1. Collections

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| Computers used in  this Lab | ROUTER01  SRV0001  SRV0002 |
| More information | Introduction to collections in System Center Configuration Manager  <https://docs.microsoft.com/en-us/sccm/core/clients/manage/collections/introduction-to-collections>  How to create collections in System Center Configuration Manager  <https://docs.microsoft.com/en-us/sccm/core/clients/manage/collections/create-collections>  Best practices for collections in System Center Configuration Manager  <https://docs.microsoft.com/en-us/sccm/core/clients/manage/collections/best-practices-for-collections> |
| Collection Rules | Creating collection rules with like are not recommended as this could cause a performance issue on the SCCM and will slow down the collection membership update. In this lab, we are using like only for demonstration purposes. More information about this, refer to <http://www.enhansoft.com/blog/configuration-manager-collections-and-collection-evaluation-viewer> and <http://www.enhansoft.com/blog/how-to-fix-a-poorly-written-wql-query> |
| Description | In this chapter, we will be Creating several collections as well as chaning the default interval of collection membership incremental evaluation.  **Note:** In this lab we are changing the collection membership incremental evaluation to speed up the process of updating collections and decreasing the default value is not recommended in a production environment |

* 1. Windows 10 Workstation Collection

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| Perform this task on the SRV0002 virtual machine logged on as sccmadmin |
| 01. Start Configuration Manager Console and Click Assets and Compliance. |
| 02. Click Device Collections |
| 03. Select Device Collections and click Create Device Collection |
| 04. Under Specify details for this collection type Windows 10 Workstations under name and select All Systems under Limiting Collection. Click Next |
| 05. Under Define membership rules for this collection, select Add query and click Query Rule |
| 06. Under Query Rule Properties, type Windows 10 for Name and click Edit Query Statement |
| 07. Under Query Statement Properties, change to criteria tab |
| 08. Under criteria tab click New button |
| 09. Under Criterion Properties, click Select |
| 10. Under Select Attribute select:   * Attribute Class: System Resource * Attribute: Operating System Name and Version   Click Ok |
| 11. Under Criterion Properties, select Operator is Like and type %Windows NT Workstation 10% under value. Click Ok 3 times |
| 12. Under Create Device Collection Wizard, select Use incremental updates for this collection and click Next  Note: It is not recommended to have over 250 collections with the Incremental updates enabled |
| 13. Under confirm the settings, click Next |
| 14. Under The Create Device Collection Wizard completed successfully, click Close |
| 15. Under device collections, the new Collection is still under update status.  Note: Once the collection is created, there is a process to populate it and it may take a while. In this lab, wait 30 seconds or refresh it couple of times until you see the Member Count increment to 2 |
| 16. Select the collection and click Show Members |
| 17. The collection will be expanded under Devices and all devices that match the query filter will be displayed. |

This can also be achieved via PowerShell using the commands below:

$CollUpdate = New-CMSchedule -Start "01/01/2015 9:00 PM" -DayOfWeek Saturday -RecurCount 1

$Collection = New-CMDeviceCollection -Name "Windows 10 Workstations" -LimitingCollectionName "All Systems" -RefreshSchedule $CollUpdate -RefreshType Both

Add-CMDeviceCollectionQueryMembershipRule -CollectionId $Collection.CollectionID -RuleName "Windows 10" -QueryExpression "select \* from SMS\_R\_System where OperatingSystemNameandVersion like 'Microsoft Windows NT Workstation 10.%'"

start-sleep 20

Get-CMCollectionMember -CollectionName "Windows 10 Workstations" | select Name

* 1. Windows 8 Workstation Collection

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| Perform this task on the SRV0002 virtual machine logged on as sccmadmin |
| 01. Start Configuration Manager Console and Click Assets and Compliance. |
| 02. Click Device Collections |
| 03. Select Device Collections and click Create Device Collection |
| 04. Under Specify details for this collection type Windows 8 Workstations under name and select All Systems under Limiting Collection. Click Next |
| 05. Under Define membership rules for this collection, select Add query and click Query Rule |
| 06. Under Query Rule Properties, type Windows 8 for Name and click Edit Query Statement |
| 07. Under Query Statement Properties, change to criteria tab |
| 08. Under criteria tab click New button |
| 09. Under Criterion Properties, click Select |
| 10. Under Select Attribute select:   * Attribute Class: System Resource * Attribute: Operating System Name and Version   Click Ok |
| 11. Under Criterion Properties, select Operator is Like and type %Windows NT Workstation 6.3% under value. Click Ok 3 times |
| 12. Under Create Device Collection Wizard, select Use incremental updates for this collection and click Next  Note: It is not recommended to have over 250 collections with the Incremental updates enabled |
| 13. Under confirm the settings, click Next |
| 14. Under The Create Device Collection Wizard completed successfully, click Close |
| 15. Under device collections, the new Collection is still under update status.  Note: Once the collection is created, there is a process to populate it and it may take a while. In this lab, wait 30 seconds or refresh it couple of times until you see Member Count change to 1 |
| 16. Select the collection and click Show Members |
| 17. The collection will be expanded under Devices and all devices that match the query filter will be displayed. |

This can also be achieved via PowerShell using the commands below:

$CollUpdate = New-CMSchedule -Start "01/01/2015 9:00 PM" -DayOfWeek Saturday -RecurCount 1

$Collection = New-CMDeviceCollection -Name "Windows 8 Workstations" -LimitingCollectionName "All Systems" -RefreshSchedule $CollUpdate -RefreshType Both

Add-CMDeviceCollectionQueryMembershipRule -CollectionId $Collection.CollectionID -RuleName "Windows 8" -QueryExpression "select \* from SMS\_R\_System where OperatingSystemNameandVersion like 'Microsoft Windows NT Workstation 6.3%'"

start-sleep 20

Get-CMCollectionMember -CollectionName "Windows 8 Workstations" | select Name

* 1. Active Directory OU Workstations Collection

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| Perform this task on the SRV0002 virtual machine logged on as sccmadmin |
| 01. Start Configuration Manager Console and Click Assets and Compliance. |
| 02. Click Device Collections |
| 03. Select Device Collections and click Create Device Collection |
| 04. Under Specify details for this collection type Workstation OU under name and select All Systems under Limiting Collection. Click Next |
| 05. Under Define membership rules for this collection, select Add query and click Query Rule |
| 06. Under Query Rule Properties, type Workstation OU for Name and click Edit Query Statement |
| 07. Under Query Statement Properties, change to criteria tab |
| 08. Under criteria tab click New button |
| 09. Under Criterion Properties, click Select |
| 10. Under Select Attribute select:   * Attribute Class: System Resource * Attribute: System OU Name   Click Ok |
| 11. Under Criterion Properties, select Operator is Like and type CLASSROOM.INTRANET/CLASSROOM/WORKSTATIONS% under value. Click Ok 3 times |
| 12. Under Create Device Collection Wizard, select Use incremental updates for this collection and click Next  Note: It is not recommended to have over 250 collections with the Incremental updates enabled |
| 13. Under confirm the settings, click Next |
| 14. Under The Create Device Collection Wizard completed successfully, click Close |
| 15. Under device collections, the new Collection is still under update status.  Note: Once the collection is created, there is a process to populate it and it may take a while. In this lab, wait 30 seconds or refresh it couple of times until you see Member Count change to 3 |
| 16. Select the collection and click Show Members |
| 17. The collection will be expanded under Devices and all devices that match the query filter will be displayed. |

This can also be achieved via PowerShell using the commands below:

$CollUpdate = New-CMSchedule -Start "01/01/2015 9:00 PM" -DayOfWeek Saturday -RecurCount 1

$Collection = New-CMDeviceCollection -Name "Workstation OU" -LimitingCollectionName "All Systems" -RefreshSchedule $CollUpdate -RefreshType Both

Add-CMDeviceCollectionQueryMembershipRule -CollectionId $Collection.CollectionID -RuleName "Workstation OU" -QueryExpression "select SMS\_R\_SYSTEM.ResourceID,SMS\_R\_SYSTEM.ResourceType,SMS\_R\_SYSTEM.Name,SMS\_R\_SYSTEM.SMSUniqueIdentifier,SMS\_R\_SYSTEM.ResourceDomainORWorkgroup,SMS\_R\_SYSTEM.Client from SMS\_R\_System where SMS\_R\_System.SystemOUName like 'CLASSROOM.INTRANET/CLASSROOM/WORKSTATIONS/%'"

start-sleep 20

Get-CMCollectionMember -CollectionName "Workstation OU" | select Name

* 1. Active Directory OU Users Collection

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| Perform this task on the SRV0002 virtual machine logged on as sccmadmin |
| 01. Start Configuration Manager Console and Click Assets and Compliance. |
| 02. Click Users Collections |
| 03. Select User Collections and click Create User Collection |
| 04. Under Specify details for this collection type Users OU under name and select All Users and User Groups under Limiting Collection. Click Next |
| 05. Under Define membership rules for this collection, select Add query and click Query Rule |
| 06. Under Query Rule Properties, type Users OU for Name and click Edit Query Statement |
| 07. Under Query Statement Properties, change to criteria tab |
| 08. Under criteria tab click New button |
| 09. Under Criterion Properties, click Select |
| 10. Under Select Attribute select:   * Attribute Class: UserResource * Attribute: User OU Name   Click Ok |
| 11. Under Criterion Properties, select Operator is equal to and type CLASSROOM.INTRANET/CLASSROOM/USERS under value. Click Ok 3 times |
| 12. Under Create User Collection Wizard, select Use incremental updates for this collection and click Next  Note: It is not recommended to have over 250 collections with the Incremental updates enabled |
| 13. Under confirm the settings, click Next |
| 14. Under The Create User Collection Wizard completed successfully, click Close |
| 15. Under User collections, the new Collection is still under update status.  Note: Once the collection is created, there is a process to populate it and it may take a while. In this lab, wait 30 seconds or refresh it couple of times until you see Member Count change to 2 |
| 16. Select the collection and click Show Members |
| 17. The collection will be expanded under Users and all users that match the query filter will be displayed. |

This can also be achieved via PowerShell using the commands below:

$CollUpdate = New-CMSchedule -Start "01/01/2015 9:00 PM" -DayOfWeek Saturday -RecurCount 1

$Collection = New-CMUserCollection -Name "Users OU" -LimitingCollectionName "All Users and User Groups" -RefreshSchedule $CollUpdate -RefreshType Both

Add-CMUserCollectionQueryMembershipRule -CollectionId $Collection.CollectionID -RuleName "Users OU" -QueryExpression "select \* from SMS\_R\_User where SMS\_R\_User.UserOUName = 'CLASSROOM.INTRANET/CLASSROOM/USERS'"

start-sleep 20

Get-CMCollectionMember -CollectionName "Users OU" | select Name

* 1. Collection Membership Incremental Evaluation

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| Perform this task on the SRV0002 virtual machine logged on as sccmadmin |
| 01. Start Configuration Manager Console and Click Administration. |
| 02. Expand Site Configuration and click Sites |
| 03. Select 001 – Training Lab site and click Configuration Site Components -> Collection Membership Evaluation |
| 04. On Collection Membership Evaluation Component Properties change the default interval (minutes) to 3  Note: It is not recommended to decrease the default interval, however, there are situations (normally when there are too many collections – over thousands, or too many with incremental updates – near the recommended 200 limit) where you would need to increase the interval to decrease the CPU utilisation. |

This can also be achieved via PowerShell using the commands below:

$SiteCode = "001"

Set-CMCollectionMembershipEvaluationComponent -SiteCode $SiteCode -EvaluationMins 3