

# Configuration Manager Bulk Registration Token Automation during the Task Sequence

## Description

This solution automates the generation, retrieval and usage of the Configuration Manager bulk registration token during the task sequence.

## Use Case

Useful when CMG boot is not feasible and a Standalone Media is used.

## Design

The solution consists of two scripts.

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### New-CMClientBulkRegistrationToken.ps1

Handles the generation and upload of the Token to Azure Blob Storage. This script needs to run on the site server.

#### PARAMETERS

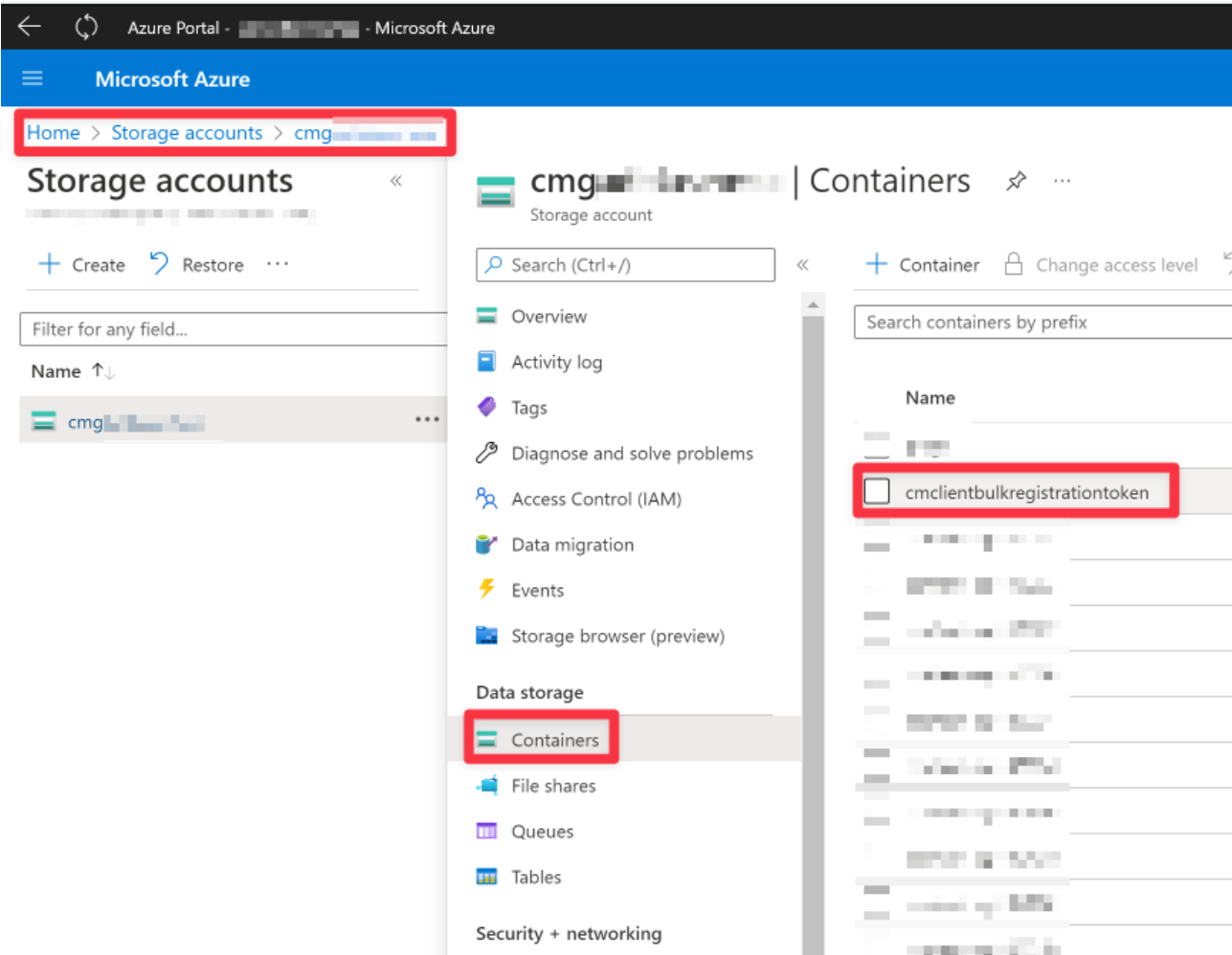
- **Lifetime**  
Specifies the Lifetime in minutes for the generated token.  
Default value is 1440 minutes (1 day).
- **File**  
Specifies the path to export the token file.
- **Url**  
Specifies the blob to upload the token file URL.
- **SasToken**  
Specifies the azure blob SAS token. If this parameter is not specified, no authentication is used.

#### NOTES

This script should be scheduled to run at intervals less than the **Lifetime** of the token in order for the token to be always valid when retrieved. Meaning that if you specify a **Lifetime** of 12 hours the script should be scheduled to run every 11 hours for example.

The **SasToken** should not have a validity longer than a year and there should be controls put in place to ensure its renewal once it expires.

SCREENSHOTS



Azure Blob Storage

Microsoft Azure

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cmclientbulkregistrationtoken | Shared access tokens

Container

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Overview

Diagnose and solve problems

Access Control (IAM)

Settings

Shared access tokens

Access policy

Properties

Metadata

A shared access signature (SAS) is a URI that grants restricted access to an Azure Storage container. Use it when you want to gr.

Signing method

☒ Account key ☐ User delegation key

Signing key ⓘ

Key 1

Stored access policy

None

Permissions \* ⓘ

6 selected

☒ Read  
☒ Add  
☒ Create  
☒ Write  
☒ Delete  
☒ List

☐ Immutable storage

Start and expiry date/time ⓘ

Start

08/02/2022 5:49:12 PM

(UTC+02:00) Chisinau

Expiry

08/02/2023 5:49:12 AM

(UTC+02:00) Chisinau

Allowed IP addresses ⓘ

for example, 168.1.5.65 or 168.1.5.65-168.1.5.65

Allowed protocols ⓘ

☒ HTTPS only ☐ HTTPS and HTTP

Generate SAS token and URL

Blob SAS token ⓘ

Copy this Token: sp=racwdl&st=2022-08-02T14:49:12Z&se=

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## Invoke-CCMSSetupBulkRegistrationToken.ps1

Handles the retrieval of the token from Azure Blob Storage and schedules a self deleting Scheduled Task that runs once on first boot triggering %SystemRoot%\CCMSSetup\CCMSSetup.exe using the Token and CMG installation properties.

### PARAMETERS

- **Url**  
Specifies the blob where the token is stored.
- **SasToken**  
Specifies the azure blob SAS token. If this parameter is not specified, no authentication is used.
- **CMGAddress**  
Specifies the Cloud Management Gateway address. Do not specify 'https://' prefix.

### NOTES

The **Url** needs to include the blob path and the FileName with the extension used in the **New-CMBulkRegistrationToken.ps1** script.

The **CMGAddress** can be retrieved with the following PowerShell command on the site server:

```
(Get-CimInstance -Namespace Root\Ccm\LocationServices -Class SMS_ActiveMPCandidate |  
Where-Object {$PSItem.Type -eq 'Internet'}).MP
```

**Do not specify 'https://' prefix.**

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## Scheduled Task

Handles the Generation of the Token and Upload to Azure by triggering the New-CMClientBulkRegistrationToken

### TASK TEMPLATE

```
<?xml version="1.0" encoding="UTF-16"?>  
<Task version="1.4" xmlns="http://schemas.microsoft.com/windows/2004/02/mit/task">  
  <RegistrationInfo>  
    <Date>2021-09-03T17:04:05.0561221</Date>  
    <Author>Administrator</Author>  
    <Description>Generates a new MEMCM Client Bulk Registration Token, and optionally uploads  
it to Azure Blob Storage. Unfortunately bulkregistrationtokentool.exe requires User Context to run  
so this task will run only if someone from the 'Specific Group' is logged in.</Description>  
    <URI>\Endpoint Management\New-CMClientBulkRegistrationToken</URI>  
  </RegistrationInfo>  
  <Triggers>  
    <CalendarTrigger>  
      <StartBoundary>2022-08-03T08:00:00</StartBoundary>  
      <ExecutionTimeLimit>PT1H</ExecutionTimeLimit>  
      <Enabled>true</Enabled>  
      <ScheduleByDay>  
        <DaysInterval>1</DaysInterval>  
      </ScheduleByDay>  
    </CalendarTrigger>  
  </Triggers>  
</Task>
```

```

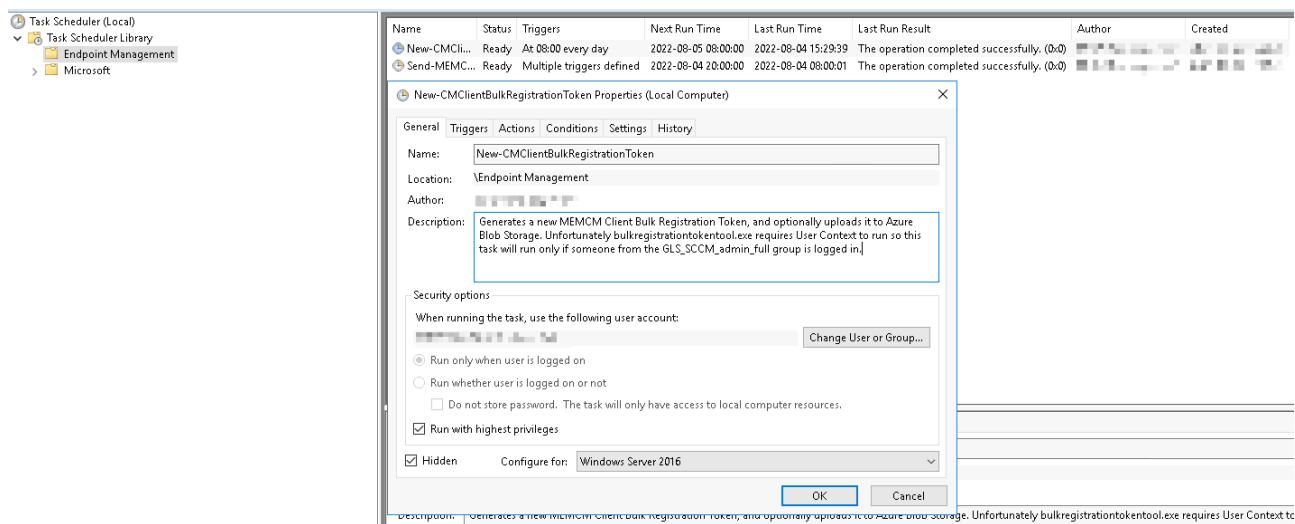
    </CalendarTrigger>
  </Triggers>
  <Principals>
    <Principal id="Author">
      <GroupId>S-1-5-21-1409082233-362288127-725345543-285293</GroupId>
      <RunLevel>HighestAvailable</RunLevel>
    </Principal>
  </Principals>
  <Settings>
    <MultipleInstancesPolicy>IgnoreNew</MultipleInstancesPolicy>
    <DisallowStartIfOnBatteries>false</DisallowStartIfOnBatteries>
    <StopIfGoingOnBatteries>true</StopIfGoingOnBatteries>
    <AllowHardTerminate>true</AllowHardTerminate>
    <StartWhenAvailable>false</StartWhenAvailable>
    <RunOnlyIfNetworkAvailable>false</RunOnlyIfNetworkAvailable>
    <IdleSettings>
      <StopOnIdleEnd>true</StopOnIdleEnd>
      <RestartOnIdle>false</RestartOnIdle>
    </IdleSettings>
    <AllowStartOnDemand>true</AllowStartOnDemand>
    <Enabled>true</Enabled>
    <Hidden>true</Hidden>
    <RunOnlyIfIdle>false</RunOnlyIfIdle>
    <DisallowStartOnRemoteAppSession>false</DisallowStartOnRemoteAppSession>
    <UseUnifiedSchedulingEngine>true</UseUnifiedSchedulingEngine>
    <WakeToRun>false</WakeToRun>
    <ExecutionTimeLimit>PT1H</ExecutionTimeLimit>
    <Priority>7</Priority>
  </Settings>
  <Actions Context="Author">
    <Exec>
      <Command>C:\Windows\System32\WindowsPowerShell\v1.0\powershell.exe</Command>
      <Arguments>.\New-CMClientBulkRegistrationToken.ps1 -Lifetime 1500 -File 'D:\Scripts\New-
CMClientBulkRegistrationToken\New-CMClientBulkRegistrationToken.json' -Url 'https://
storageaccount.blob.core.windows.net/cmclientbulkregistrationtoken' -SasToken 'Your
SASToken'</Arguments>
      <WorkingDirectory>E:\Scripts\New-CMClientBulkRegistrationToken</WorkingDirectory>
    </Exec>
  </Actions>
</Task>

```

## NOTES

**Unfortunately bulkregistrationtokentool.exe requires User Context to run so this task will run only if someone from the 'SpecifiedGroup' is logged in on the Site Server. The workaround would be to create a user that is always logged on.**

SCREENSHOTS



Task Sequence

The TS step before the last reboot is scheduling the CMG Client Installation by triggering %SystemRoot%\CCMSetup\CCMSetup.exe with the required parameters.

SCREENSHOTS

