Azure Linux Diagnostic (下面简称LAD) 扩展现在已经发布了3.0版本，但在Azure 中国区，目前可用的最新版本还是2.3。

虽然Azure门户提供了简单的操作版本为Linux虚拟机启用诊断扩展，但是也有用户咨询如何用PowerShell等工具进行设置。

LAD 2.3不支持使用使用Set-​Azure​Rm​VM​Diagnostics​Extension命令，传递xml格式的参数进行设置。需要通过Set-AzureRmVMExtension命令，传递JSON格式的参数文件进行设置。但虚拟机内部定义性能指标时，使用的又是经过base64格式编码的xml字符串，因此，JSON文件中对性能指标的定义由需要进行特殊处理。

假如我们已经有一台运行的Linux虚拟机，信息如下：

$RGName='lqi2ndiagtest'

$VMName='lqi2n-linuxdiag'

$Location='china north'

要安装的LAD的信息如下：

$LAD='LinuxDiagnostic'

$Publisher='Microsoft.OSTCExtensions'

$Ver=2.3

# 现在创建Set-AzureRmVMExtension需要的SettingString和ProtectedSettingString。

打开文本文件编辑器，创建两个json文件分别保存私有设置和公共设置。示例中分别命名为ProtectSetting\_Linux\_Mooncake.json 和PublicConfig\_Linux\_Mooncake\_base64code.json。

## Private 设置内容：

ProtectSetting\_Linux\_Mooncake.json内容如下。将黄色高亮部分替换成自己的存储账号和SAS密钥：

{

"storageAccountName": "<storageaccountname>",

"storageAccountKey": "<storageaccountkey>",

"storageAccountEndPoint": "https://core.chinacloudapi.cn"

}

这里storageAccountKey也可以替换为共享签名秘钥（SAS）。有关SAS的创建，请参见<https://docs.microsoft.com/en-us/rest/api/storageservices/Constructing-an-Account-SAS?redirectedfrom=MSDN>

## Public设置：

首先需要获取虚拟机的资源ID：

Get-AzureRmVM -ResourceGroupName $RGName -Name $VMName

将下面字符串中的高亮部分替换成上述命令获取是resource ID：

<WadCfg><DiagnosticMonitorConfiguration overallQuotaInMB="4096"><DiagnosticInfrastructureLogs scheduledTransferPeriod="PT1M" scheduledTransferLogLevelFilter="Warning"/><PerformanceCounters scheduledTransferPeriod="PT1M"><PerformanceCounterConfiguration counterSpecifier="\Memory\AvailableMemory" sampleRate="PT15S" unit="Bytes"><annotation displayName="Memory available" locale="en-us"/></PerformanceCounterConfiguration><PerformanceCounterConfiguration counterSpecifier="\Memory\PercentAvailableMemory" sampleRate="PT15S" unit="Percent"><annotation displayName="Mem. percent available" locale="en-us"/></PerformanceCounterConfiguration><PerformanceCounterConfiguration counterSpecifier="\Memory\UsedMemory" sampleRate="PT15S" unit="Bytes"><annotation displayName="Memory used" locale="en-us"/></PerformanceCounterConfiguration><PerformanceCounterConfiguration counterSpecifier="\Memory\PercentUsedMemory" sampleRate="PT15S" unit="Percent"><annotation displayName="Memory percentage" locale="en-us"/></PerformanceCounterConfiguration><PerformanceCounterConfiguration counterSpecifier="\Memory\PercentUsedByCache" sampleRate="PT15S" unit="Percent"><annotation displayName="Mem. used by cache" locale="en-us"/></PerformanceCounterConfiguration><PerformanceCounterConfiguration counterSpecifier="\Memory\PagesPerSec" sampleRate="PT15S" unit="CountPerSecond"><annotation displayName="Pages" locale="en-us"/></PerformanceCounterConfiguration><PerformanceCounterConfiguration counterSpecifier="\Memory\PagesReadPerSec" sampleRate="PT15S" unit="CountPerSecond"><annotation displayName="Page reads" locale="en-us"/></PerformanceCounterConfiguration><PerformanceCounterConfiguration counterSpecifier="\Memory\PagesWrittenPerSec" sampleRate="PT15S" unit="CountPerSecond"><annotation displayName="Page writes" locale="en-us"/></PerformanceCounterConfiguration><PerformanceCounterConfiguration counterSpecifier="\Memory\AvailableSwap" sampleRate="PT15S" unit="Bytes"><annotation displayName="Swap available" locale="en-us"/></PerformanceCounterConfiguration><PerformanceCounterConfiguration counterSpecifier="\Memory\PercentAvailableSwap" sampleRate="PT15S" unit="Percent"><annotation displayName="Swap percent available" locale="en-us"/></PerformanceCounterConfiguration><PerformanceCounterConfiguration counterSpecifier="\Memory\UsedSwap" sampleRate="PT15S" unit="Bytes"><annotation displayName="Swap used" locale="en-us"/></PerformanceCounterConfiguration><PerformanceCounterConfiguration counterSpecifier="\Memory\PercentUsedSwap" sampleRate="PT15S" unit="Percent"><annotation displayName="Swap percent used" locale="en-us"/></PerformanceCounterConfiguration><PerformanceCounterConfiguration counterSpecifier="\Processor\PercentIdleTime" sampleRate="PT15S" unit="Percent"><annotation displayName="CPU idle time" locale="en-us"/></PerformanceCounterConfiguration><PerformanceCounterConfiguration counterSpecifier="\Processor\PercentUserTime" sampleRate="PT15S" unit="Percent"><annotation displayName="CPU user time" locale="en-us"/></PerformanceCounterConfiguration><PerformanceCounterConfiguration counterSpecifier="\Processor\PercentNiceTime" sampleRate="PT15S" unit="Percent"><annotation displayName="CPU nice time" locale="en-us"/></PerformanceCounterConfiguration><PerformanceCounterConfiguration counterSpecifier="\Processor\PercentPrivilegedTime" sampleRate="PT15S" unit="Percent"><annotation displayName="CPU privileged time" locale="en-us"/></PerformanceCounterConfiguration><PerformanceCounterConfiguration counterSpecifier="\Processor\PercentInterruptTime" sampleRate="PT15S" unit="Percent"><annotation displayName="CPU interrupt time" locale="en-us"/></PerformanceCounterConfiguration><PerformanceCounterConfiguration counterSpecifier="\Processor\PercentDPCTime" sampleRate="PT15S" unit="Percent"><annotation displayName="CPU DPC time" locale="en-us"/></PerformanceCounterConfiguration><PerformanceCounterConfiguration counterSpecifier="\Processor\PercentProcessorTime" sampleRate="PT15S" unit="Percent"><annotation displayName="CPU percentage guest OS" locale="en-us"/></PerformanceCounterConfiguration><PerformanceCounterConfiguration counterSpecifier="\Processor\PercentIOWaitTime" sampleRate="PT15S" unit="Percent"><annotation displayName="CPU IO wait time" locale="en-us"/></PerformanceCounterConfiguration><PerformanceCounterConfiguration counterSpecifier="\PhysicalDisk\BytesPerSecond" sampleRate="PT15S" unit="BytesPerSecond"><annotation displayName="Disk total bytes" locale="en-us"/></PerformanceCounterConfiguration><PerformanceCounterConfiguration counterSpecifier="\PhysicalDisk\ReadBytesPerSecond" sampleRate="PT15S" unit="BytesPerSecond"><annotation displayName="Disk read guest OS" locale="en-us"/></PerformanceCounterConfiguration><PerformanceCounterConfiguration counterSpecifier="\PhysicalDisk\WriteBytesPerSecond" sampleRate="PT15S" unit="BytesPerSecond"><annotation displayName="Disk write guest OS" locale="en-us"/></PerformanceCounterConfiguration><PerformanceCounterConfiguration counterSpecifier="\PhysicalDisk\TransfersPerSecond" sampleRate="PT15S" unit="CountPerSecond"><annotation displayName="Disk transfers" locale="en-us"/></PerformanceCounterConfiguration><PerformanceCounterConfiguration counterSpecifier="\PhysicalDisk\ReadsPerSecond" sampleRate="PT15S" unit="CountPerSecond"><annotation displayName="Disk reads" locale="en-us"/></PerformanceCounterConfiguration><PerformanceCounterConfiguration counterSpecifier="\PhysicalDisk\WritesPerSecond" sampleRate="PT15S" unit="CountPerSecond"><annotation displayName="Disk writes" locale="en-us"/></PerformanceCounterConfiguration><PerformanceCounterConfiguration counterSpecifier="\PhysicalDisk\AverageReadTime" sampleRate="PT15S" unit="Seconds"><annotation displayName="Disk read time" locale="en-us"/></PerformanceCounterConfiguration><PerformanceCounterConfiguration counterSpecifier="\PhysicalDisk\AverageWriteTime" sampleRate="PT15S" unit="Seconds"><annotation displayName="Disk write time" locale="en-us"/></PerformanceCounterConfiguration><PerformanceCounterConfiguration counterSpecifier="\PhysicalDisk\AverageTransferTime" sampleRate="PT15S" unit="Seconds"><annotation displayName="Disk transfer time" locale="en-us"/></PerformanceCounterConfiguration><PerformanceCounterConfiguration counterSpecifier="\PhysicalDisk\AverageDiskQueueLength" sampleRate="PT15S" unit="Count"><annotation displayName="Disk queue length" locale="en-us"/></PerformanceCounterConfiguration><PerformanceCounterConfiguration counterSpecifier="\NetworkInterface\BytesTransmitted" sampleRate="PT15S" unit="Bytes"><annotation displayName="Network out guest OS" locale="en-us"/></PerformanceCounterConfiguration><PerformanceCounterConfiguration counterSpecifier="\NetworkInterface\BytesReceived" sampleRate="PT15S" unit="Bytes"><annotation displayName="Network in guest OS" locale="en-us"/></PerformanceCounterConfiguration><PerformanceCounterConfiguration counterSpecifier="\NetworkInterface\PacketsTransmitted" sampleRate="PT15S" unit="Count"><annotation displayName="Packets sent" locale="en-us"/></PerformanceCounterConfiguration><PerformanceCounterConfiguration counterSpecifier="\NetworkInterface\PacketsReceived" sampleRate="PT15S" unit="Count"><annotation displayName="Packets received" locale="en-us"/></PerformanceCounterConfiguration><PerformanceCounterConfiguration counterSpecifier="\NetworkInterface\BytesTotal" sampleRate="PT15S" unit="Bytes"><annotation displayName="Network total bytes" locale="en-us"/></PerformanceCounterConfiguration><PerformanceCounterConfiguration counterSpecifier="\NetworkInterface\TotalRxErrors" sampleRate="PT15S" unit="Count"><annotation displayName="Packets received errors" locale="en-us"/></PerformanceCounterConfiguration><PerformanceCounterConfiguration counterSpecifier="\NetworkInterface\TotalTxErrors" sampleRate="PT15S" unit="Count"><annotation displayName="Packets sent errors" locale="en-us"/></PerformanceCounterConfiguration><PerformanceCounterConfiguration counterSpecifier="\NetworkInterface\TotalCollisions" sampleRate="PT15S" unit="Count"><annotation displayName="Network collisions" locale="en-us"/></PerformanceCounterConfiguration></PerformanceCounters><Metrics resourceId="/subscriptions/9ef8a15c-15a2-4ef1-a19b-e31876xxx77c/resourceGroups/lqi2ndiagtest/providers/Microsoft.Compute/virtualMachines/lqi2n-linuxdiag"><MetricAggregation scheduledTransferPeriod="PT1H"/><MetricAggregation scheduledTransferPeriod="PT1M"/></Metrics></DiagnosticMonitorConfiguration></WadCfg>

将上述编辑后的字符串进行base64转码。您可以使用任意网上的转码工具。这里使用了<https://www.base64encode.org/> 。

并加入到public config文件PublicConfig\_Linux\_Mooncake\_base64code.json中。替换base64码为您自己得到的编码；替换存储账号为您自己的存储账号。

文件最终看起来像：

{

"xmlCfg": "",

"StorageAccount": "lqi2ndiagsa"

}

将上述的两个文件转换为字符串传递给变量$PrivateSettings和$Settings。替换黄色高亮部分路径为您自己的文件路径。

$PrivateSettings = -join @(Get-Content 'C:\Users\lqi.FAREAST\Desktop\VM diagnostic\Linux\_VM\_Diagnostic\ProtectSetting\_Linux\_Mooncake.json')

$Settings = -join @(Get-Content 'C:\Users\lqi.FAREAST\Desktop\VM diagnostic\Linux\_VM\_Diagnostic\PublicConfig\_Linux\_Mooncake\_base64code.json')

# 为Linux启用诊断：

PowerShell中执行下面命令。

Set-AzureRmVMExtension -ResourceGroupName $RGName -VMName $VMName -Location $Location -Name $LAD -Publisher $Publisher -ExtensionType $LAD -TypeHandlerVersion $Ver -SettingString $Settings -ProtectedSettingString $PrivateSettings