Customize your Monitored SQL Server properties within PowerShell

SQL Diagnostic Manager allows you to customize your monitored SQL Server properties within PowerShell.

With PowerShell you can:

- Edit general settings
- Edit query monitor settings
- Edit query waits settings
- Edit activity monitor settings
- Add alternate Windows users
- Exclude applications, databases, and SQL statements within PowerShell
- Disable replication collection settings
- Customize table statistics collection
- Customize maintenance mode settings

To use SQL Diagnostic Manager snap-in, you have to enable the provider and register the SQLDM drive.

Edit general settings

Edit the general settings of your monitored SQL Server with the following PowerShell commands:

Cmdlet Name	Description	Examples
`-FriendlyServerName`	Sets friendly name to an instance.	`Set-SQLdmMonitoredInstance-Path (Escape-SQLdmName -Name ServeA\Instance1) -FriendlyServerName stringName`
`-FriendlyServerNameBlank`	Clears the friendly name previously assigned to an instance.	`Set-SQLdmMonitoredInstance-Path (Escape-SQLdmName -Name ServeA\Instance1) -FriendlyServerNameBlank`
`-InputBufferLimiter`	Defines an Input Buffer Limiter value.	`Set-SQLdmMonitoredInstance-Path (Escape-SQLdmName -Name ServeA\Instance1) -InputBufferLimiter 100`
`-InputBufferLimiterEnable`	Enables the Input Buffer Limiter.	`Set-SQLdmMonitoredInstancePath (Escape-SQLdmName -Name ServeA\Instance1) -InputBufferLimiterEnable`
`-InputBufferLimiterDisable`	Disables the Input Buffer Limiter.	`Set-SQLdmMonitoredInstance-Path (Escape-SQLdmName -Name ServeA\Instance1) -InputBufferLimiterDisable`
`-addtag`	Associates tags to a server. Note that any tags that are specified have to already exist.	`Set-SQLdmMonitoredInstance -Path (Escape-SQLdmName -Name ServeA\Instance1) -addtag NewTag,Tag2`
`-removetag`	Disassociates tags from a server. Note that any tags that are specified have to already exist.	`Set-SQLdmMonitoredInstance -Path (Escape-SQLdmName -Name ServeA\Instance1) -removetag NewTag,Tag2`
`-ScheduledCollectionIntervalMinutes`	Specifies how often (in minutes) scheduled data collection takes place.	`Set-SQLdmMonitoredInstance -Path (Escape-SQLdmName -Name ServeA\Instance1) -ScheduledCollectionIntervalMinutes 10`
`-DatabaseStatisticsIntervalMinutes`	Specifies how often (in minutes) database statistics collection takes place.	`Set-SQLdmMonitoredInstance -Path (Escape-SQLdmName -Name ServeA\Instance1)-DatabaseStatisticsIntervalMinutes 120`

`-ExtendedSessionDataCollection`	Enables or disables extended data collection.	`Set-SQLdmMonitoredInstance -Path (Escape-SQLdmName -Name ServeA\Instance1) -ExtendedSessionDataCollection 1`
		○ Enables extended data collection.
		`Set-SQLdmMonitoredInstance -Path (Escape-SQLdmName -Name ServeA\Instance1) -ExtendedSessionDataCollection 0`
		○ Disables extended data collection.

`-Credential`	Sets SQL Authentication credentials.	`Set-SQLdmMonitoredInstance -Path (Escape-SQLdmName -Name ServeA\Instance1) -Credential sa`
		○ Uses SQL authentication. Note that PowerShell will prompt for the password.
		`Set-SQLdmMonitoredInstance -Path (Escape-SQLdmName -Name ServeA\Instance1) –WindowsAuthentication`
		○ Uses the credentials of the SQLDM Collection Service to connect to the monitored instance when collecting statistics.

`-EncryptConnection`	Enables or disables encrypt connection.	`Set-SQLdmMonitoredInstance -Path (Escape-SQLdmName -Name ServeA\Instance1) -EncryptConnection 1`
		○ Enables encrypt connection.
		`Set-SQLdmMonitoredInstance -Path (Escape-SQLdmName -Name ServeA\Instance1) -EncryptConnection 0`
		○ Disables encrypt connection.

`-TrustServerCertificates`	Enables or disables trust server certificates.	`Set-SQLdmMonitoredInstance -Path (Escape-SQLdmName -Name ServeA\Instance1) -TrustServerCertificates 1`
		○ Enables trust server certificates.Note that when specified with the EncryptConnection parameter, SQL Server will not validate the certificates sent from the client but the data will still be encrypted.
		`Set-SQLdmMonitoredInstance -Path (Escape-SQLdmName -Name ServeA\Instance1) -TrustServerCertificates 0`
		○ Disables trust server certificates.

Edit query monitor settings

Customize the query monitor settings of your monitor SQL Server with the following PowerShell commands:

Cmdlet Name	Description	Examples
`-QMEnableTraceMonitoring`	Enables "Collect Query Data using SQL Trace".	`Set-SQLdmMonitoredInstance-Path (Escape-SQLdmName -Name ServeA\Instance1) -QMEnableTraceMonitoring`
`-QMEnableExtendedEvents`	Enables "Collect Query Data using Extended Events".	`Set-SQLdmMonitoredInstance-Path (Escape-SQLdmName -Name ServeA\Instance1) -QMEnableExtendedEvents`
`-QMEnableCollectQueryPlan`	Enables "Collect actual Query Plans".	`Set-SQLdmMonitoredInstance-Path (Escape-SQLdmName -Name ServeA\Instance1) -QMEnableCollectQueryPlan`
`-QMDisableCollectQueryPlan`	Disables "Collect actual Query Plans".	`Set-SQLdmMonitoredInstance-Path (Escape-SQLdmName -Name ServeA\Instance1) -QMDisableCollectQueryPlan`

-QMEnableCollectEstimatedQueryPlan	Enables “Collect Estimated Query Plans”.	Set-SQLdmMonitoredInstance-Path (Escape-SQLdmName -Name ServeA\Instance1) -QMEnableCollectEstimatedQueryPlan
-QMDisableCollectEstimatedQueryPlan	Disables “Collect Estimated Query Plans”.	Set-SQLdmMonitoredInstance-Path (Escape-SQLdmName -Name ServeA\Instance1) -QMDisableCollectEstimatedQueryPlan
-QMEnabled	Enables query monitoring.	Set-SQLdmMonitoredInstance -Path (Escape-SQLdmName -Name ServeA\Instance1) -QMEnabled
-QMDisabled	Disables query monitoring.	Set-SQLdmMonitoredInstance -Path (Escape-SQLdmName -Name ServeA\Instance1) -QMDisabled
-QMCaptureBatches	Captures SQL batches.	Set-SQLdmMonitoredInstance -Path (Escape-SQLdmName -Name ServeA\Instance1) -QMEnabled -QMCaptureBatches 1
-QMCaptureStatements	Captures SQL statements.	Set-SQLdmMonitoredInstance -Path (Escape-SQLdmName -Name ServeA\Instance1) -QMEnabled -QMCaptureStatements 1
-QMCaptureProcs	Captures stored procedure and triggers.	Set-SQLdmMonitoredInstance -Path (Escape-SQLdmName -Name ServeA\Instance1) -QMEnabled -QMCaptureProcs 1
-QMQueryDuration	Sets up threshold Duration (in milliseconds).	Set-SQLdmMonitoredInstance -Path (Escape-SQLdmName -Name ServeA\Instance1) -QMQueryDuration 20000
-QMLogicalDiskReads	Sets up threshold Logical disk reads.	Set-SQLdmMonitoredInstance -Path (Escape-SQLdmName -Name ServeA\Instance1) -QMLogicalDiskReads 20
-QMCpuUsage	Sets up threshold CPU Usage (in milliseconds).	Set-SQLdmMonitoredInstance -Path (Escape-SQLdmName -Name ServeA\Instance1) -QMCpuUsage 500
-QMPhysicalDiskWrites	Sets up threshold Physical disk writes.	Set-SQLdmMonitoredInstance -Path (Escape-SQLdmName -Name ServeA\Instance1) -QMPhysicalDiskWrites 20

Edit query waits settings

Customize the query waits settings of your monitor SQL Server with the following PowerShell commands:

Cmdlet Name	Description	Examples
-QWExtendedEnable	Enables "Use Extended Events (SQL Server 2012 +)".	Set-SQLdmMonitoredInstance-Path (Escape-SQLdmName -Name INSTANCE_NAME) -QWExtendedEnable
-QWExtendedDisable	Disables "Use Extended Events (SQL Server 2012 +)".	Set-SQLdmMonitoredInstance-Path (Escape-SQLdmName -Name INSTANCE_NAME) -QWExtendedDisable
-QWStatisticsDisable	Disables "Collect query wait statistics (SQL 2005+ only)".	Set-SQLdmMonitoredInstance-Path (Escape-SQLdmName -Name INSTANCE_NAME) -QWStatisticsDisable
-QWStatisticsDuration	Enables "Collect query wait statistics at a specified time and duration".	Set-SQLdmMonitoredInstance-Path (Escape-SQLdmName -Name INSTANCE_NAME) -QWStatisticsStartDate"yyyy-mm-dd-hh:mm" -QWStatisticsDuration mm:ss
-QWStatisticsCollectIndefinite	Enables "Collect query wait statistics with Collect indefinitely option".	Set-SQLdmMonitoredInstance-Path (Escape-SQLdmName -Name INSTANCE_NAME) -QWStatisticsCollectIndefinite

Edit activity monitor settings

Customize the activity monitor settings of your monitor SQL Server with the following PowerShell commands:

Cmdlet Name	Description	Examples

-NQAEnableSQLTrace	Enables “Use SQL trace”.	Set-SQLdmMonitoredInstance-Path (Escape-SQLdmName -Name SRISHTIPUROHIT\SQLEXPRESS) -NQAEnableSQLTrace
-NQAEnableExtendedEvent	Enables “Use extended event (SQL 2012+)”.	Set-SQLdmMonitoredInstance-Path (Escape-SQLdmName -Name SRISHTIPUROHIT\SQLEXPRESS) -NQAEnableExtendedEvent
-NQADisableAutoGrow	Disables “Capture Autogrow”.	Set-SQLdmMonitoredInstance-Path (Escape-SQLdmName -Name SRISHTIPUROHIT\SQLEXPRESS) -NQADisableAutoGrow
-NQAEnableAutoGrow	Enables “Capture Autogrow”.	Set-SQLdmMonitoredInstance-Path (Escape-SQLdmName -Name SRISHTIPUROHIT\SQLEXPRESS) -NQAEnableAutoGrow
-NQAEnableCaptureBlocking	Enables “Capture Blocking”.	Set-SQLdmMonitoredInstance-Path (Escape-SQLdmName -Name SRISHTIPUROHIT\SQLEXPRESS) -NQAEnableCaptureBlocking
-NQADisableCaptureBlocking	Disable “Capture Blocking”.	Set-SQLdmMonitoredInstance-Path (Escape-SQLdmName -Name SRISHTIPUROHIT\SQLEXPRESS) -NQADisableCaptureBlocking
-NQACaptureBlocking	Sets “blocking process threshold".	Set-SQLdmMonitoredInstance-Path (Escape-SQLdmName -Name SRISHTIPUROHIT\SQLEXPRESS) -NQACaptureBlocking 100

Add alternate Windows users

Add alternate Windows users with the following cmdlet in different environments.

Cmdlet Name	Description	Examples
-WindowsAlternateAuthentication	Add alternate Windows users.	New-SQLdmMonitoredInstance -Path (Escape-SQLdmName -Name Instance1) **-WindowsAlternateAuthentication** Domain1\User1 • Adds the instance named Instance1 with a valid Windows user named User1. New-SQLdmMonitoredInstance -Path (Escape-SQLdmName -Name Instance1) **-Cluster** Cluster1 **-WindowsAlternateAuthentication** domain1\User1 • Adds the instance named Instance1 with a valid Windows user named User1 in a DMSO environment.

Exclude applications, databases, and SQL statements within PowerShell

Exclude applications, databases, and SQL statements with the following PowerShell commands:

Cmdlet Name	Description	Examples
-QMExcludedApps	Excludes applications from the query monitor.	Set-SQLdmMonitoredInstance -Path (Escape-SQLdmName -Name ServeA\Instance1) -QMExcludedApps excludedApp1, excludedApp2, excludedApp3
-QMExcludedDatabases	Excludes databases from the query monitor.	Set-SQLdmMonitoredInstance -Path (Escape-SQLdmName -Name ServeA\Instance1) -QMExcludedDatabases DB1,DB2,DB3
-QMExcludedSql	Excludes SQL statements from the query monitor.	Set-SQLdmMonitoredInstance -Path (Escape-SQLdmName -Name ServeA\Instance1) -QMExcludedSql "Select 1","Select * from Table where ID=5"

Disable replication collection

Disable replication statistics collection with the following PowerShell command:

Cmdlet Name	Description	Example
`-ReplicationStatisticsDataCollection`	Disables replication statistics collection.	`Set-SQLdmMonitoredInstance -Path (Escape-SQLdmName -Name ServeA\Instance1) -ReplicationStatisticsDataCollection 0` ○ Disables replication statistics collection for server named ServerA\Instance1.

Customize table statistics collection

Customize table statistics collection with the following PowerShell commands:

Cmdlet Name	Description	Example
`-QTStartTime`	Specifies the time of day for quiet time collection to occur.	`Set-SQLdmMonitoredInstance -Path (Escape-SQLdmName -Name ServeA\Instance1) -QTStartTime 02:30:00 -QTDays Monday,Tuesday -QTReorgMinTableSizeK 200 -QTExcludedDatabases Test`
`-QTDays`	Specifies the days of the week to perform quiet time collection.	
`-QTReorgMinTableSizeK`	Specifies the quiet time minimum table size (in kilobytes) to collect reorganization statistics.	
`-QTExcludedDatabases`	Specifies the list of databases to exclude from quite time data collection.	

Customize maintenance mode settings

Customize maintenance mode settings with the following PowerShell commands:

Cmdlet Name	Description	Examples
`-MMNever`	Sets maintenance mode to *Never*. Note that SQL Diagnostic Manager will collect data according to its normal scheduled collection interval.	`Set-SQLdmMonitoredInstance -Path (Escape-SQLdmName -Name ServeA\Instance1) -MMNever`
`-MMAlways`	Sets maintenance mode to *Until further notice*. Schedule collection will not occur.	`Set-SQLdmMonitoredInstance -Path (Escape-SQLdmName -Name ServeA\Instance1) -MMAlways`
`-MMRecurring`	Sets maintenance mode to *Recurring every week at the specified time*.	`Set-SQLdmMonitoredInstance -Path (Escape-SQLdmName -Name ServeA\Instance1) -MMRecurring -MModeDays Monday,Wednesday,Friday -MModeStartTime 01:35:00 -MModeDuration 01:00`
`-MModeDays`	Specifies the days of the week recurring maintenance mode will be effective.	
`-MModeStartTime`	Specifies the start time for recurring maintenance mode.	

`-MModeDuration`	Specifies the length of time for recurring maintenance mode.	
`-MMOnce`	Sets maintenance mode to *Occurring once at the specified time.*	`Set-SQLdmMonitoredInstance -Path (Escape-SQLdmName -Name ServeA\Instance1) -MMOnce -MModeStartDate "2013-03-25 15:00" -MModeEndDate "2013-03-25 15:30"`
`-MModeStartDate`	Specifies the start date and time for one-time maintenance mode.	
`-MModeEndDate`	Specifies the end date and time for one-time maintenance mode.	

Example: Editing several properties at once within PowerShell

PowerShell allows you to set up several properties in one command line. On the PowerShell window, use Set-SQLdmMonitoredInstance followed by the corresponding cmdlets of the properties you want to edit. For example, consider the properties listed below:

- Enable Query Monitoring
- Capture Batches
- No capture procedures
- Set Query duration at 200 (ms)
- Set Logical disk reads at 20
- Set CPU usage at 100
- Set Physical disk writes at 10
- Exclude Application: MyExcludedApp
- Exclude Databases: DB1, DB2, and DB3

You can customize these settings with the following PowerShell command line:

```
Set-SQLdmMonitoredInstance -Path (Escape-SQLdmName -Name QA- Name Server\Instance) -QMEnabled -
QMCaptureBatches 1 –QMCaptureProc 0 -QMQueryDuration 200
-QMLogicalDiskReads 20 -QMCpuUsage 100 -QMPhysicalDiskWrites 10 -QMExcludedApps MyExcludedApp -
QMExcludedDatabases DB1,DB2,DB3
```