IntuneManagement Community Tool

About You

Focus

Intune, Microsoft Graph, PowerShell

Certifications

Azure Architect Expert

Mikael Karlsson

From

Sweden

Hobbies

Play the guitar

GitHub

https://github.com/Micke-K/IntuneManagement
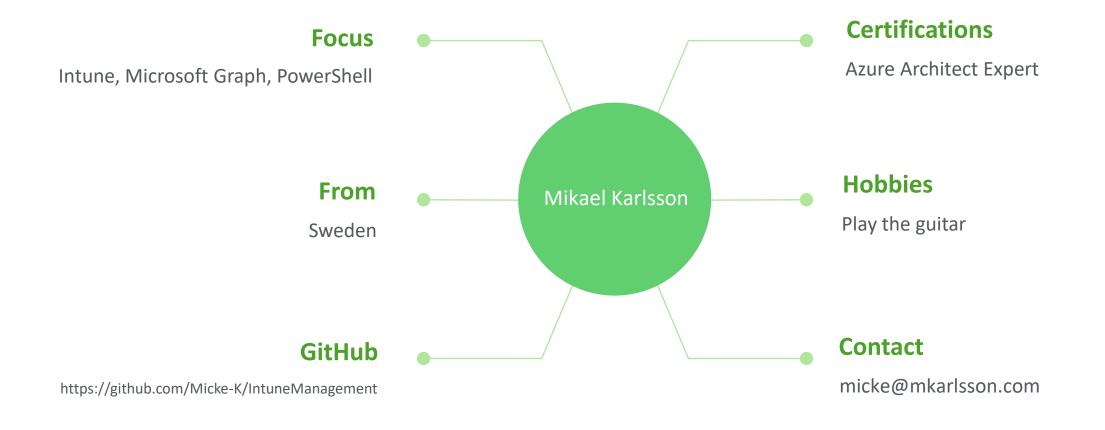
Contact

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Agenda

Introduction

Background

Started 2019
Need export / Import when learning Intune

Features

Import/Export - Compare - Copy - Documentation
Additional Intune Tools

Microsoft Graph

No modules
Challenges – Paging / Quota / Import

Microsoft Authentication Library (MSAL)

Authentication with support for token management.
Challenges...

Demo

Tips and Tricks.

wpninjas.au

Intune Manager

File Bulk Views

ixamdemo

Intune Manager

- Administrative Templates
- ADMX Files
- Android OEM Config
- App Configuration (App)
- App Configuration (Device)
- App Protection
- Apple Enrollment Types
- Applications
- Authentication Context
- Authentication Strengths
- Autopilot
- Azure Branding
- Co-Management Settings
- Compliance Policies
- Compliance Scripts
- Conditional Access
- Custom Attributes
- Device Configuration
- Driver Update Profiles
- Endpoint Security
- Enrollment Restrictions
- Enrollment Status Page
- Feature Updates
- Filters
- Health Scripts
- Intune Branding
- Named Locations
- Notifications
- Policy Sets
- Quality Updates
- Reusable Settings
- Role Definitions
- Scope (Tags)
- Scripts (PowerShell)
- Scripts (Shell)
- Settings Catalog
- Terms and Conditions
- Terms of use
- Update Policies
- W365 Provisioning Policies
- W365 User Settings

Device Configuration

Filter

Name	Modified
[Testing] Endpoint Protection	2024-03-20T09:46:49.5323622
[Testing] macOS Restrictions	2024-03-20T09:48:12.1905222Z
[Testing] Root CA	2024-03-20T09:36:31.1670198Z
[Testing] SCEP Cert Device	2024-03-20T09:37:09.0805819Z
[Testing] Wifi Enterprise	2024-03-20T09:44:59.0445562Z
[Testing] Windows Device Restrictions	2024-03-20T10:01:17.3663881Z
Device Restrictions	2024-01-11T11:14:06.9133102Z
Firefox	2024-01-12T08:56:32.5746294Z
Root CA	2024-01-11T11:10:48.7527872Z
SCEP Cert Device	2024-01-11T11:10:33.6036376Z
VPN Device	2024-01-11T11:10:12.0175166Z
Wifi Enterprise	2024-01-12T08:49:31.0511354Z

Objects: 12

Document Compare View Copy Delete Import Export

Background

- Why did I developed this tool?
  - In 2018, I wanted to learn Intune after working with Configuration Manager for 16 years.
  - Developed it when I had to recreate test environment manually twice.
  - First version was based on two PowerShell modules and uploaded in June 2019.
  - I have not worked with Intune for most of the time. Azure projects etc.
  - Rewrote it when I realized it was used almost 1.5 year after first upload.

- PowerShell
  - Why? Easy to get started, open, common language etc.
  - UI based on WPF / XAML.
  - Challenges
    - Single thread can cause UI to freeze
    - No PowerShell 7 support...

- Modular
  - Add features or functionality without changing other files.
  - Example: Copy is all in on module, HTML output is in one file etc.

API and Authentication

- Microsoft Graph
  - Menu item a based on APIs – Confusion with Endpoint Security. Based on Intents and Settings Catalog.
  - Using Beta for all API calls.
  - Batch calls – Multiple APIs in one call.
  - Resolves referenced policies eg. VPN policy has root certificate and certificate policy references.
  - Challenges
    - Many different policy types. What properties is supported during import, what to document etc.
    - Paging – 100 objects per page.
    - Throttling – 429 error.
    - Extra challenge when using batch API.

- Microsoft Authentication Library (MSAL)
  - Token management.
  - Caches token to remember login.
  - No official support for PowerShell.
  - Loding DLL files from other directories – Can cause intermittent issues.
  - Support for multiple tenants.
  - Support to login with Entra App.
  - Support for US Government and China environments.

Features

- Import / Export
  - Single policies.
  - Bulk operations.
  - Challenges
    - Limited support for Export / Import of applications. Intunewin files are encrypted during upload.
    - Wi-Fi password not available

- Copy
  - Copy an object – Supports "all" types.
  - Bulk copy to create additional environments.

- Compare
  - Compare with exported files.
  - Bulk compare also supports online named objects eg Production vs Development policies.

- Documentation
  - Multi output providers eg HTML, Document, MD.
  - Each output provider has additional settings eg Word can use company template, define how properties with many characters are documented etc.
  - Very complex to support documentation for Property based policies. They are documented "manually".

Automation

- Automation support
  - Import / Export.
  - Documentation.
  - Based on UI. Quick and dirty solution…

- Example of automation
  - Export all policies on a schedule.
  - Document all policies and publish to internal website.

Additional Features

- Intune Info
  - View / Export additional objects.
  - Export / Import of Tenant Settings.

- Intune Tools
  - ADMX Import
    - Create Custom OMA URI policies based on ADMX / ADML files.
    - GPMC based UI.
  - Reg Values
    - Creates a custom ADMX file and Custom OMA URI policy with registry settings.
  - Intune Assignments
    - Lists all assignment from exported folder.
    - Easy way to find where groups are assigned. Supports both Include and Exclude assignments.
  - Intune Filter Usage
    - Find where all filters are used.

UI and Settings

- WPF / XAML
  - I am NOT a UI expert...
  - Did not use much binding.

- Custom Columns
  - Define what columns to use.
  - Custom column settings is per Policy Type.
  - Add additional columns or replace based on custom requirements.
  - Sub properties are supported.

- Settings
  - Registry by default but supports in Json as well.
    - Json file can be used between computers.
  - Settings vs Tenant Settings
    - Tenant settings will only be used where they were configured.
    - Settings used during authentication is not supported.

Tips and Tricks

- Change Menu Collor Based on Tenant
  - Easy way to identify tenant type eg Green for dev, red for customer etc.
  - Set in Tenant Settings.
- Allow Delete in Dev tenants but not in Customer Tenants (Get Tenant List)
- Edit or View PowerShell script in UI
- Applications
  - Import with intunewin file. File must be in either same folder as the Json or in the App packages folder.
  - Save encryption info during import or extract with additional PowerShell script.
  - Download and decrypt file if encryption info is available.
- Documentation
  - Very complex depending on policy type. Not all policies supports documentation but most of them do.
  - Document selected policies only – eg as consultant you added 5 policies in a project.
  - Output provider settings
    - Skip unconfigured settings or default values
    - Word template for company specific word document
    - Output level – Limited write the first x characters and then includes an attachment in the cell.
    - Single or multiple files.
    - Include / Exclude scripts and skip script signature to minimize output.
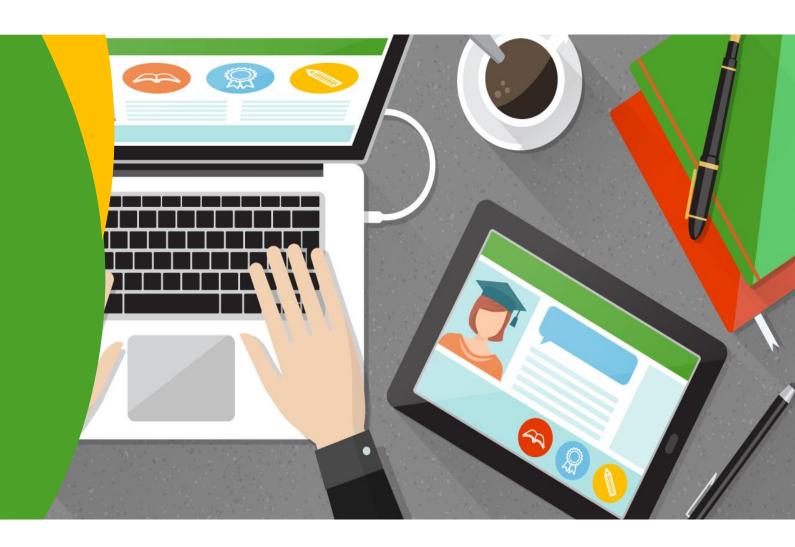
Future

- Lots of new things is (hopefully) coming:
  - Adding support for new MSAL version to include support for FIDO etc.
  - A cmdlet focused module with support for UI.
  - Mult-tenant support eg copy directly to another tenant, compare between tenants.
  - Group based UI menu eg Endpoint Security based on both Intents and Settings Catalog, Device Configurations that supports same as the portal etc.
  - Additional Compare providers.
  - Additional Documentation providers.

Demo of basic features + Tips and Tricks.

Demo

- Export / Import
  - WiFi profile with references.
  - Bulk export
- Edit script
- Different colour between tenants
  - Settings vs Tenant Settings
- Intune Tools
  - Intune Assignments
  - ADMX / Reg
- Documentation
  - Output provider options
  - Html
- Compare
  - Edit Wifi and compare
- Application
  - Upload with intunewin file and encryption export.
  - Run script to export encryption files.
  - Download file
  - Upload file
- Custom Columns

Thank You