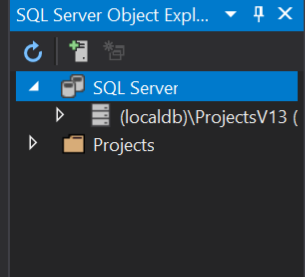
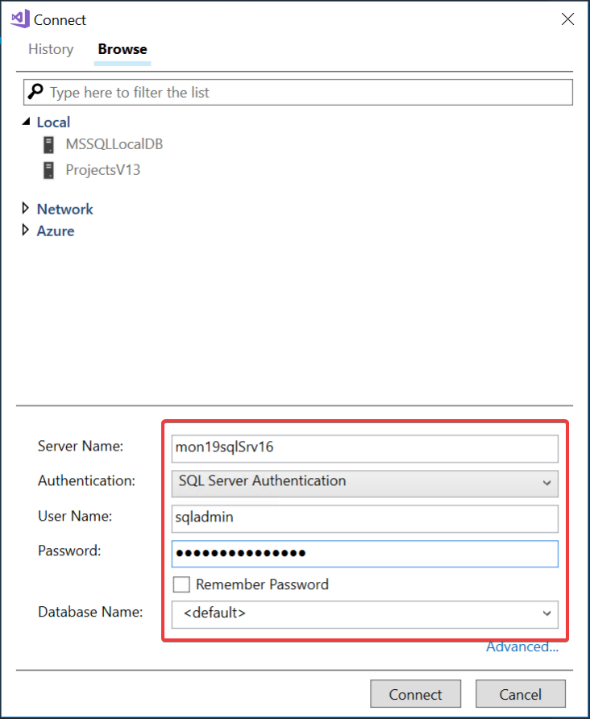
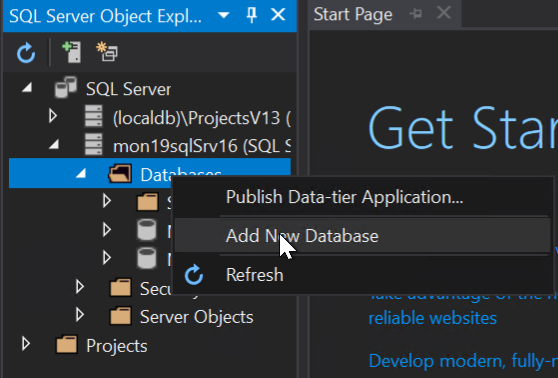
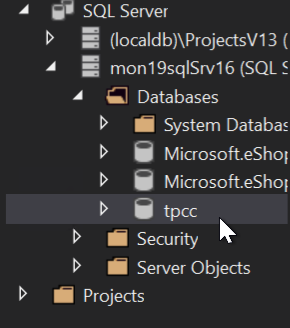
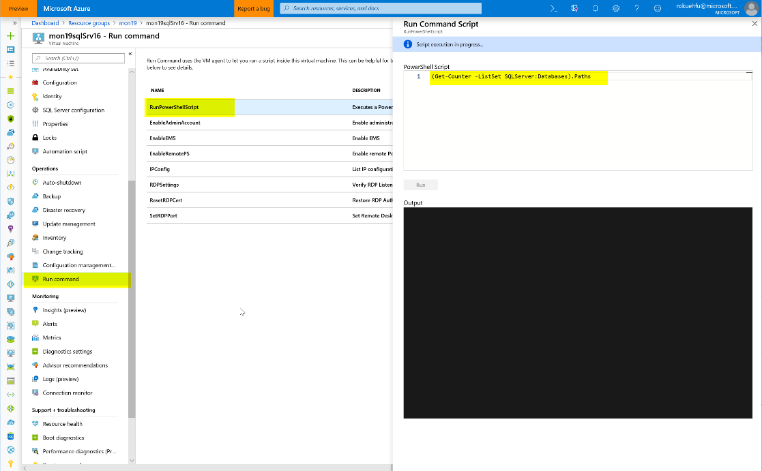
# Day 2: Monitoring and Alert Rule Challenge

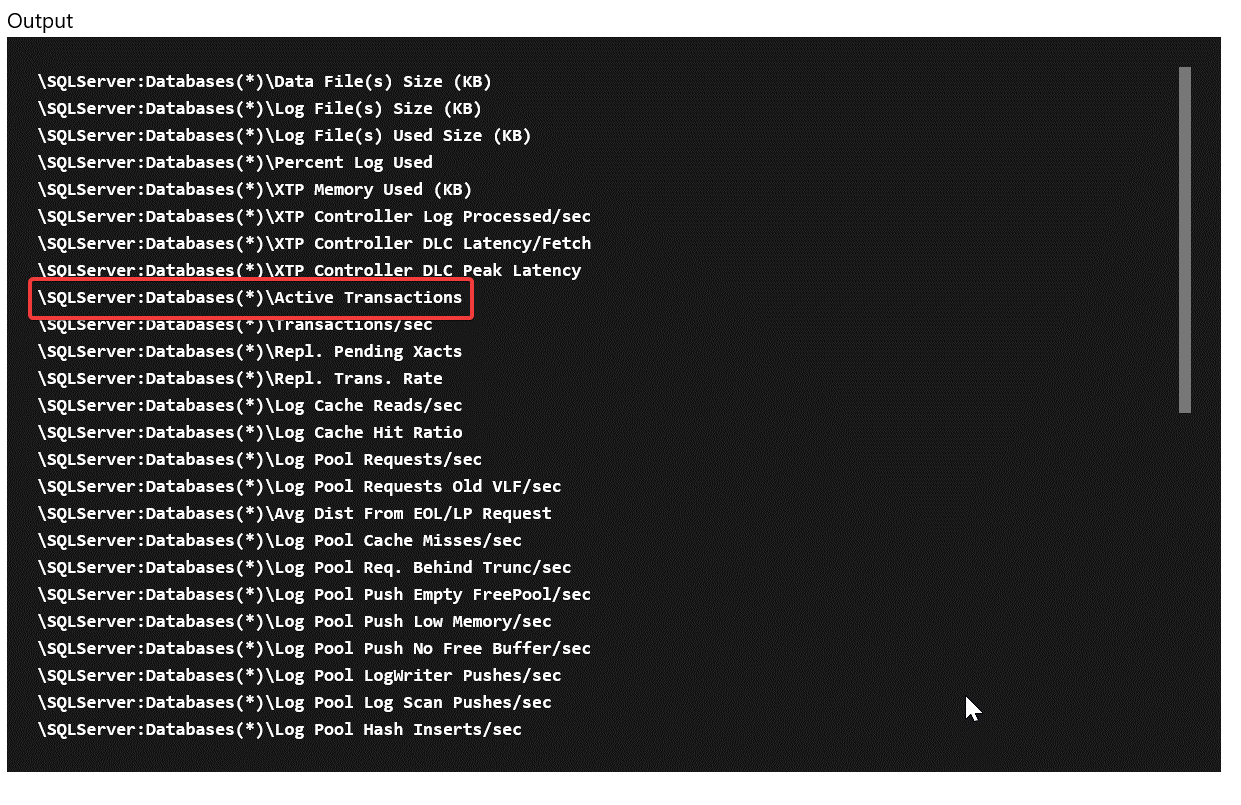
* Create an empty database called “tpcc” on the SQL Server  
  Note: Use SQL Auth with the username being sqladmin and password being whatever you used during deployment
  + Connect (RDP) to the Visual Studio Server (xxxxxVSSrv17) using its public IP address and open Visual Studio. Create an account if you don’t have one.
  + VS has view called SQL Server Object Explore that can be used to create and delete SQL databases on the SQL server  
    
  + Connect to the database server, make sure to use sqladmin and the password you stored in the key vault during deployment  
      
      
    Once connected create a new database called “tpcc”



* From the ARM template, send the below guest OS metric to Azure Monitor for the SQL Server
  + Add a Performance Counter Metric for
    - Object: SQLServer:Databases
    - Counter: Active Transactions
    - Instance:tpcc
  + Hint: <https://docs.microsoft.com/en-us/azure/monitoring-and-diagnostics/metrics-store-custom-guestos-resource-manager-vm>
  + First, figure out the correct format for the counter use the run command on the SQL Server in the Azure portal and run –



Run the command - (Get-Counter -ListSet SQLServer:Databases).Paths

Once its finished, review the results (scroll up) and copy the output for the SQLServer:Databases counter.  


\SQLServer:Databases(\*)\Active Transactions

Then change it to target just your specific database

\SQLServer:Databases(tpcc)\Active Transactions

**Tip:** Share the following link to help lead them to how to find the counter

<https://docs.microsoft.com/en-us/powershell/module/microsoft.powershell.diagnostics/get-counter?view=powershell-5.1>

Next, once you have the counter you need to modify the ARM template for the SQL Server to add the collection of this counter that sends it to Azure Monitor using the Azure monitor data sink

Add this JSON to the SQL Server code

Verify the identity is present in the template (add it if its missing)

"identity": {

"type": "SystemAssigned"

},

And the missing counter below

"resources":[

{

"type": "extensions",

"name": "Microsoft.Insights.VMDiagnosticsSettings",

"apiVersion": "2015-05-01-preview",

"location": "[resourceGroup().location]",

"dependsOn": [

"[concat('Microsoft.Compute/virtualMachines/', concat(parameters('envPrefixName'), 'sqlSrv16'))]"

],

"properties": {

"publisher": "Microsoft.Azure.Diagnostics",

"type": "IaaSDiagnostics",

"typeHandlerVersion": "1.5",

"autoUpgradeMinorVersion": true,

"settings": {

"WadCfg": {

"DiagnosticMonitorConfiguration": {

"overallQuotaInMB": 4096,

"DiagnosticInfrastructureLogs": {

"scheduledTransferLogLevelFilter": "Error"

},

"Directories": {

"scheduledTransferPeriod": "PT1M",

"IISLogs": {

"containerName": "wad-iis-logfiles"

},

"FailedRequestLogs": {

"containerName": "wad-failedrequestlogs"

}

},

"PerformanceCounters": {

"scheduledTransferPeriod": "PT1M",

"sinks": "AzMonSink",

"PerformanceCounterConfiguration": [

{

"counterSpecifier": "\\Memory\\Available Bytes",

"sampleRate": "PT15S"

},

{

"counterSpecifier": "\\Memory\\% Committed Bytes In Use",

"sampleRate": "PT15S"

},

{

"counterSpecifier": "\\Memory\\Committed Bytes",

"sampleRate": "PT15S"

},

{

"counterSpecifier": "\\SQLServer:Databases(tpcc)\\Active Transactions",

"sampleRate": "PT15S"

}

]

},

"WindowsEventLog": {

"scheduledTransferPeriod": "PT1M",

"DataSource": [

{

"name": "Application!\*"

}

]

},

"Logs": {

"scheduledTransferPeriod": "PT1M",

"scheduledTransferLogLevelFilter": "Error"

}

},

"SinksConfig": {

"Sink": [

{

"name": "AzMonSink",

"AzureMonitor": {}

}

]

}

},

"StorageAccount": "[variables('storageAccountName')]"

},

"protectedSettings": {

"storageAccountName": "[variables('storageAccountName')]",

"storageAccountKey": "[listKeys(variables('accountid'),'2015-06-15').key1]",

"storageAccountEndPoint": "https://core.windows.net/"

}

}

},

{

"type": "extensions",

"name": "WADExtensionSetup",

"apiVersion": "2015-05-01-preview",

"location": "[resourceGroup().location]",

"dependsOn": [

"[concat('Microsoft.Compute/virtualMachines/', concat(parameters('envPrefixName'), 'sqlSrv16'))]"

],

"properties": {

"publisher": "Microsoft.ManagedIdentity",

"type": "ManagedIdentityExtensionForWindows",

"typeHandlerVersion": "1.0",

"autoUpgradeMinorVersion": true,

"settings": {

"port": 50342

}

}

}

]

Save and redeploy.

Once redeployed, go to metrics and check to make sure you are seeing the new metrics.   
