

Entra ID User Lifecycle Management

Handover Document

Azure Automation Runbooks for Managing Inactive Users
in Microsoft Entra ID

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1 Overview

This solution provides Azure Automation runbooks that automate the lifecycle management of inactive user accounts in Microsoft Entra ID (Azure AD). The solution implements a two-stage approach for member users and a single-stage approach for guest users.

1.1 Key Features

- **Two-Stage Member Lifecycle** – Member users are first disabled after 90 days of inactivity, then deleted after 180 days
- **Guest Cleanup** – Guest users are deleted after 90 days of inactivity to maintain a clean directory
- **Flexible Exclusions** – Exclude users by security group, domain, department, or license type
- **Safe by Default** – All runbooks default to WhatIf mode - preview changes before applying them
- **Soft Delete** – Deleted users are moved to the recycle bin and recoverable for 30 days
- **Managed Identity** – Uses Azure managed identity for secure, credential-free authentication

2 User Lifecycle Strategy

2.1 Member Users

The member user lifecycle follows a two-stage approach:

Stage	Days	Action
1	90	Disable account - User cannot sign in
2	180	Soft delete - User moved to deleted items
Auto	+30	Permanent deletion by Microsoft

Table 1: Member User Lifecycle Stages

Note: Users disabled at 90 days must remain disabled until they reach 180 days of inactivity to be processed by the deletion runbook.

2.2 Guest Users

Guest users follow a simplified single-stage lifecycle:

Stage	Days	Action
1	90	Soft delete - User moved to deleted items
Auto	+30	Permanent deletion by Microsoft

Table 2: Guest User Lifecycle Stages

3 Runbooks

3.1 Summary Table

Runbook	Target	Action	Days
Disable-Inactive-Member-Users-90-Days	Members	Disable	90
Delete-Inactive-Member-Users-180-Days	Members	Delete	180
Delete-Inactive-Guest-Users-90-Days	Guests	Delete	90
Get-Inactive-Users-With-Manager	Members	Report	30

Table 3: Runbook Overview

3.2 Disable Inactive Member Users (90 Days)

Purpose: Identifies and disables member users who have been inactive for 90+ days. This is the first stage of the member user lifecycle.

Target Users:

- User type: Member
- Account status: Enabled
- Excludes Cross-Tenant Sync users

Action: Sets accountEnabled to false for identified users.

3.3 Delete Inactive Member Users (180 Days)

Purpose: Identifies and soft deletes disabled member users who have been inactive for 180+ days. This is the second stage of the member user lifecycle.

Target Users:

- User type: Member
- Account status: Disabled
- Excludes Cross-Tenant Sync users

Action: Soft deletes identified users via Remove-MgUser. Users can be recovered for 30 days.

3.4 Delete Inactive Guest Users (90 Days)

Purpose: Identifies and soft deletes guest users who have been inactive for 90+ days.

Target Users:

- User type: Guest
- Any account status

Action: Soft deletes identified users via Remove-MgUser. Users can be recovered for 30 days.

3.5 Report Inactive Users with Manager

Purpose: Identifies licensed member users with managers who have been inactive for a specified period (default 30 days). Optionally adds users to a security group for line manager review.

Target Users:

- User type: Member

- Has a manager assigned
- Has specific licenses

Action: Reports inactive users and optionally adds them to a review group.

4 Default Exclusions

All runbooks are pre-configured with these exclusions:

Type	Values
Domains	cityoflondon.police.uk, freemens.org
Departments	Members
Exclusion Group	Line Manager - Inactive User Review - Exclusion

Table 4: Default Exclusion Configuration

Note: Guest runbooks do not filter by license or department as these typically don't apply to guest accounts.

5 Setup Requirements

5.1 Prerequisites

- Azure Automation account with **PowerShell 7.x** runtime
- System-assigned **managed identity** enabled
- Microsoft Graph PowerShell modules installed

5.2 Required Modules

- Microsoft.Graph.Authentication
- Microsoft.Graph.Users
- Microsoft.Graph.Groups
- Microsoft.Graph.Identity.DirectoryManagement

5.3 Required Permissions

The managed identity requires these Microsoft Graph API permissions:

Permission	Purpose
User.Read.All	Read all user properties including sign-in activity
User.ReadWrite.All	Disable and delete users
Group.Read.All	Read exclusion group membership
GroupMember.ReadWrite.All	Add users to review groups (reporting runbook)
AuditLog.Read.All	Access sign-in activity data

Table 5: Required Microsoft Graph Permissions

6 Sign-In Activity Detection

All runbooks use Microsoft Graph's `signInActivity` property to determine the last sign-in date. The following properties are checked:

1. `LastSignInDateTime` – Interactive sign-ins
2. `LastNonInteractiveSignInDateTime` – Background/app sign-ins
3. `LastSuccessfulSignInDateTime` – Last successful authentication

The most recent date wins. If no sign-in activity is recorded, the user is considered inactive.

Important: Users created within the grace period (90 or 180 days depending on the runbook) are automatically excluded, even if they have no sign-in activity recorded.

7 Safety Features

The runbooks include multiple safety mechanisms:

1. **WhatIf Mode** – All runbooks default to preview mode
2. **Exclusion Groups** – Skip users in specified security groups
3. **Domain Exclusions** – Skip users from specified domains
4. **Department Exclusions** – Skip users in specified departments
5. **License Filtering** – Only process users with specific licenses
6. **Creation Date Check** – Skip recently created accounts
7. **Soft Delete** – Deleted users recoverable for 30 days

Recommendation: Always run with `-WhatIf $true` first to review which users would be affected before executing with `-WhatIf $false`.

8 Repository Structure

```
col-entra-id/
  └── runbooks/          # Azure Automation runbooks
    ├── Entra-ID-Disable-Inactive-Member-Users-90-Days.ps1
    ├── Entra-ID-Delete-Inactive-Member-Users-180-Days.ps1
    ├── Entra-ID-Delete-Inactive-Guest-Users-90-Days.ps1
    └── Entra-ID-Get-Inactive-Users-With-Manager-And-License.ps1
  └── scripts/           # Supporting utility scripts
    └── Grant-ManagedIdentityPermissions.ps1
  └── docs/              # Documentation (Zensical site)
  └── typst/             # Handover document generation
```

9 Contact & Support

For questions or issues with this solution:

- **Repository:** github.com/LukeEvansTech/col-entra-id
 - **Documentation:** lukeevanstech.github.io/col-entra-id
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