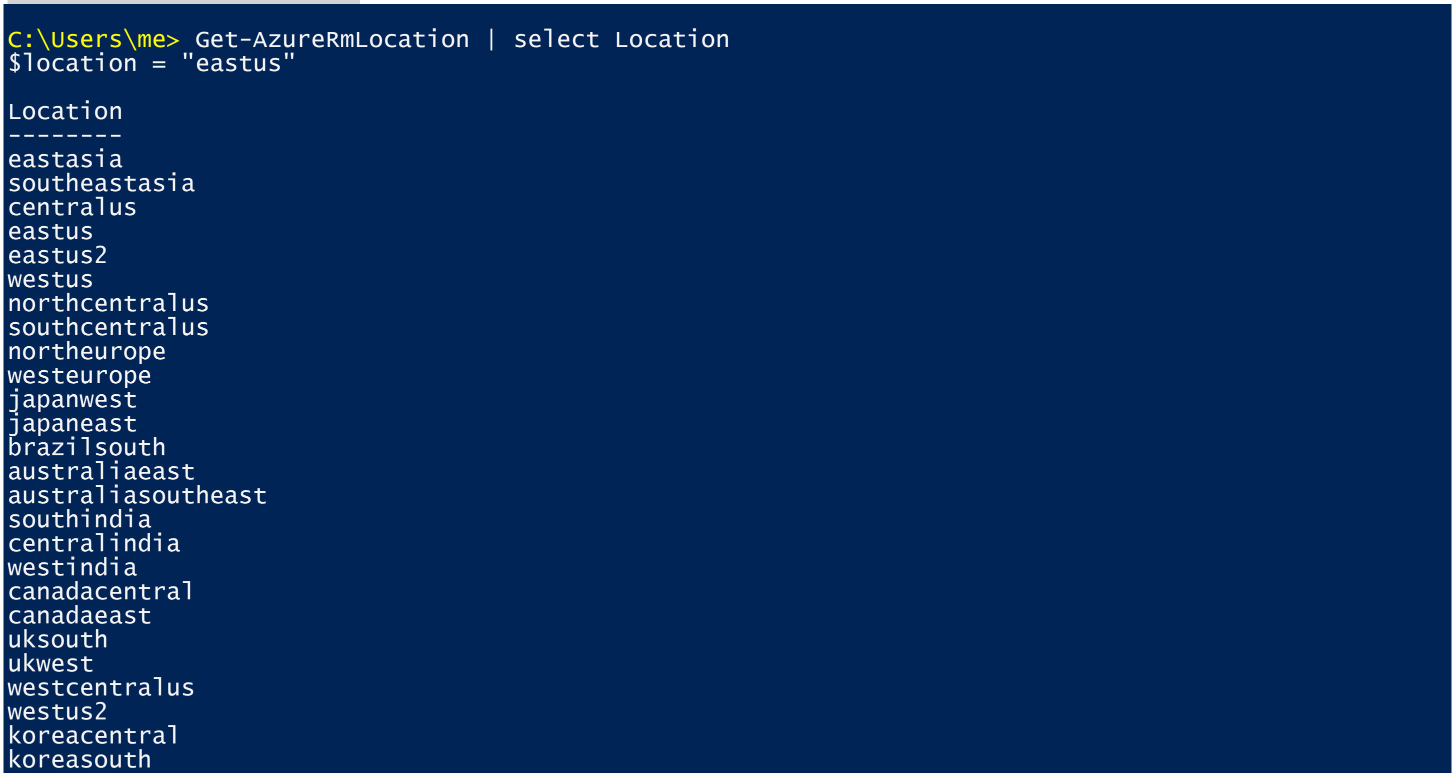


```
:\Users\me> Login-AzureRmAccount


Environment           : AzureCloud
Account               : jonimrich@gmail.com
TenantId              : xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx
SubscriptionId        : zzzzzzzz-zzzz-zzzz-zzzz-zzzzzzzzzzzz
SubscriptionName      : AzMcKPay-As-You-Go
CurrentStorageAccount :
```

Retrieve list of locations

If you don't know which location you want to use, you can list the available locations. After the list is displayed, find the one you want to use. This exercise will use **eastus**. Store this in the variable **location** for future use.

```
Get-AzureRmLocation | select Location
$location = "eastus"
```

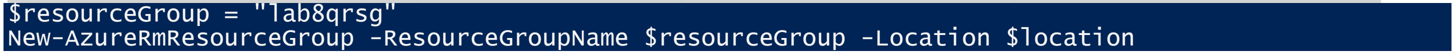


```
C:\Users\me> Get-AzureRmLocation | select Location
$location = "eastus"

Location
--------
eastasia
southeastasia
centralus
eastus
eastus2
westus
northcentralus
southcentralus
northeurope
westeurope
japanwest
japaneast
brazilsouth
australiaeast
australiasoutheast
southindia
centralindia
westindia
canadacentral
canadaeast
uksouth
ukwest
westcentralus
westus2
koreacentral
koreasouth
```

Create resource group

Create a resource group with the New-AzureRmResourceGroup command. An Azure resource group is a logical container into which Azure resources are deployed and managed. Store the resource group name in a variable for future use. In this example, a resource group named *howtoqueuesrg* is created in the *eastus* region.

```
$resourceGroup = "lab8qrsgdelete"
New-AzureRmResourceGroup -ResourceGroupName $resourceGroup -Location $location
```



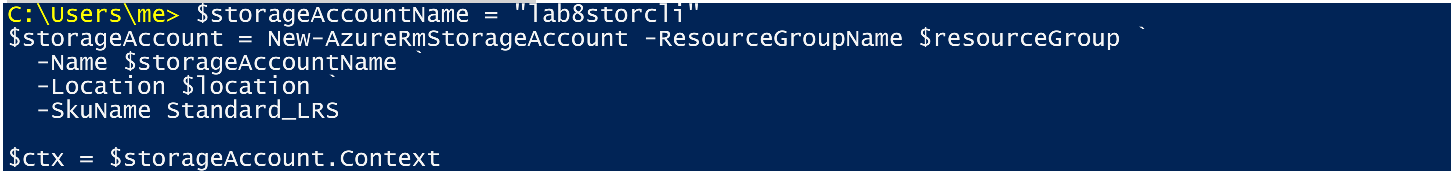
```
$resourceGroup = "lab8qrsg"
New-AzureRmResourceGroup -ResourceGroupName $resourceGroup -Location $location
```

Comfirm in https://portal.azure.com

Create storage account

Create a standard general-purpose storage account with locally-redundant storage (LRS) using New-AzureRmStorageAccount. Get the storage account context that defines the storage account to be used. When acting on a storage account, you reference the context instead of repeatedly providing the credentials.

```
$storageAccountName = "lab8storclidelete"
$storageAccount = New-AzureRmStorageAccount -ResourceGroupName $resourceGroup `
  -Name $storageAccountName `
  -Location $location `
  -SkuName Standard_LRS

$ctx = $storageAccount.Context
```



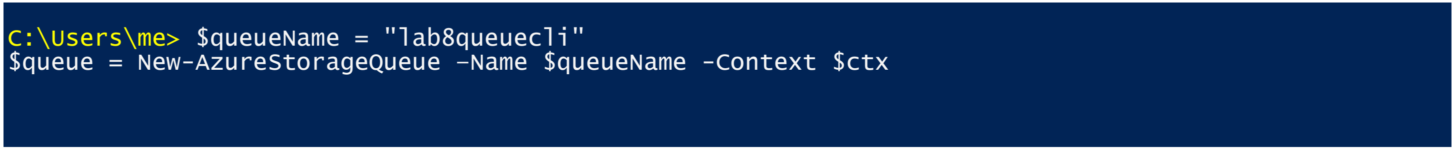
```
C:\Users\me> $storageAccountName = "lab8storcli"
$storageAccount = New-AzureRmStorageAccount -ResourceGroupName $resourceGroup `
  -Name $storageAccountName `
  -Location $location `
  -SkuName Standard_LRS

$ctx = $storageAccount.Context
```

Create a queue

The following example first establishes a connection to Azure Storage using the storage account context, which includes the storage account name and its access key. Next, it calls New-AzureStorageQueue cmdlet to create a queue named 'queuename'.

```
$queueName = "lab8queueclidelete"
$queue = New-AzureStorageQueue –Name $queueName -Context $ctx
```

For information on naming conventions for Azure Queue Service, see Naming Queues and Metadata.



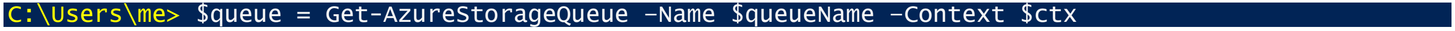
```
C:\Users\me> $queueName = "lab8queuecli"
$queue = New-AzureStorageQueue –Name $queueName -Context $ctx
```

Retrieve a queue

You can query and retrieve a specific queue or a list of all the queues in a Storage account. The following examples demonstrate how to retrieve all queues in the storage account, and a specific queue; both commands use the Get-AzureStorageQueue cmdlet.

# Retrieve a specific queue

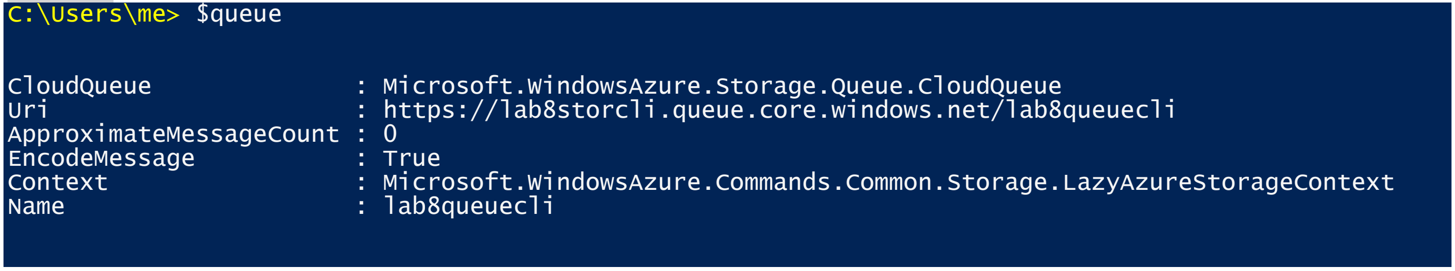
```
$queue = Get-AzureStorageQueue –Name $queueName –Context $ctx
```



```
C:\Users\me> $queue = Get-AzureStorageQueue –Name $queueName –Context $ctx
```

# Show the properties of the queue

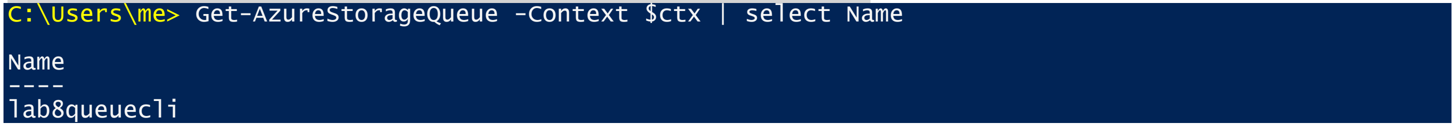
```
$queue
```



```
C:\Users\me> $queue


CloudQueue               : Microsoft.WindowsAzure.Storage.Queue.CloudQueue
Uri                      : https://lab8storcli.queue.core.windows.net/lab8queuecli
ApproximateMessageCount : 0
EncodeMessage            : True
Context                  : Microsoft.WindowsAzure.Commands.Common.Storage.LazyAzureStorageContext
Name                     : lab8queuecli
```

# Retrieve all queues and show their names

```
Get-AzureStorageQueue -Context $ctx | select Name
```



```
C:\Users\me> Get-AzureStorageQueue -Context $ctx | select Name

Name
----
lab8queuecli
```

Add a message to a queue

Operations that impact the actual messages in the queue use the .NET storage client library as exposed in PowerShell. To add a message to a queue, create a new instance of the message object, Microsoft.WindowsAzure.Storage.Queue.CloudQueueMessage class. Next, call the AddMessage method. A CloudQueueMessage can be created from either a string (in UTF-8 format) or a byte array.

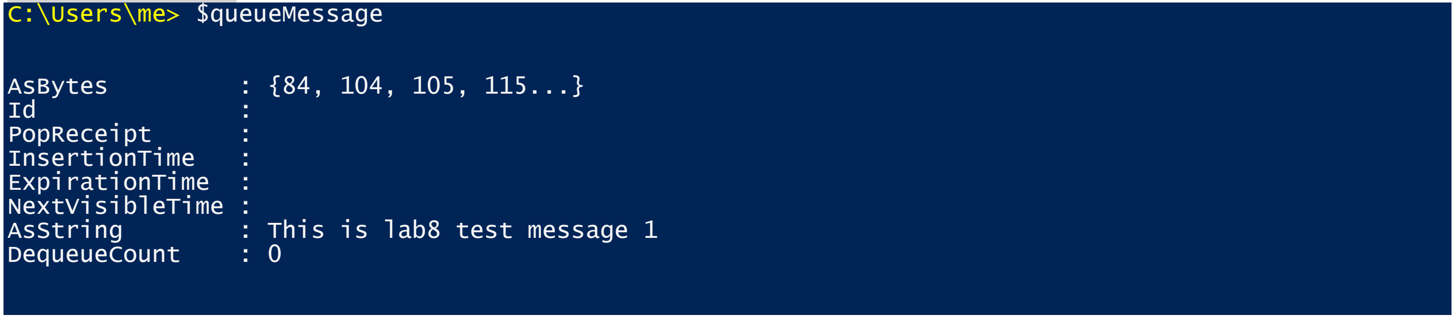
The following example demonstrates how to add message(s) to your queue.

# Create a new message using a constructor of the CloudQueueMessage class
# Add a new message to the queue

```
$queueMessage = New-Object -TypeName
Microsoft.WindowsAzure.Storage.Queue.CloudQueueMessage `
  -ArgumentList "This is lab8 test message 1"
$queue.CloudQueue.AddMessage($QueueMessage)
```

# View Message

```
$queueMessage
```

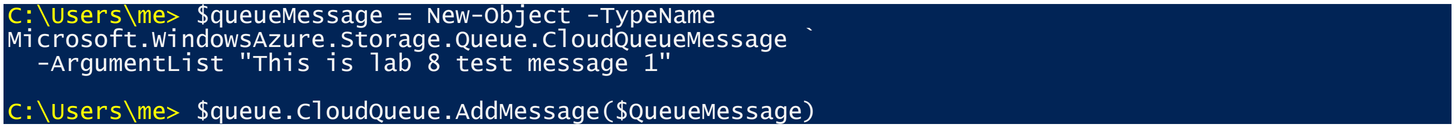


```
C:\Users\me> $queueMessage


AsBytes          : {84, 104, 105, 115...}
Id               :
PopReceipt       :
InsertionTime    :
ExpirationTime   :
NextVisibleTime  :
AsString         : This is lab8 test message 1
DequeueCount     : 0
```

# Add two more messages to the queue

```
$queueMessage = New-Object -TypeName
Microsoft.WindowsAzure.Storage.Queue.CloudQueueMessage `
  -ArgumentList "This is lab8 test message 2"
$queue.CloudQueue.AddMessage($QueueMessage)
```

```
$queueMessage = New-Object -TypeName
Microsoft.WindowsAzure.Storage.Queue.CloudQueueMessage `
  -ArgumentList "This is lab8 test message 3"
$queue.CloudQueue.AddMessage($QueueMessage)
```



```
C:\Users\me> $queueMessage = New-Object -TypeName
Microsoft.WindowsAzure.Storage.Queue.CloudQueueMessage `
  -ArgumentList "This is lab 8 test message 1"

C:\Users\me> $queue.CloudQueue.AddMessage($QueueMessage)
```

```
C:\Users\me> $queueMessage = New-Object -TypeName
Microsoft.WindowsAzure.Storage.Queue.CloudQueueMessage `
  -ArgumentList "This is lab8 test  message 2"
$queue.CloudQueue.AddMessage($QueueMessage)
$queueMessage = New-Object -TypeName Microsoft.WindowsAzure.Storage.Queue.CloudQueueMessage `
  -ArgumentList "This is lab8 test  message 3"
$queue.CloudQueue.AddMessage($QueueMessage)
```

If you use the Azure Storage Explorer, you can connect to your Azure account and view the queues in the storage account, and drill down into a queue to view the messages on the queue.

Read a message from the queue, then delete it

Messages are read in best-try first-in-first-out order. This is not guaranteed. When you read the message from the queue, it becomes invisible to all other processes looking at the queue. This ensures that if your code fails to process the message due to hardware or software failure, another instance of your code can get the same message and try again.

This **invisibility timeout** defines how long the message remains invisible before it is available again for processing. The default is 30 seconds.

Your code reads a message from the queue in two steps. When you call the Microsoft.WindowsAzure.Storage.Queue.CloudQueue.GetMessage method, you get the next message in the queue. A message returned from **GetMessage** becomes invisible to any other code reading messages from this queue.

To finish removing the message from the queue, you call the Microsoft.WindowsAzure.Storage.Queue.CloudQueue.DeleteMessage method.
In the following example, you read through the three queue messages, then wait 10 seconds (the invisibility timeout).

Then you read the three messages again, deleting the messages after reading them by calling **DeleteMessage**.
If you try to read the queue after the messages are deleted, $queueMessage will be returned as NULL.

# Set the amount of time you want to entry to be invisible after read from the queue
# If it is not deleted by the end of this time, it will show up in the queue again

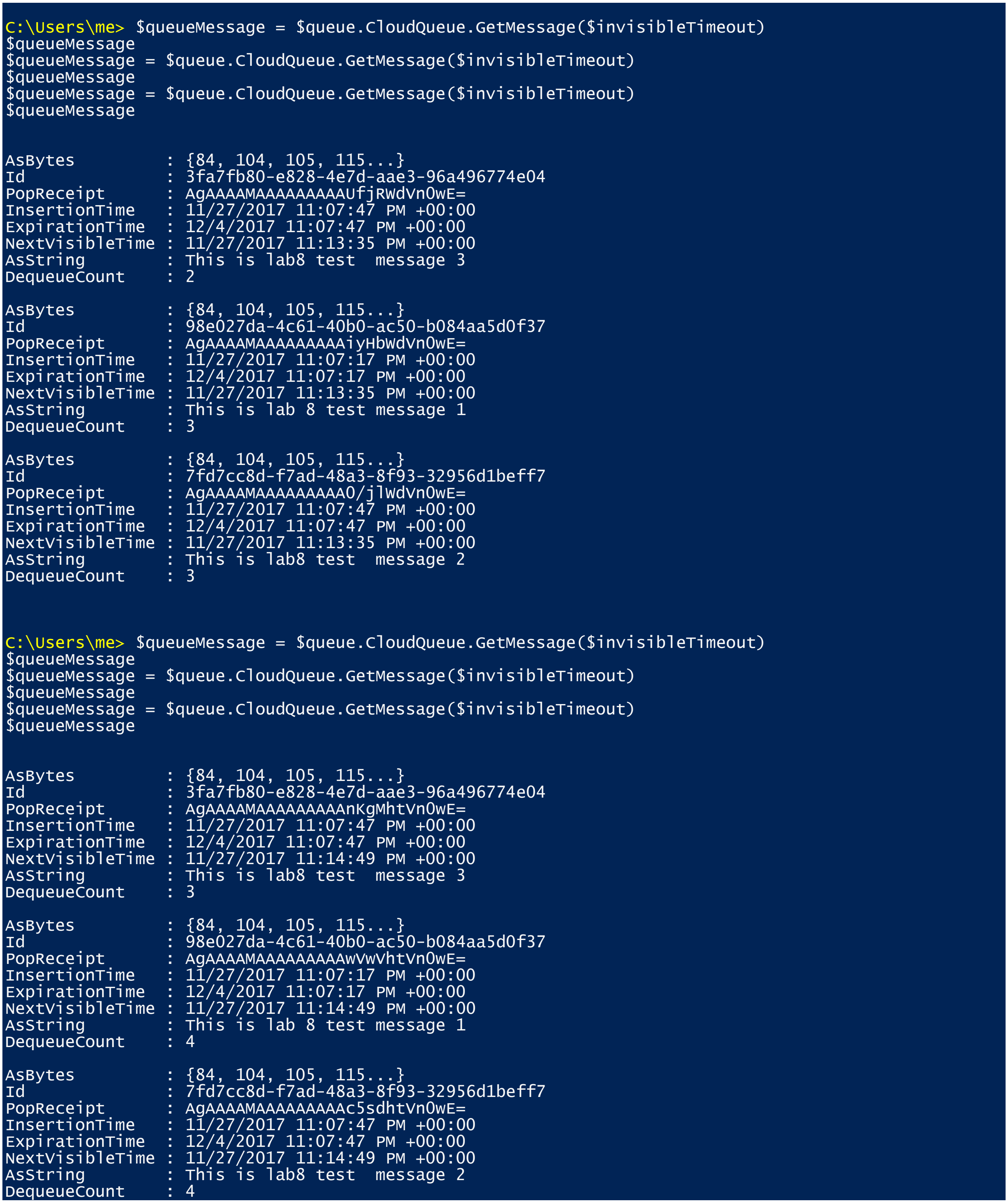
```
$invisibleTimeout = [System.TimeSpan]::FromSeconds(10)
```

```
C:\Users\me> $invisibleTimeout = [System.TimeSpan]::FromSeconds(10)
```

# Read the message from the queue, then show the contents of the message. Read the other two messages, too.

```
$queueMessage = $queue.CloudQueue.GetMessage($invisibleTimeout)
$queueMessage
$queueMessage = $queue.CloudQueue.GetMessage($invisibleTimeout)
$queueMessage
$queueMessage = $queue.CloudQueue.GetMessage($invisibleTimeout)
$queueMessage
```

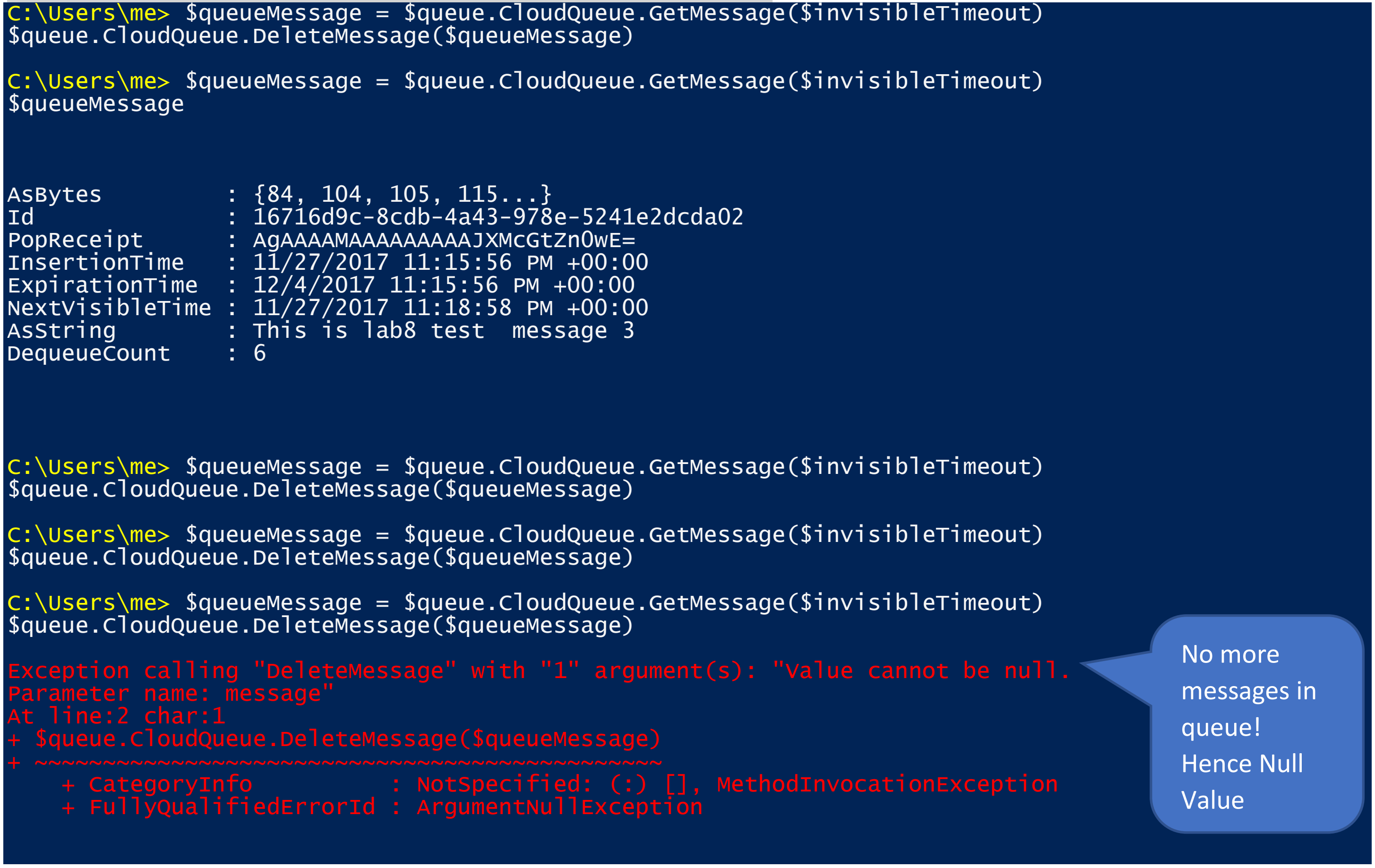
```
C:\Users\me> $queueMessage = $queue.CloudQueue.GetMessage($invisibleTimeout)
C:\Users\me> $queueMessage


AsBytes         : {84, 104, 105, 115...}
Id              : 7fd7cc8d-f7ad-48a3-8f93-32956d1beff7
PopReceipt      : AgAAAAMAAAAAAAAAP4JAPtVnOwE=
InsertionTime   : 11/27/2017 11:07:47 PM +00:00
ExpirationTime  : 12/4/2017 11:07:47 PM +00:00
NextVisibleTime : 11/27/2017 11:12:49 PM +00:00
AsString        : This is lab8 test  message 2
DequeueCount    : 2
```



```
C:\Users\me> $queueMessage = $queue.CloudQueue.GetMessage($invisibleTimeout)
$queueMessage
$queueMessage = $queue.CloudQueue.GetMessage($invisibleTimeout)
$queueMessage
$queueMessage = $queue.CloudQueue.GetMessage($invisibleTimeout)
$queueMessage


AsBytes          : {84, 104, 105, 115...}
Id               : 3fa7fb80-e828-4e7d-aae3-96a496774e04
PopReceipt       : AgAAAAMAAAAAAAAAUfjRWdVn0wE=
InsertionTime    : 11/27/2017 11:07:47 PM +00:00
ExpirationTime   : 12/4/2017 11:07:47 PM +00:00
NextVisibleTime : 11/27/2017 11:13:35 PM +00:00
AsString         : This is lab8 test  message 3
DequeueCount     : 2

AsBytes          : {84, 104, 105, 115...}
Id               : 98e027da-4c61-40b0-ac50-b084aa5d0f37
PopReceipt       : AgAAAAMAAAAAAAAAiyHbWdVn0wE=
InsertionTime    : 11/27/2017 11:07:17 PM +00:00
ExpirationTime   : 12/4/2017 11:07:17 PM +00:00
NextVisibleTime : 11/27/2017 11:13:35 PM +00:00
AsString         : This is lab 8 test message 1
DequeueCount     : 3

AsBytes          : {84, 104, 105, 115...}
Id               : 7fd7cc8d-f7ad-48a3-8f93-32956d1beff7
PopReceipt       : AgAAAAMAAAAAAAAA0/jlWdVn0wE=
InsertionTime    : 11/27/2017 11:07:47 PM +00:00
ExpirationTime   : 12/4/2017 11:07:47 PM +00:00
NextVisibleTime : 11/27/2017 11:13:35 PM +00:00
AsString         : This is lab8 test  message 2
DequeueCount     : 3



C:\Users\me> $queueMessage = $queue.CloudQueue.GetMessage($invisibleTimeout)
$queueMessage
$queueMessage = $queue.CloudQueue.GetMessage($invisibleTimeout)
$queueMessage
$queueMessage = $queue.CloudQueue.GetMessage($invisibleTimeout)
$queueMessage


AsBytes          : {84, 104, 105, 115...}
Id               : 3fa7fb80-e828-4e7d-aae3-96a496774e04
PopReceipt       : AgAAAAMAAAAAAAAAnKgMhtVn0wE=
InsertionTime    : 11/27/2017 11:07:47 PM +00:00
ExpirationTime   : 12/4/2017 11:07:47 PM +00:00
NextVisibleTime : 11/27/2017 11:14:49 PM +00:00
AsString         : This is lab8 test  message 3
DequeueCount     : 3

AsBytes          : {84, 104, 105, 115...}
Id               : 98e027da-4c61-40b0-ac50-b084aa5d0f37
PopReceipt       : AgAAAAMAAAAAAAAAwVwVhtVn0wE=
InsertionTime    : 11/27/2017 11:07:17 PM +00:00
ExpirationTime   : 12/4/2017 11:07:17 PM +00:00
NextVisibleTime : 11/27/2017 11:14:49 PM +00:00
AsString         : This is lab 8 test message 1
DequeueCount     : 4

AsBytes          : {84, 104, 105, 115...}
Id               : 7fd7cc8d-f7ad-48a3-8f93-32956d1beff7
PopReceipt       : AgAAAAMAAAAAAAAAc5sdhtVn0wE=
InsertionTime    : 11/27/2017 11:07:47 PM +00:00
ExpirationTime   : 12/4/2017 11:07:47 PM +00:00
NextVisibleTime : 11/27/2017 11:14:49 PM +00:00
AsString         : This is lab8 test  message 2
DequeueCount     : 4
```

# After 10 seconds, these messages reappear on the queue.
# Read them again, but delete each one after reading it.
# Delete the message.

```
$queueMessage = $queue.CloudQueue.GetMessage($invisibleTimeout)
$queue.CloudQueue.DeleteMessage($queueMessage)
$queueMessage = $queue.CloudQueue.GetMessage($invisibleTimeout)
$queue.CloudQueue.DeleteMessage($queueMessage)
$queueMessage = $queue.CloudQueue.GetMessage($invisibleTimeout)
$queue.CloudQueue.DeleteMessage($queueMessage)
```



```
C:\Users\me> $queueMessage = $queue.CloudQueue.GetMessage($invisibleTimeout)
$queue.CloudQueue.DeleteMessage($queueMessage)

C:\Users\me> $queueMessage = $queue.CloudQueue.GetMessage($invisibleTimeout)
$queueMessage



AsBytes         : {84, 104, 105, 115...}
Id              : 16716d9c-8cdb-4a43-978e-5241e2dcda02
PopReceipt      : AgAAAAMAAAAAAAAAJXMcGtZn0wE=
InsertionTime   : 11/27/2017 11:15:56 PM +00:00
ExpirationTime  : 12/4/2017 11:15:56 PM +00:00
NextVisibleTime : 11/27/2017 11:18:58 PM +00:00
AsString        : This is lab8 test  message 3
DequeueCount    : 6




C:\Users\me> $queueMessage = $queue.CloudQueue.GetMessage($invisibleTimeout)
$queue.CloudQueue.DeleteMessage($queueMessage)

C:\Users\me> $queueMessage = $queue.CloudQueue.GetMessage($invisibleTimeout)
$queue.CloudQueue.DeleteMessage($queueMessage)

C:\Users\me> $queueMessage = $queue.CloudQueue.GetMessage($invisibleTimeout)
$queue.CloudQueue.DeleteMessage($queueMessage)

Exception calling "DeleteMessage" with "1" argument(s): "Value cannot be null.
Parameter name: message"
At line:2 char:1
+ $queue.CloudQueue.DeleteMessage($queueMessage)
+ ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
    + CategoryInfo          : NotSpecified: (:) [], MethodInvocationException
    + FullyQualifiedErrorId : ArgumentNullException
```

No more messages in queue! Hence Null Value

Delete a queue

To delete a queue and all the messages contained in it, call the Remove-AzureStorageQueue cmdlet. The following example shows how to delete the specific queue used in this exercise using the Remove-AzureStorageQueue cmdlet.

# Delete the queue

```
Remove-AzureStorageQueue –Name $queueName –Context $ctx
```

Clean up resources

To remove all of the assets you have created in this exercise, remove the resource group. This also deletes all resources contained within the group. In this case, it removes the storage account created and the resource group itself.

```
Remove-AzureRmResourceGroup -Name $resourceGroup
```

References

For detailed information, see Introduction to Azure Queues.
https://docs.microsoft.com/en-us/azure/storage/queues/storage-powershell-how-to-use-queues