

Securing your joiner and leaver process with the provisioning API & Lifecycle Workflows!



Principal Consultant @ InSpark & Microsoft Security MVP

- Focus on the full Microsoft Entra portfolio
- One of the organisers of the Dutch Microsoft Entra
 Community, join our meetup page!



- Blog: identity-man.eu
- Skiing | Soccer | F1 | Family time







Agenda

- 5 Offboarding Workflows
- 6 Takeaways
- 7 Lessons Learned
- 8 Q & A

- 1 Quick Introduction
- 2 Account Lifecycle
 Management
- 3 Lifecycle Workflows
- 4 Onboarding Workflows

Quick Introduction

Management

Access Packages and Reviews

Identity Lifecycle Entra Privileged Identity 04 Management Management Inbound Provisioning with Just in time just enough Joiner Mover Leaver process access Outbound provisioning to 02 Terms of Use 3rd party apps For employees and guests Access and provisioning to 3rd party applications **Access Lifecycle** Reporting

Improve and fine tuning

the current setup

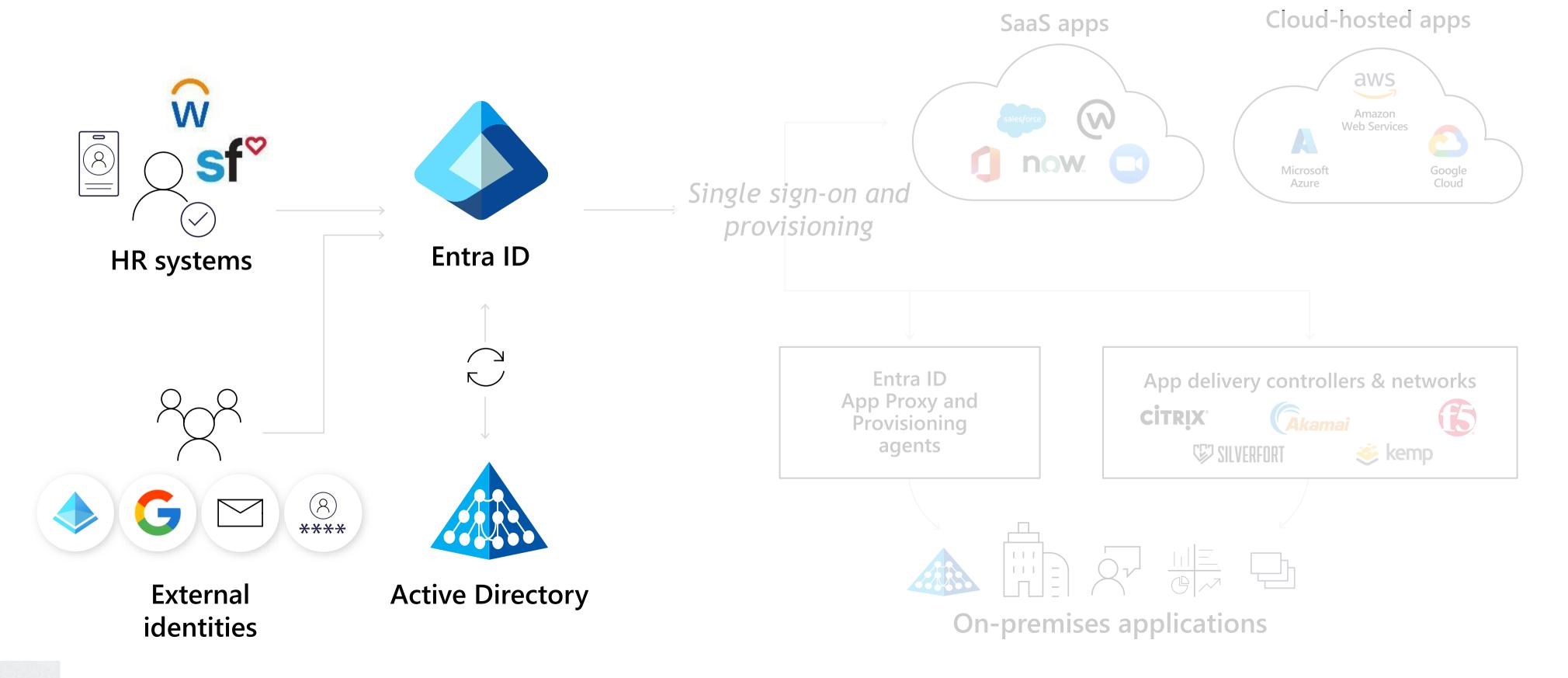
Quick Introduction

01

Identity Lifecycle

Management
Inbound Provisioning with
Joiner Mover Leaver process

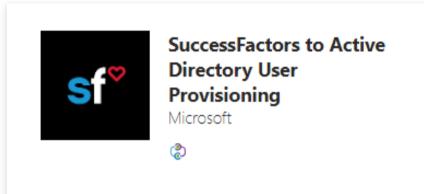
Account Lifecycle Management

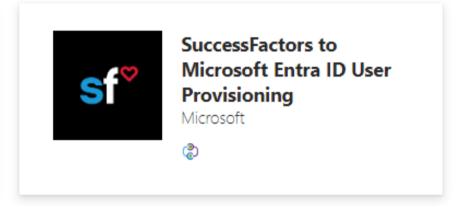


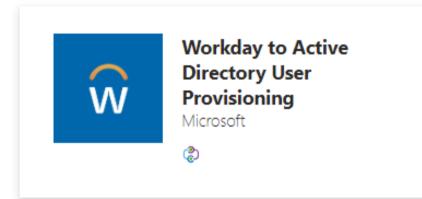
Account Lifecycle Management

Lifecycle management explained

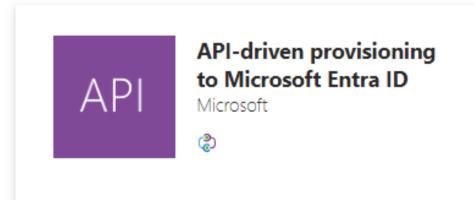
- Previously only supported with SAP SuccessFactors & Workday.
- Where possible HR data becomes the source of truth!
- HR is responsible for the data and the key for success.
- Accounts are therefore provisioned and expired/disabled on time in AD / Entra ID.
- Lifecycle management is important for all accounts, also admins (LCW) and guests (AR & B2B Sync)!
- But since august last year extended to ANY HR Source!

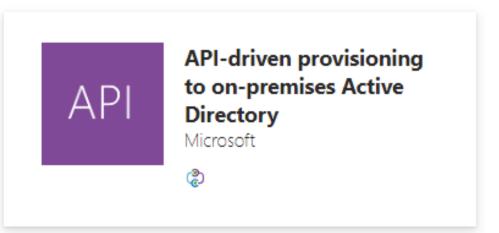












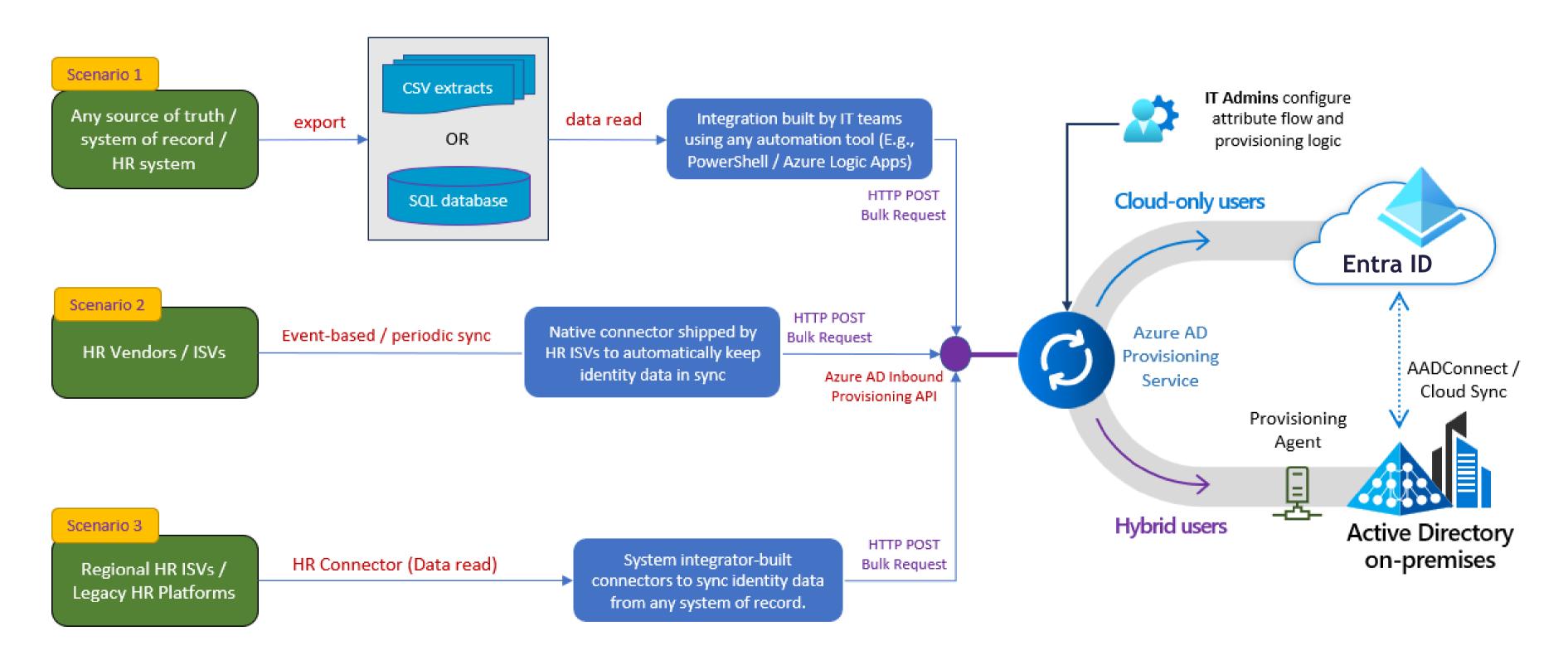




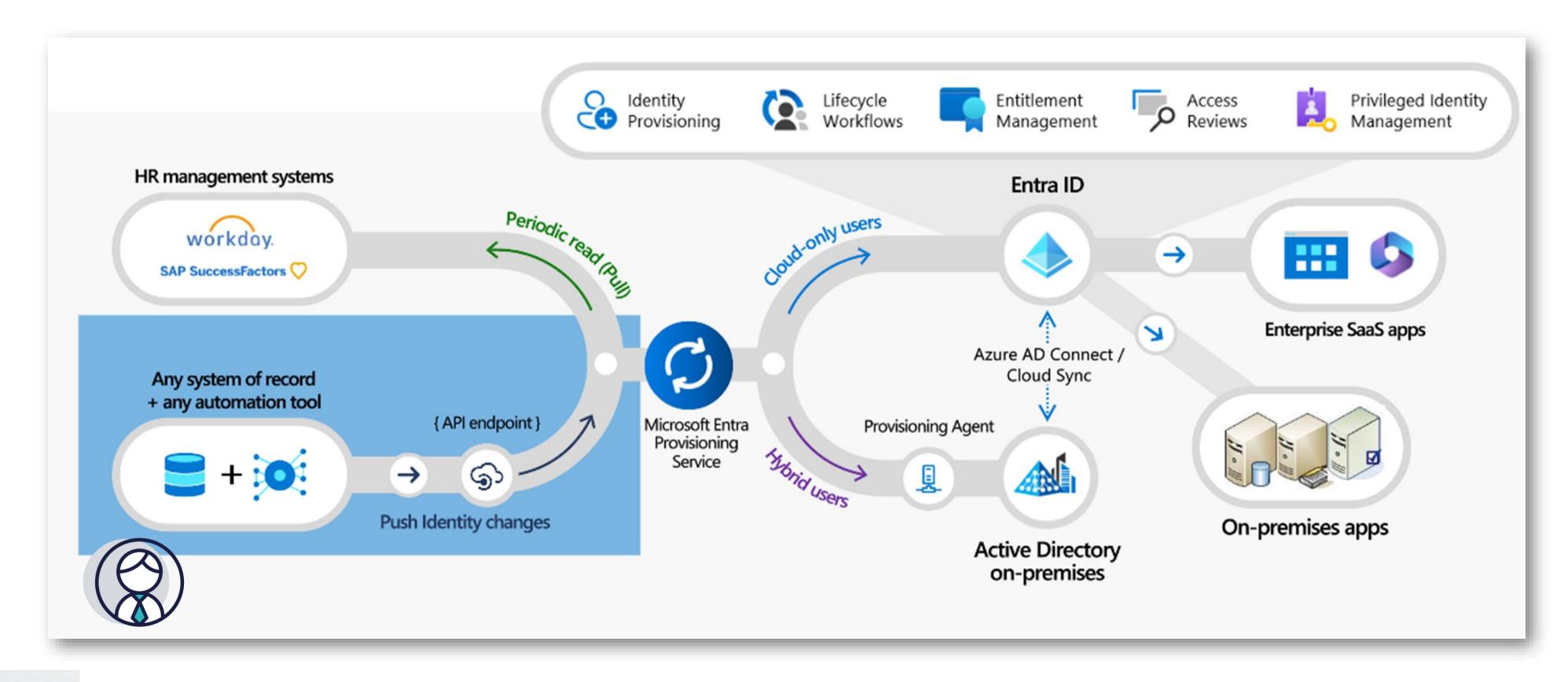
Manual user creation

Inbound Provisioning API

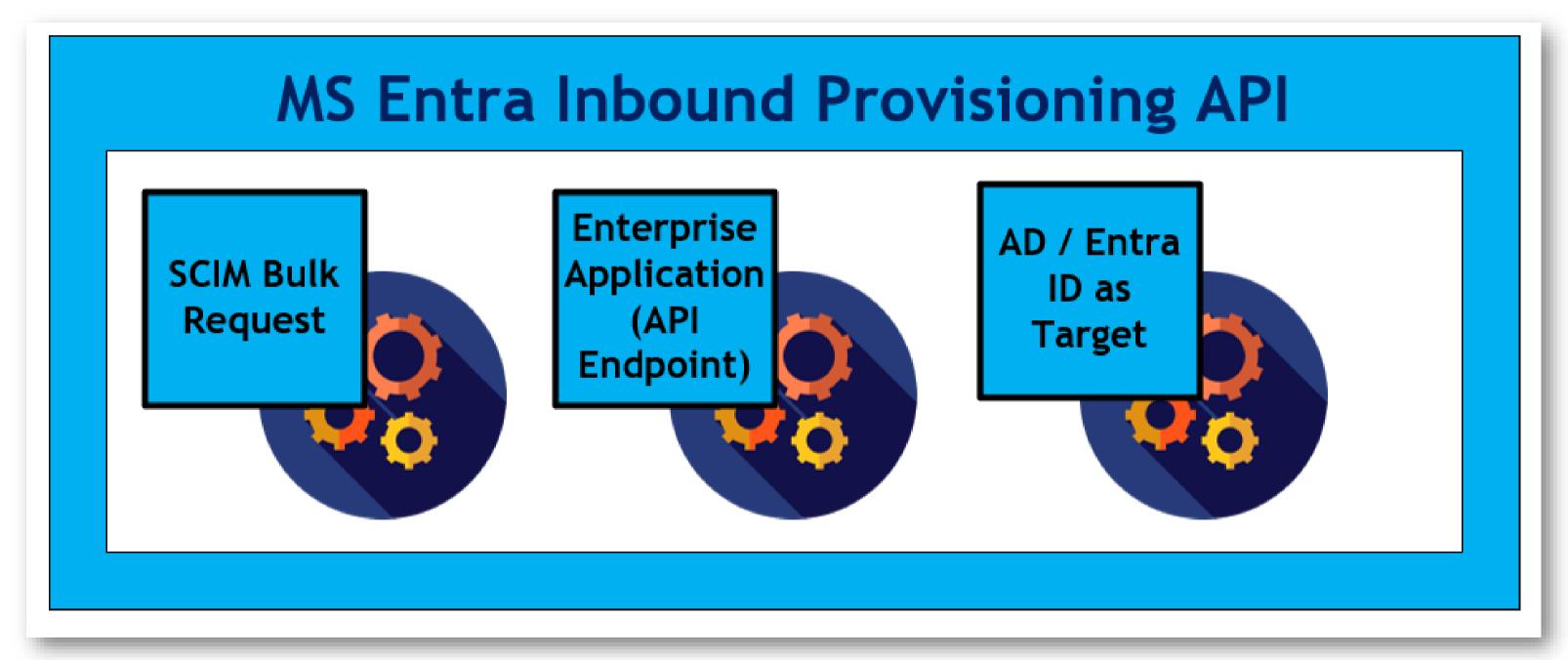
Inbound Provisioning API



Inbound Provisioning API



Understanding the Inbound Provisioning API



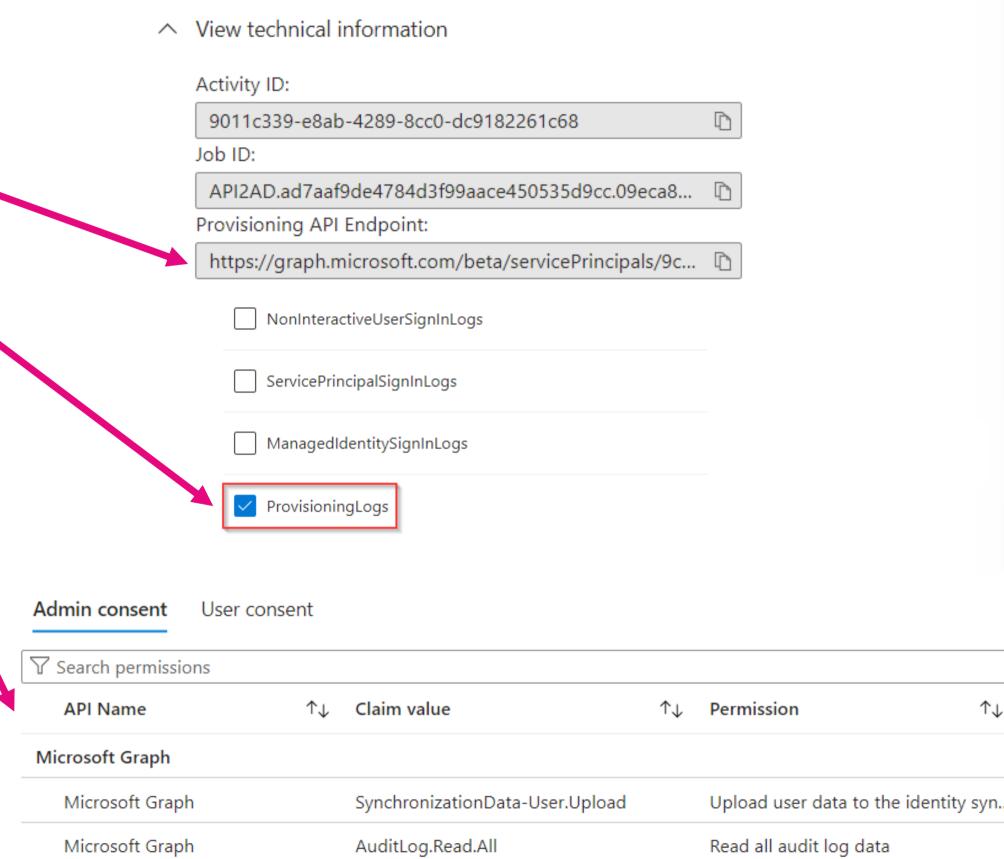
Automate Lifecycle Management

Inbound Provisioning API facts

Continuous Sync Each API endpoint is unique Use Provisioning Logs Any except custom security attribute Use (new) Graph Permissions

Cloud sync for provisioning in Active Directory







API-driven provisioning to on-premises Acti... ×

Got feedback?

cMeetup HR API-driven provisioning to on-premises Active Dir lisher ① Provisioning ① Automatic provisioning supported rosoft

gle Sign-On Mode ① ed Sign-on

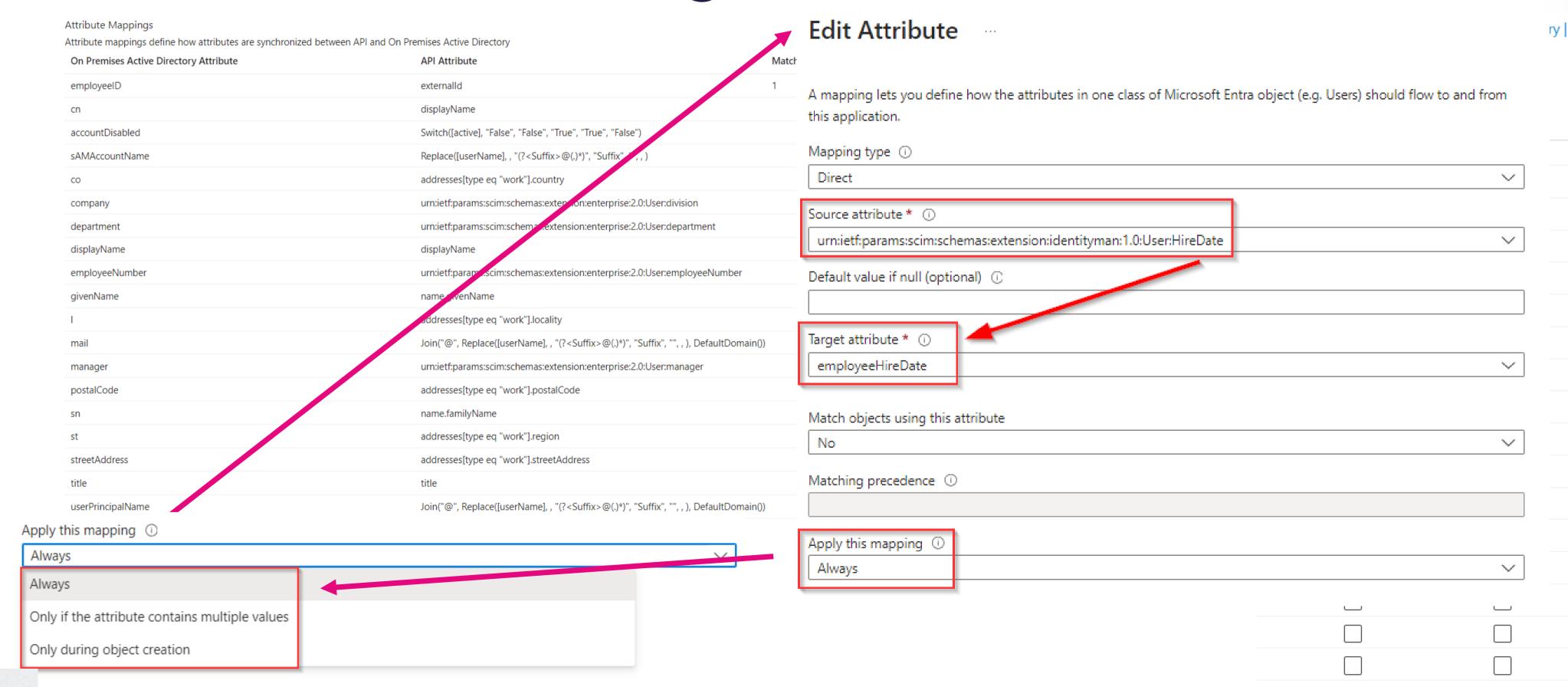
URL ①

www.microsoft.com

Inbound Provisioning API Scoping

Source Object Scope Attribute Mapping ☐ Save X Discard Scoping Filter Group Remove Name Provision API urn:ietf:params:scim:schemas:extension:enterprise:2.0:Users Delete Department equals 'IT' + Add new filter group Enabled No f multiple scoping filters are present, they are evaluated using "OR" logic. Source Object urn:ietf:params:scim:schemas:extension:enterg Source Object Scope Department equals 'IT **Add Scoping Filter** Target Object http://schemas.microsoft.com/2006/11/ResourceManagement/ADSCIM/DynamicElement Define which users are in scope for provisioning. Only objects that meet the criteria below will be synchronized. Target Object Actions Source attribute Operator Clause value Create ΙT **EQUALS** urn:ietf:params:scim:schemas:extension:enterprise:2.0:User:department Update Delete Scoping Filter Title * Department equals 'IT' f multiple scoping clauses are present, they are evaluated using "AND" logic.

Inbound Provisioning API Schema Extensions



Bulk Payload Example



Only for users



Max 50 users per bulk request



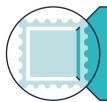
Can only contain POST as method



'Content-Type: application/scim+json' is mandatory



BulkId is generated for reference



API Endpoint only supports POST



PowerShell Module available on learn

```
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33
34
```

```
"schemas": [
    "urn:ietf:params:scim:api:messages:2.0:BulkRequest"
"Õperations":
           "method":
           "bulkId":
                         "7528f3a9-689e-4cc5-9b20-a64f53516502",
                      "/Users",
           "path":
           "data":
                           "schemas":
                                "urn:ietf:params:scim:schemas:core:2.0:User",
"urn:ietf:params:scim:schemas:extension:enterprise:2.0:User",
                          "phoneNumbers":
                                     "value"; "+31 40 123 4567", "type": "work"
                                     "value": "+31 06 1234 5678", "type": "mobile"
                           "nickName": "Johny.Bravo",
                           "userName": "Johny.Bravo",
"title": "Identity Hero",
                           "displayName": "Johny Bravo",
                           "userType": "Employee",
                               "familyName"; "Johny", "givenName": "Bravo"
                           "addresses": [
```

Bulk payload schema extensions

For additional values you want to provision:

- Make your own schema available in the bulk payload request.
- Add the schema with the attributes you want to provision:
 - ExtensionAttributes
 - UsageLocation

```
30
                                    31
  Initials
                                    32
                                    33
  OU location
                                    34
                                    35
                                    36

    HireDate

                                    37
                                    38
                                    39

    LeaveDate

                                    40
                                    41
                                    42
```

```
10 = 11 = 12 | 13 | 14 | 15 | 16 = 1
```

```
"data": {

"schemas"; [
"urn:ietf:params:scim:schemas:core:2.0:User",

"urn:ietf:params:scim:schemas:extension:enterprise:2.0:User",

"urn:ietf:params:scim:schemas:extension:identityman:1.0:User"

"phoneNumbers": [
```

```
"urn:ietf:params:scim:schemas:extension:identityman:1.0:User": {
    "EA1". "",
    "EA2": true,
    "CountryCodeNumber": "528",
    "SamAccountName": "Johny.Bravo",
    "UsageLocation": "NL",
    "Initials": "J.",
    "CountryCode2Letter": "NL",
    "ParentDistinguishedName": "OU=PushAPI,OU=Users,DC=Identityman,DC=local",
    "GenderPronoun": "Male",
    "HireDate": "2021-08-01T00:00:00z",
    "LeaveDate": "2024-12-31T00:00:00z"
},
"UserType": "Employee"
```

Run query



```
"urn:ietf:params:scim:api:messages:2.0:BulkRequest"
      "Operations":
"method": "POST",
             "bulkId": "7528f3a9-689e-4cc5-9b20-a64f53516502",
             "path": "/Users",
             "data": {
"schemas": [
                             "urn:ietf:params:scim:schemas:core:2.0:User",
                             "urn:ietf:params:scim:schemas:extension:enterprise:2.0:User",
                             "urn:ietf:params:scim:schemas:extension:identityman:1.0:User"
                         "phoneNumbers": [
"value": "+31 20 890 9100",
                                 "type": "work"
                                 "value": "+31 06 1234 5678",
                                 "type": "mobile"
                         "nickName": "Johny.Bravoo",
                         "userName": "Johny.Bravoo",
                         "title": "Identity Hero",
                         "displayName": "Johny Bravoo",
                         "urn:ietf:params:scim:schemas:extension:identityman:1.0:User": {
                             "EA1": "",
```

Provisioning Logs

All applications > SecMeetup HR API-driven provisionin Iriven provisioning to on-premi ∠ Identity Name or ID Date: Last 24 hours Show dates as: : Local +

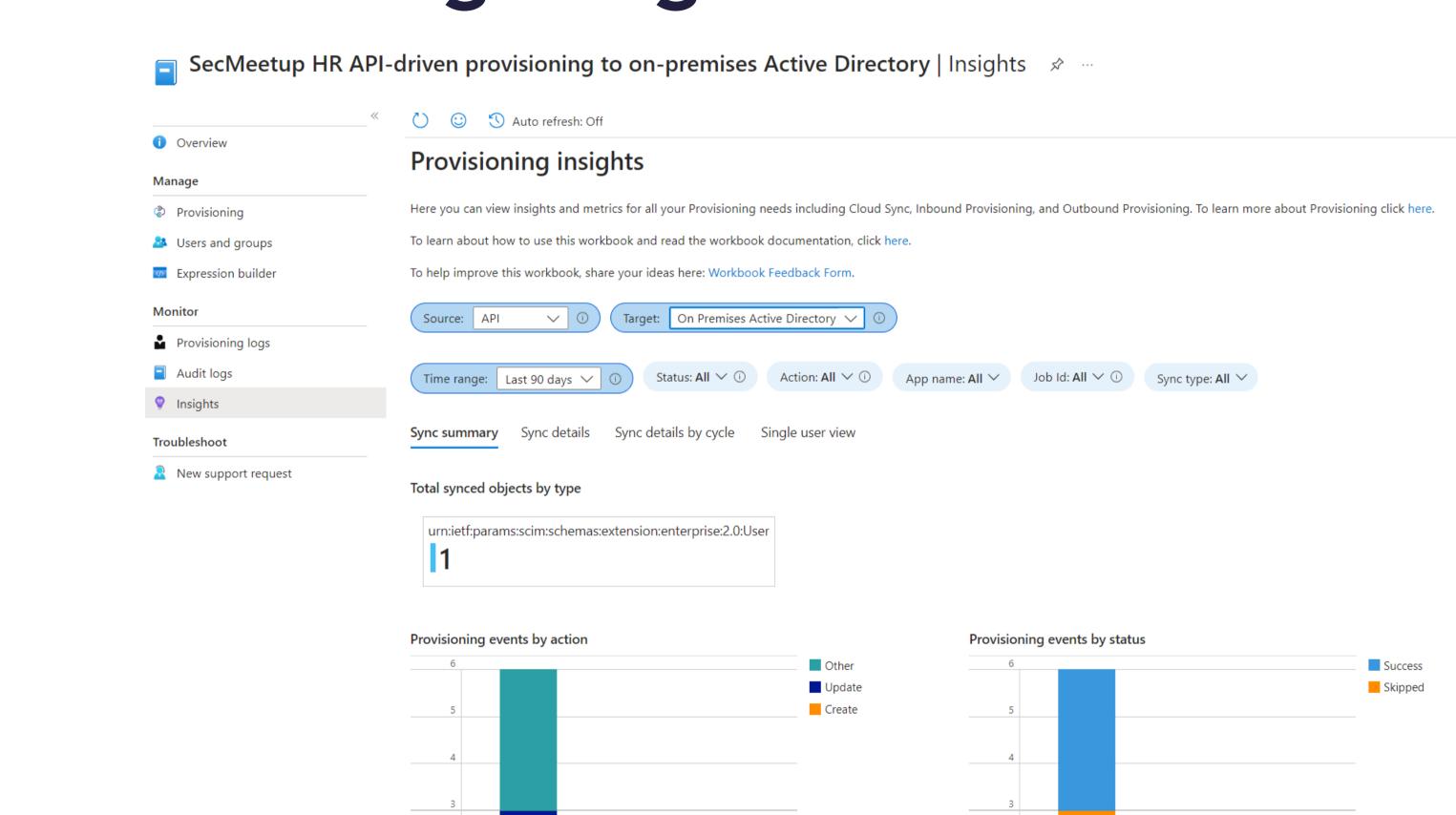
¬ Add filters Identity Date Source ID 100010 06/02/2024, 21:43:48 Target ID 0364ec57-94f Source ID 100010 06/02/2024, 21:42:06 Target ID 0364ec57-94f Source ID 100010 06/02/2024, 21:15:09 Target ID 0364ec57-94f

Provisioning log details etails ommendations

		ommendations wounted Properties Sammary
Steps Troubleshooting & Recommendations	Modified Properties Summary	New value
Property name	New value	100010
		Johny Bravoo
accountDisabled	True	True
title	Identity Heroooo	Johny.Bravoo
		Netherlands
		Technology
		IT Security
		Johny Bravoo
		100010
		Bravoo
		Identity City
		Johny.Bravoo@identity-man.eu
	postalCode	5431 AB
	sn	Johny
	streetAddress	Identity Street 1
	title	Identity Hero
	userPrincipalName	Johny.Bravoo@identity-man.eu

Modified Properties Summary

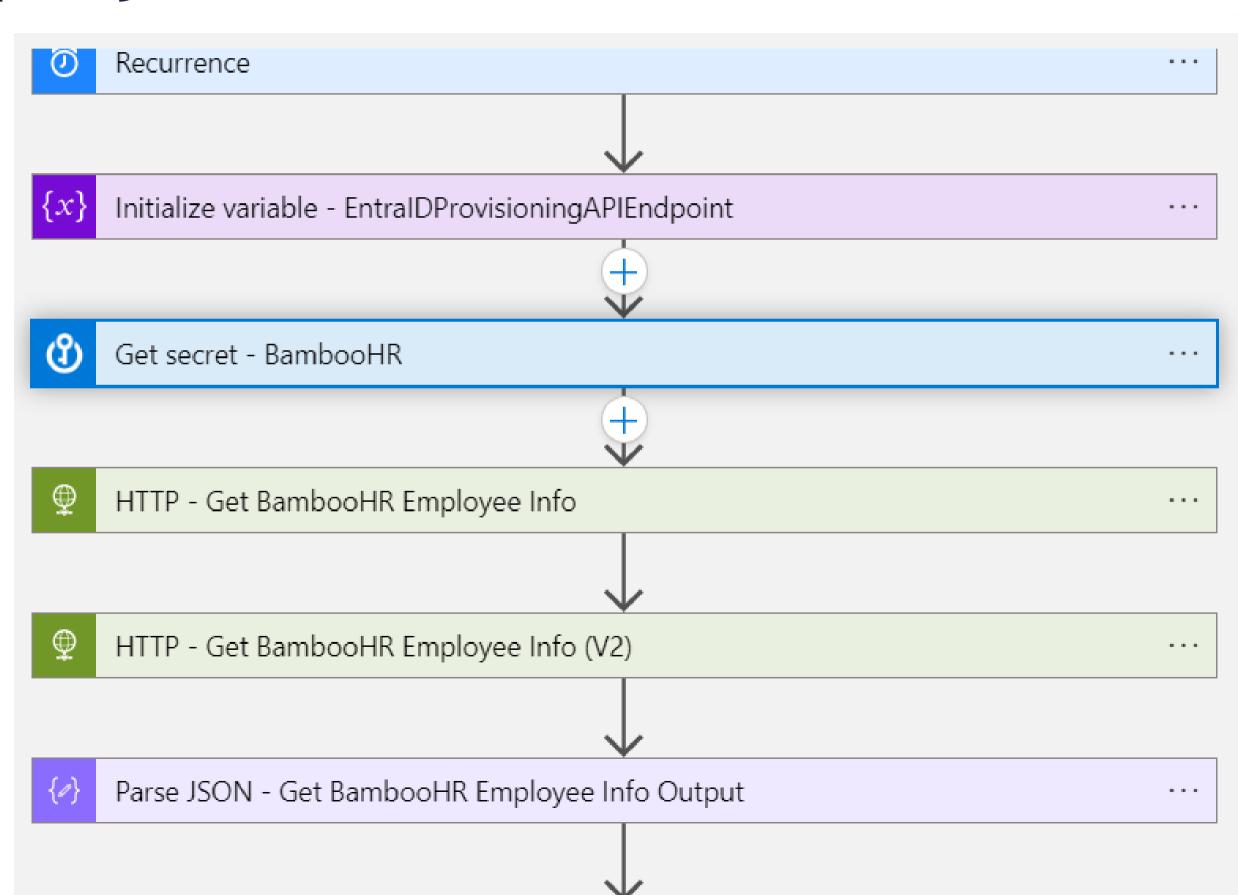
Provisioning Insights Workbook



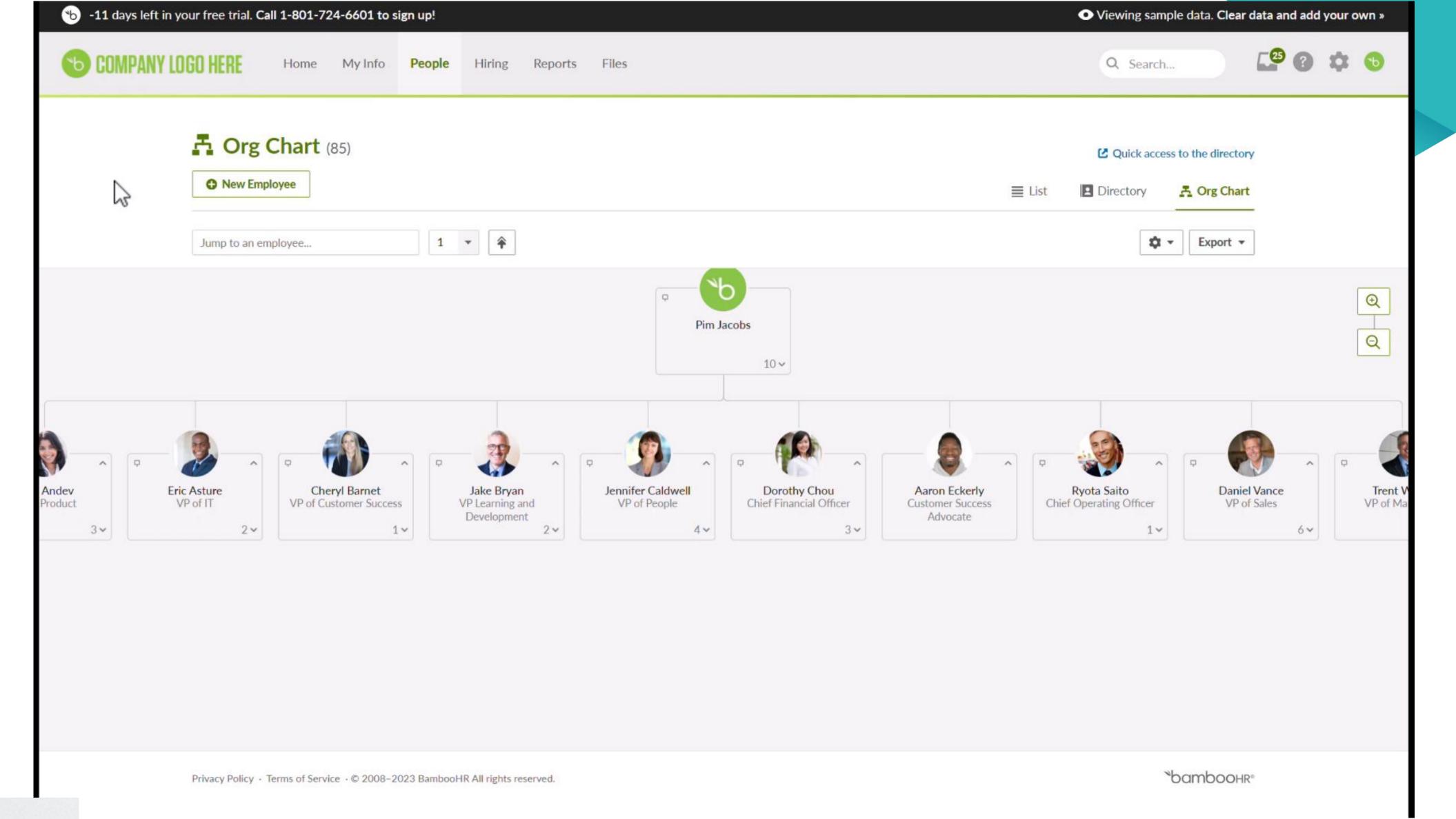
Scale out your deployment with automation

Link to my blog below:

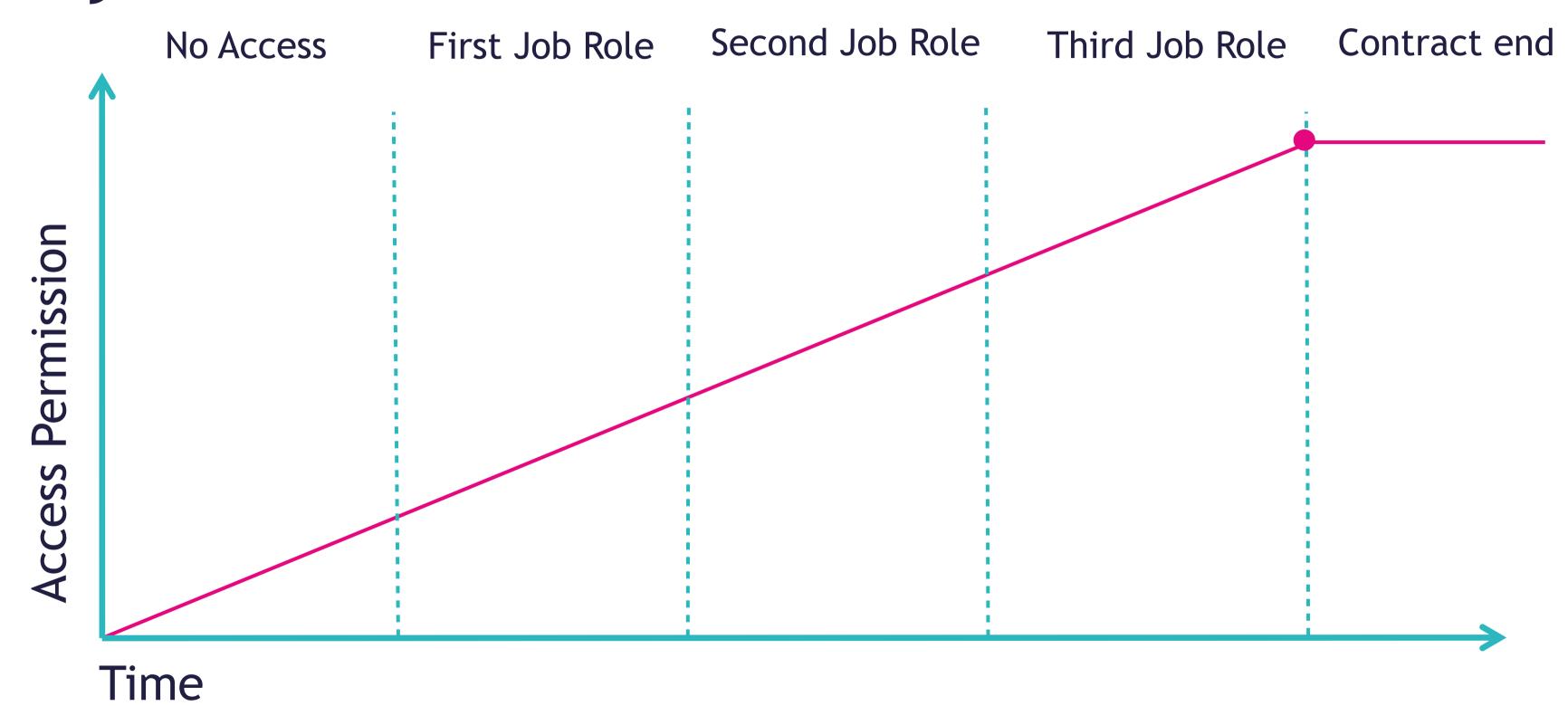




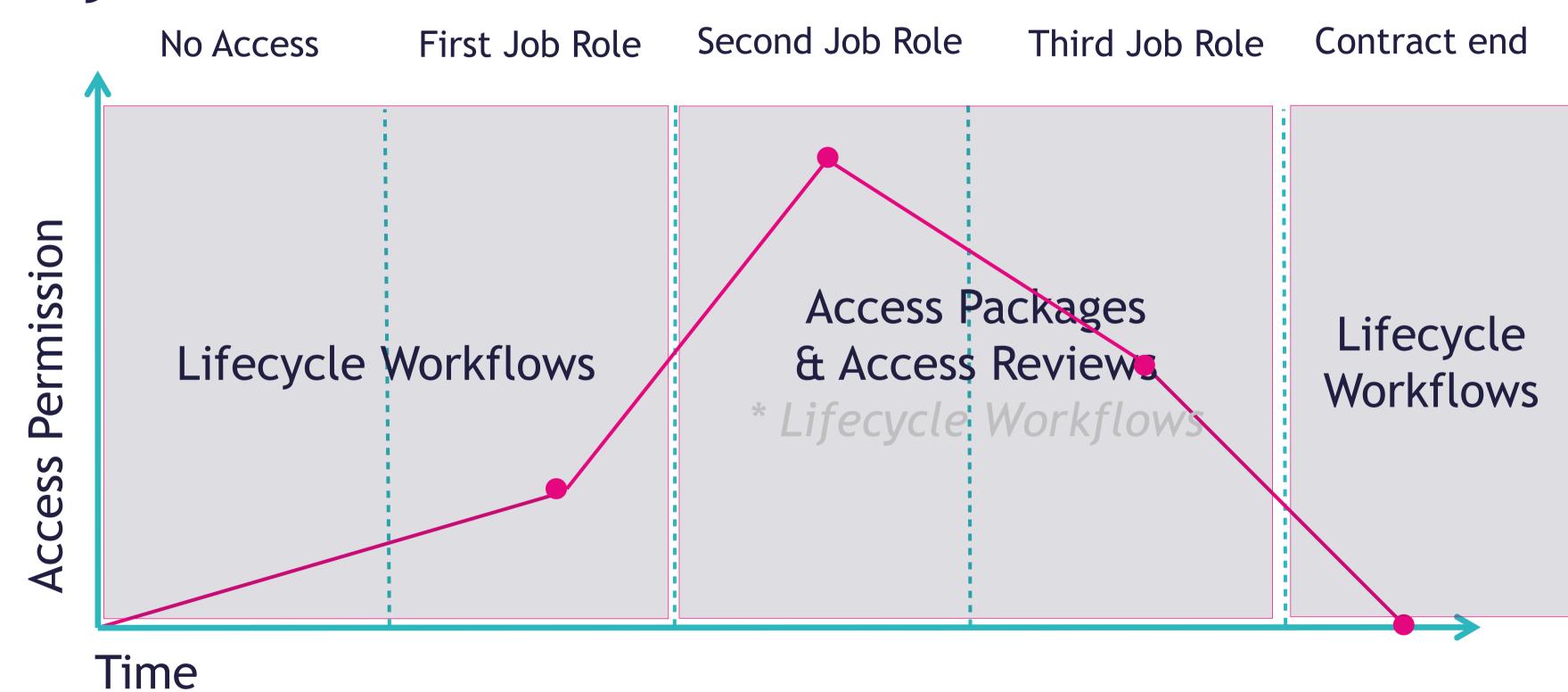
Demo . time!



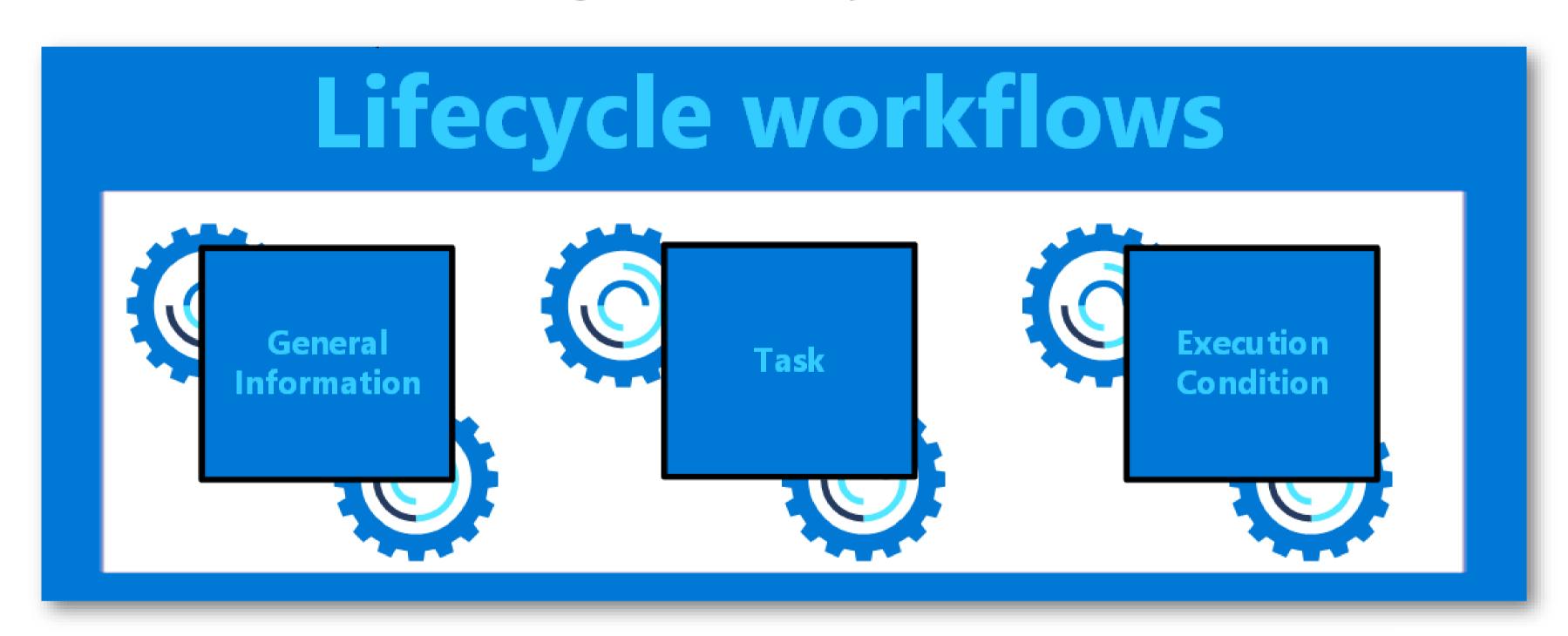
Lifecycle Workflows



Lifecycle Workflows

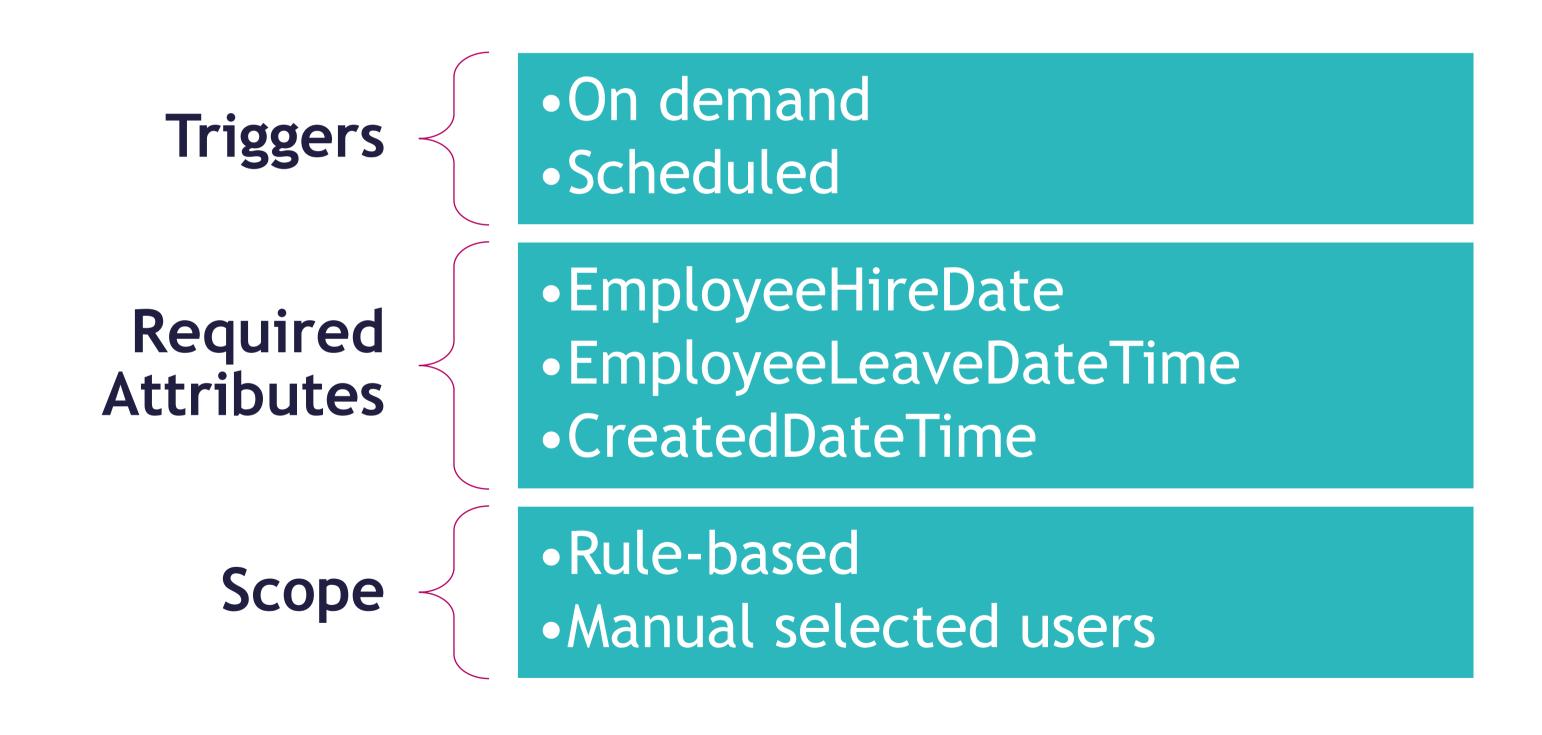


Understanding Lifecycle Workflows



Automate J(M)L

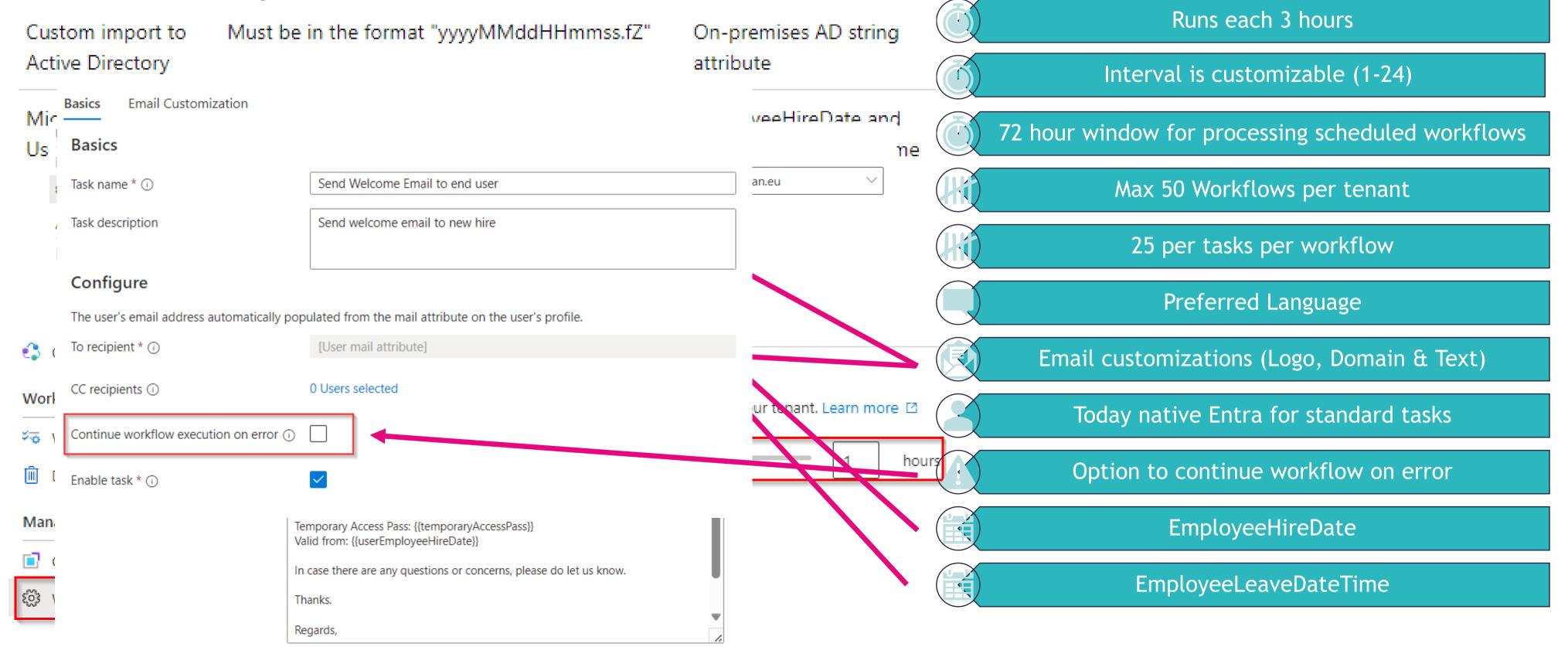
Execution conditions



Lifecycle Workflows facts

Dynamic based on recipient (Default)

Email language translation (i)



 \vee

Custom task extensions

Lifecycle workflows

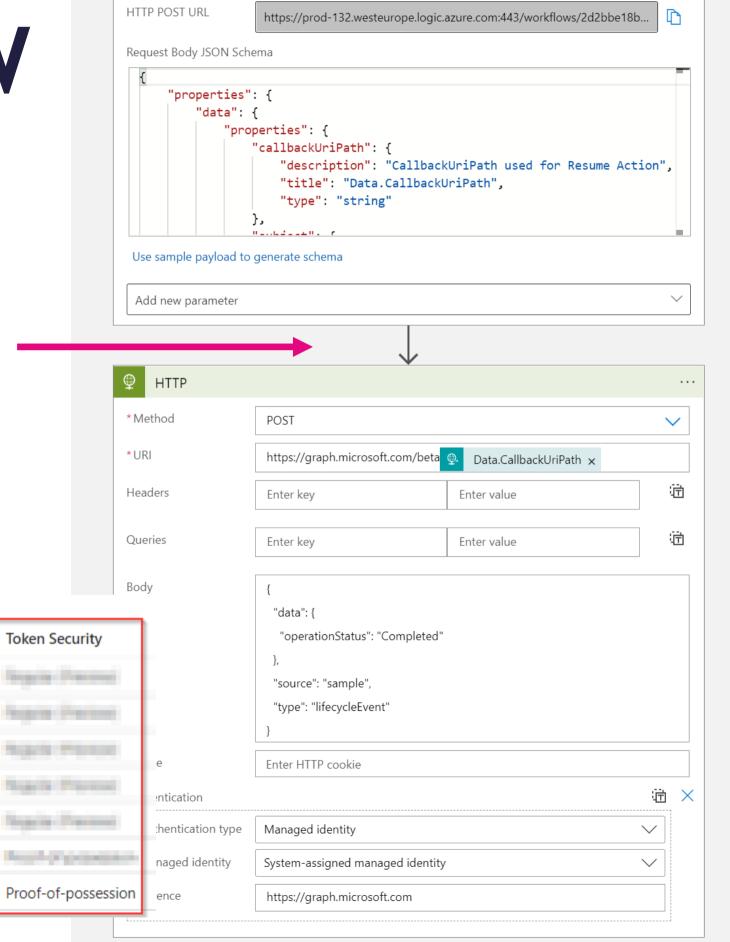


Logic Apps

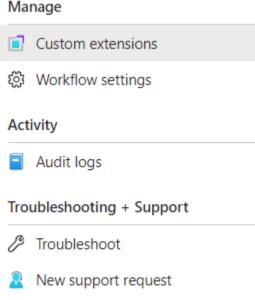
Prepare Logic Apps for LCW

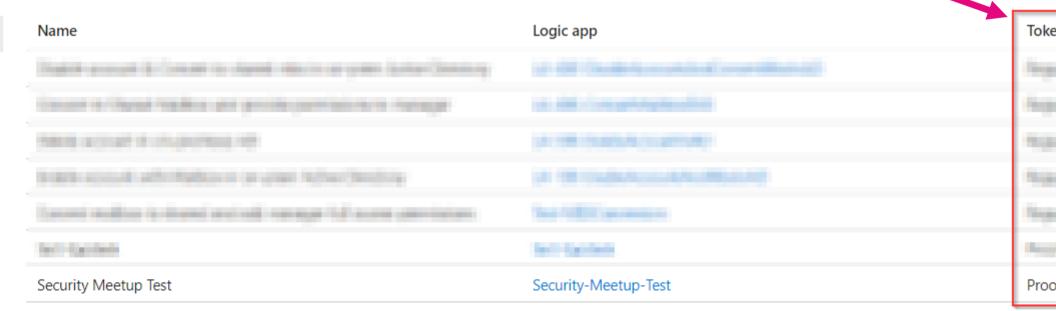
- Trigger + Callback action
- System assigned managed identity
- Authorization policy

This is where you can build your own magic!

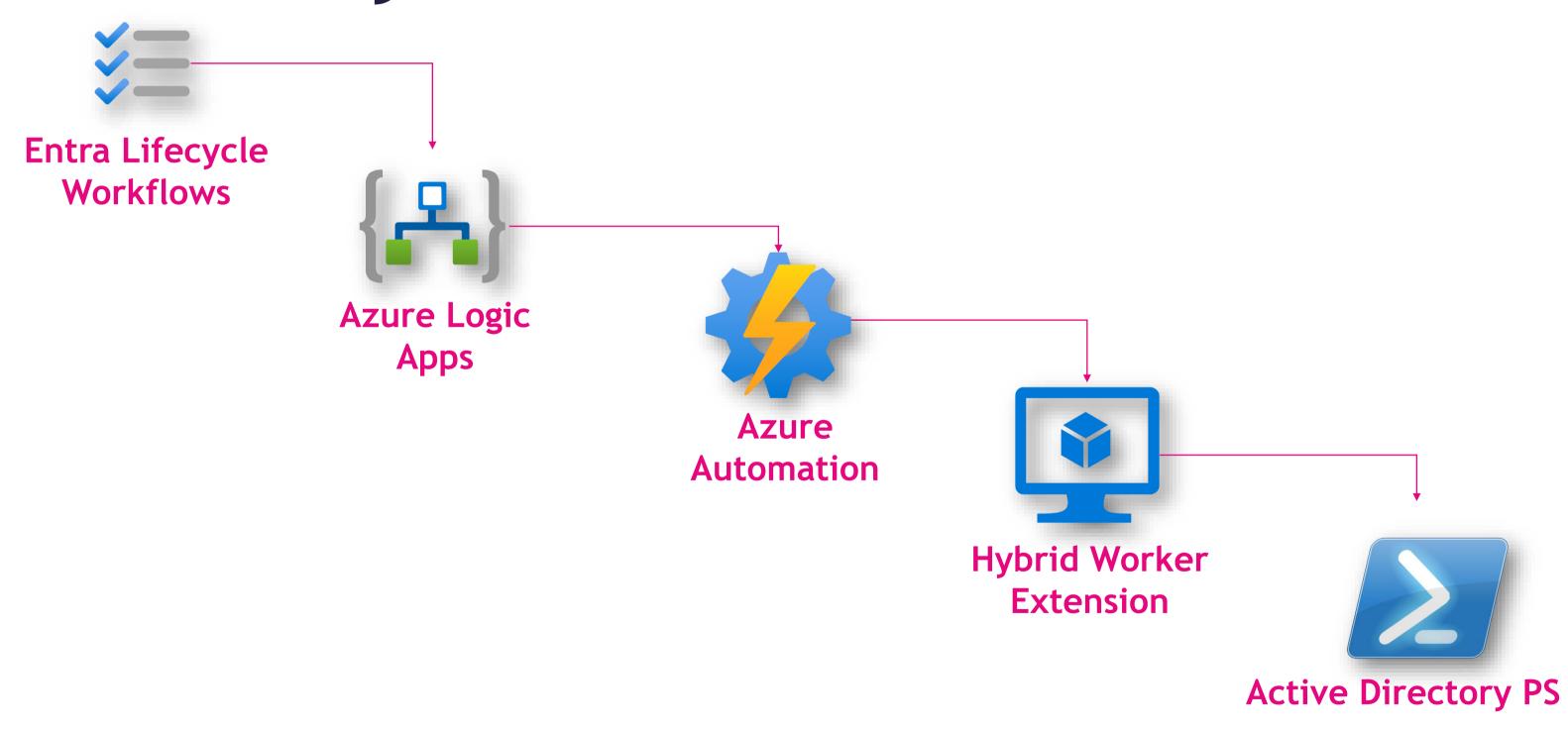


When a HTTP request is received



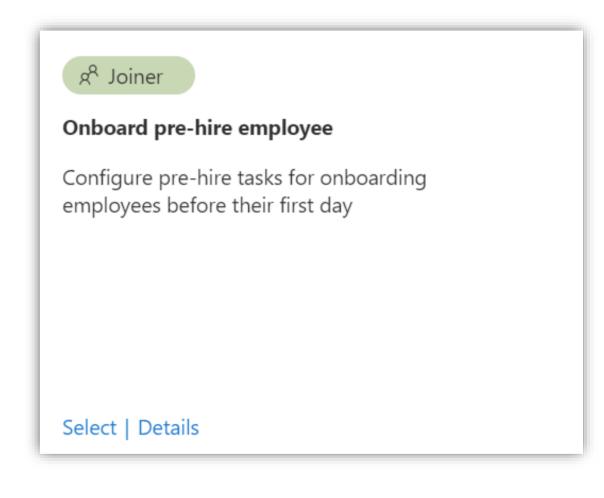


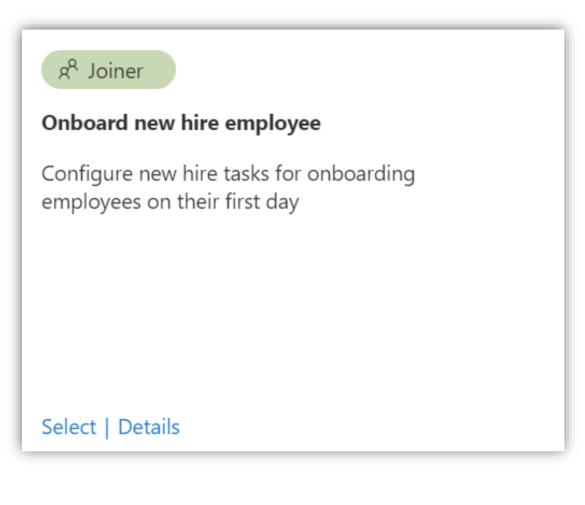
What about Hybrid Identities?

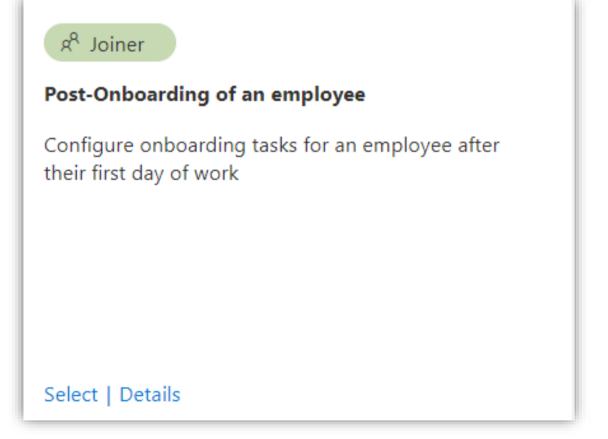




Available workflow templates for joiners:



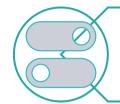




Onboarding Tasks



Add or Remove user to group



Enable or disable User Account



Generate TAP and send to manager



Send welcome mail



Add or Remove user from selected Teams



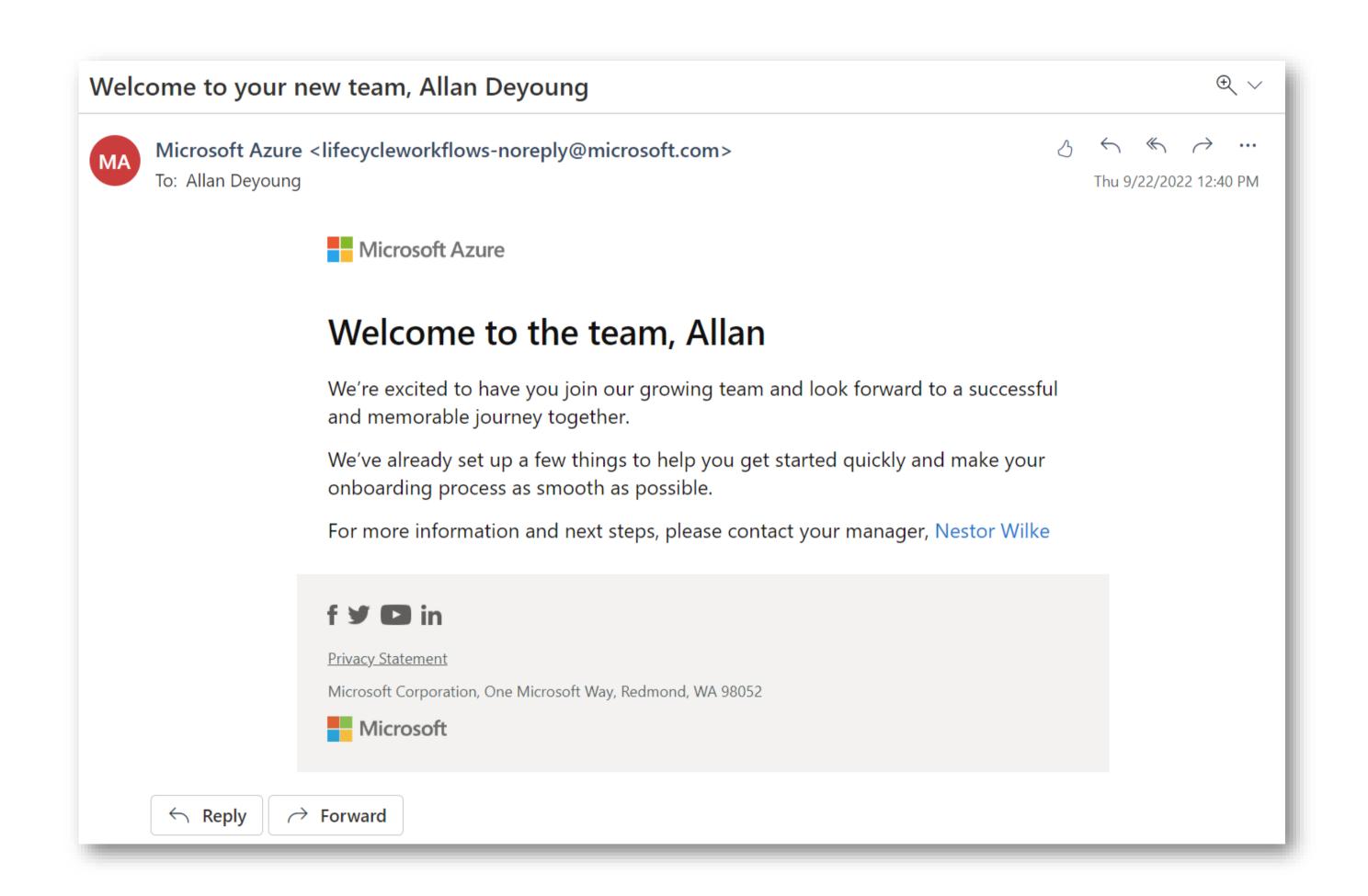
Send onboarding reminder email

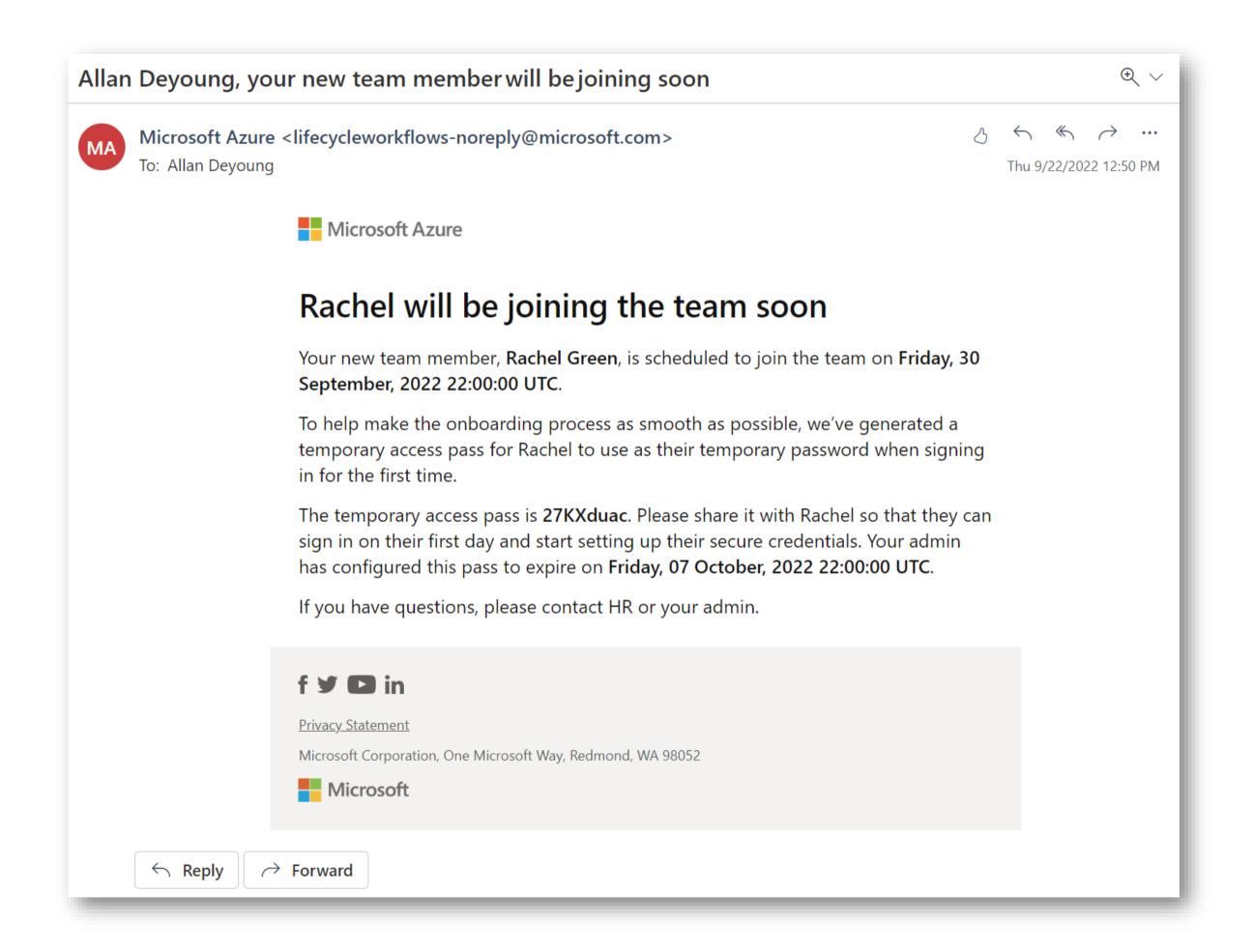


Run custom task extension

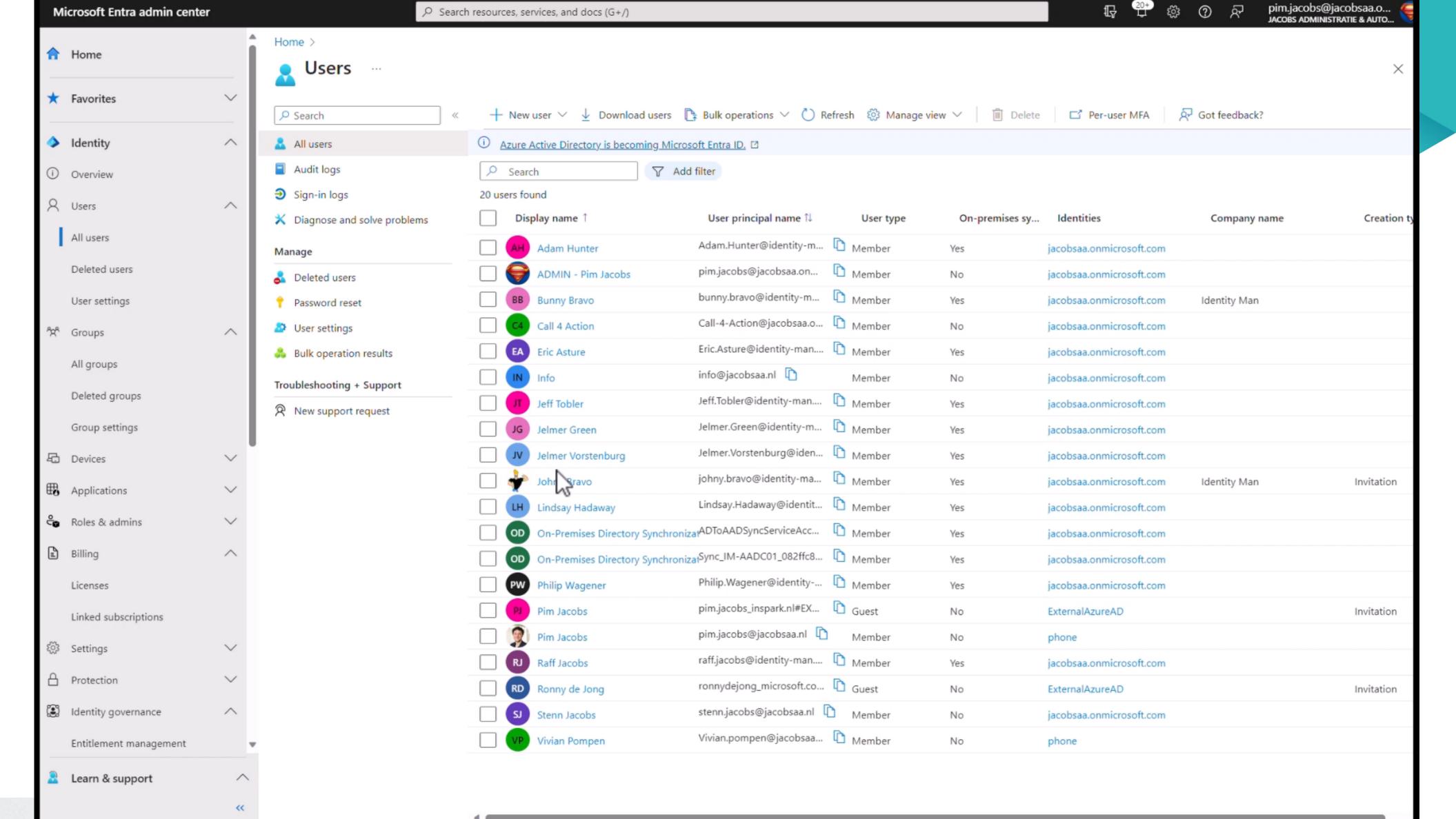


Request user access package assignment



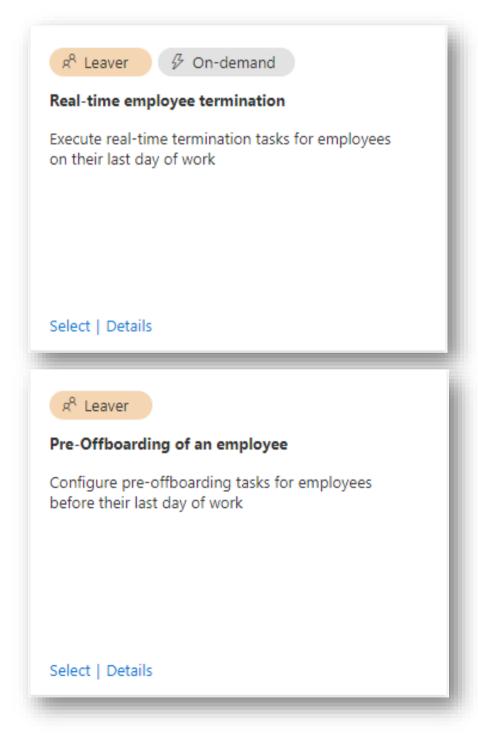


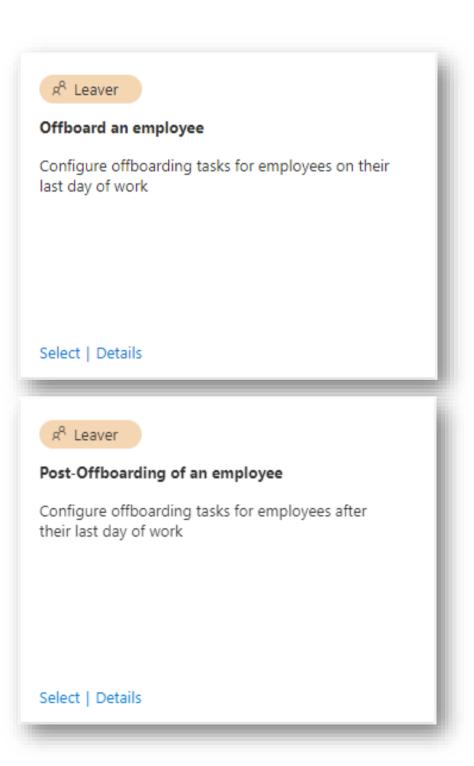
Demo . time!



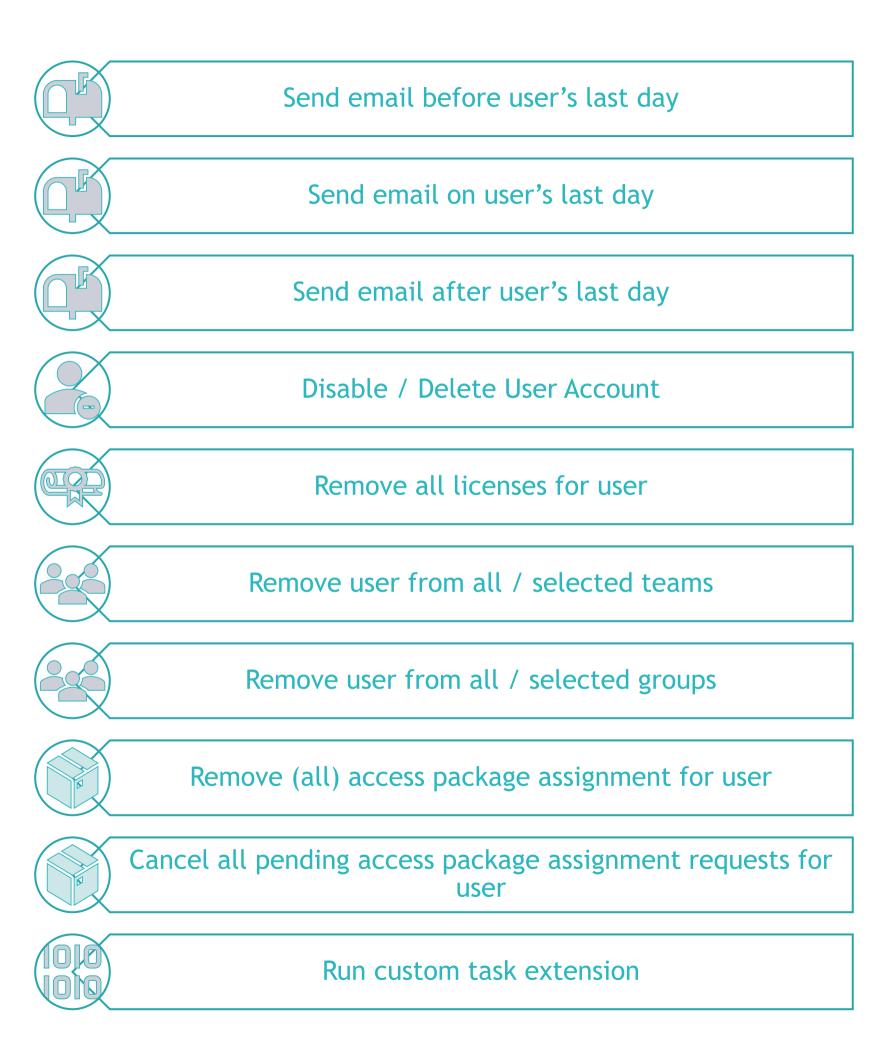
Lifecycle Workflows

Available workflow templates for leavers:





Offboarding Tasks



Bunny Bravo verlaat de organisatie vandaag



Microsoft Azure < lifecycleworkflows-noreply@microsoft.com>
Aan: Pim Jacobs



Bunny Bravo verlaat de organisatie vandaag.

Hallo Pim Jacobs,

Uw teamlid Bunny Bravo, is gepland om de organisatie vandaag te verlaten, 9/2/2022.

Uw organisatie heeft het offboarding-proces gestart en er zijn al specifieke acties gepland om het offboarding-proces te voltooien. Met deze acties wordt de toegang tot bedrijfsbronnen, zoals groepen en Microsoft 365 Teams, verwijderd en kan Bunny zich mogelijk niet meer aanmelden.

Als u vragen hebt, neemt u contact op met HR of uw beheerder.

Deze e-mail wordt gegenereerd op basis van een niet-bewaakte alias. Beantwoord niet.



<u>Privacyverklaring</u>

Microsoft Corporation, One Microsoft Way, Redmond, WA 98052







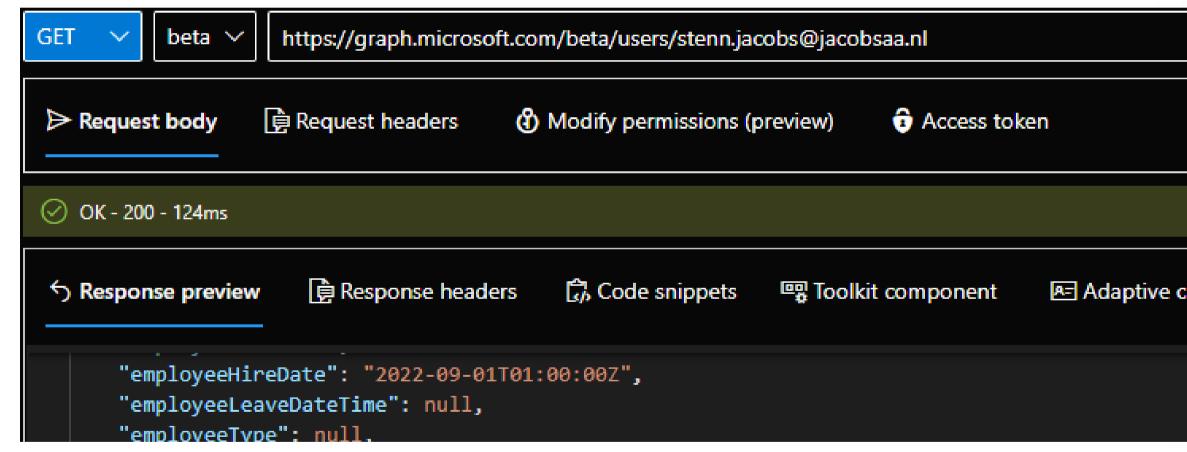
Is leaver data exposed?

Not by default, required application permissions:

User.Read.All & User-LifeCycleInfo.Read(Write).All

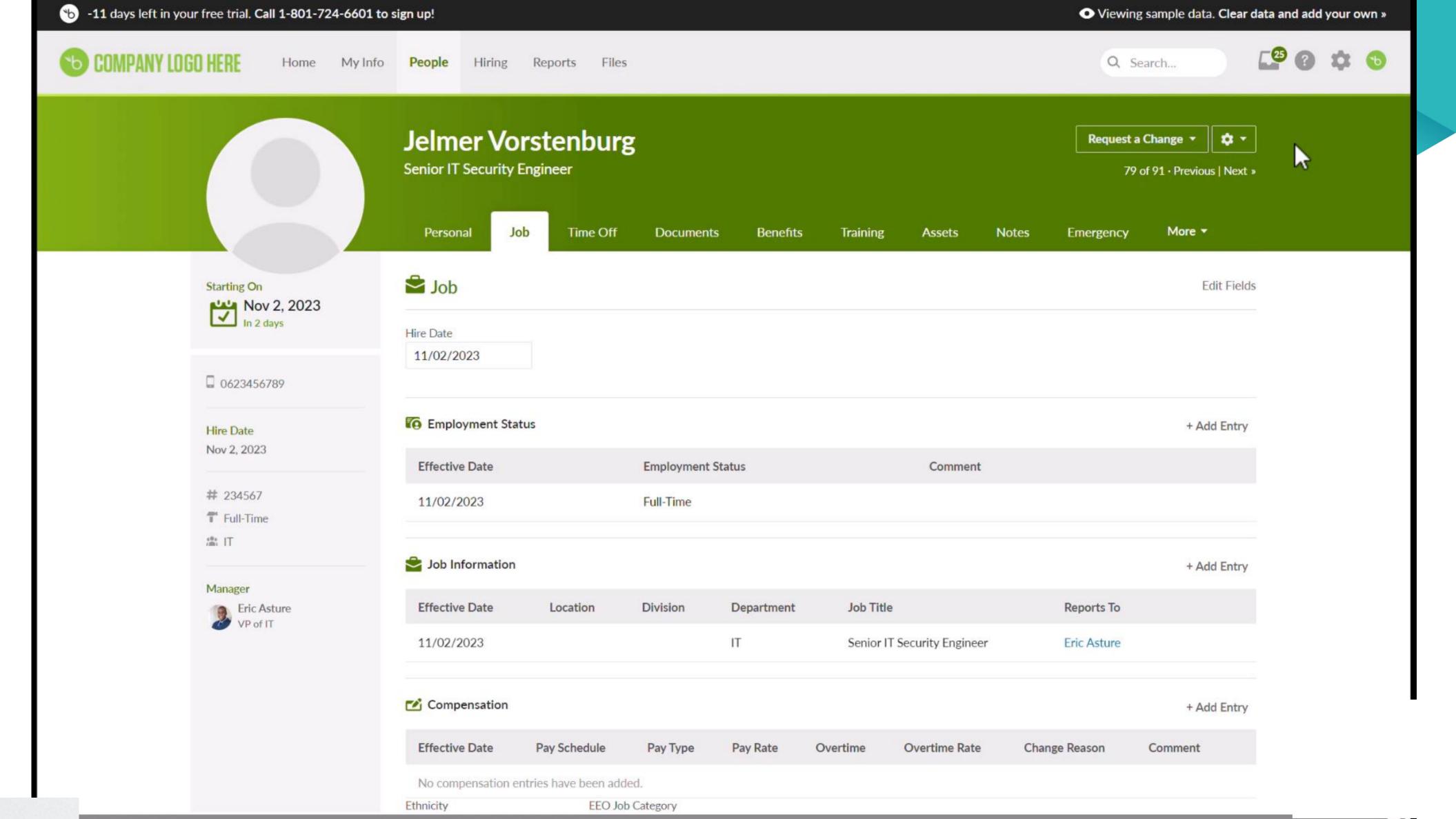
For delegated permissions:

- User.Read.All
- User-LifeCycleInfo.Read(Write).All
- AND, Global Admin permissions



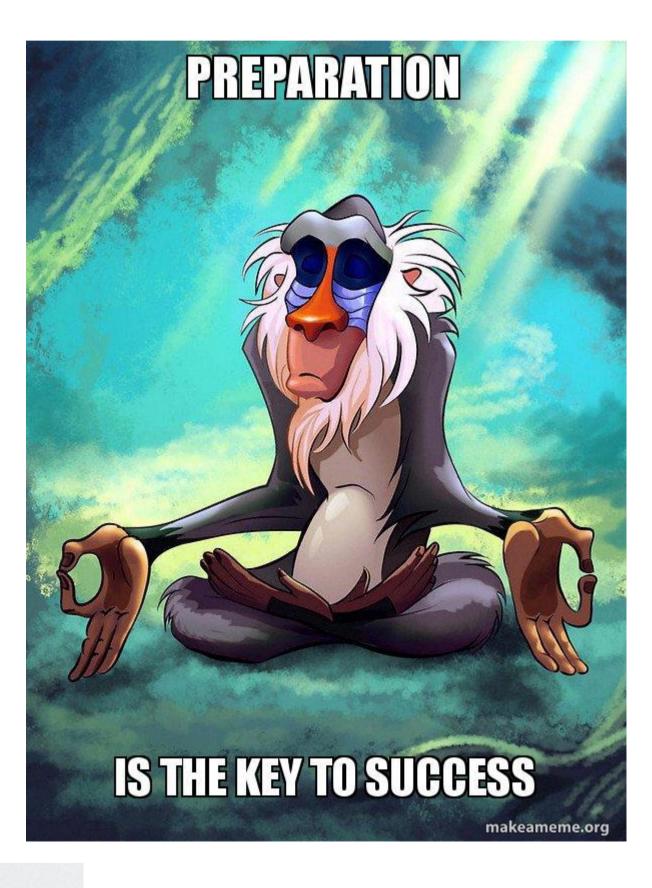
```
"employeeId": null,
"employeeHireDate": "2022-11-01T01:00:00Z",
"employeeLeaveDateTime": "2022-12-03T01:00:00Z",
"employeeType": null.
```

Demotime!



Takeaways

Inbound Provisioning API preparations



Make sure that:

- HR is involved as they are a key stakeholder
- EmployeeID is stamped on existing users
- Define a small pilot group for scoping on single department or company

Inbound Provisioning API implementation

Keep in mind that:

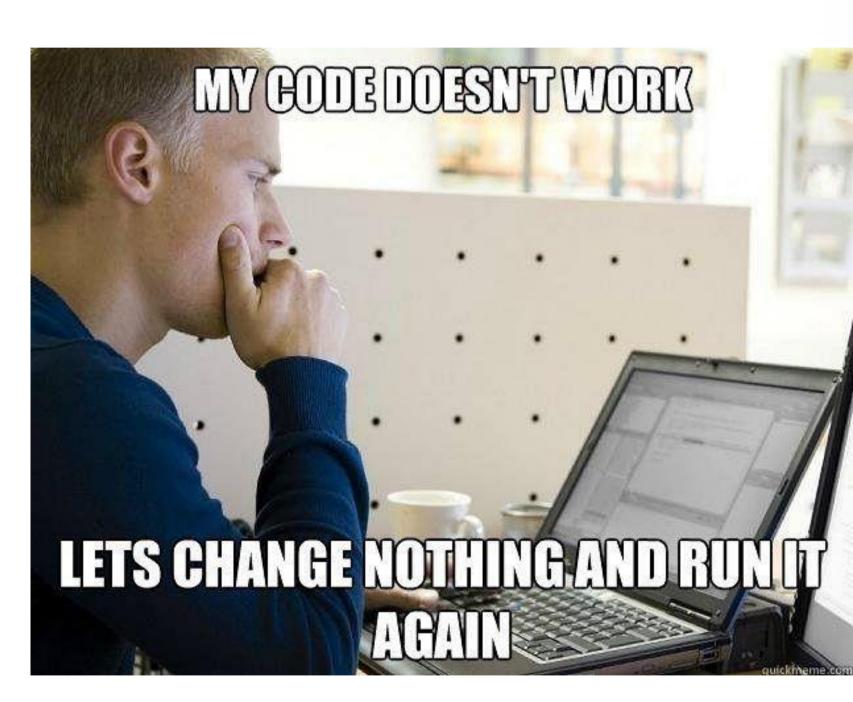
- With conflicting UPNs the user won't be provisioned.
- If you set the same EmployeeID on two or more objects the provisioning will throw a failure.
- Don't update UPN, SamAccountname and AccountEnabled (Only during object creation)



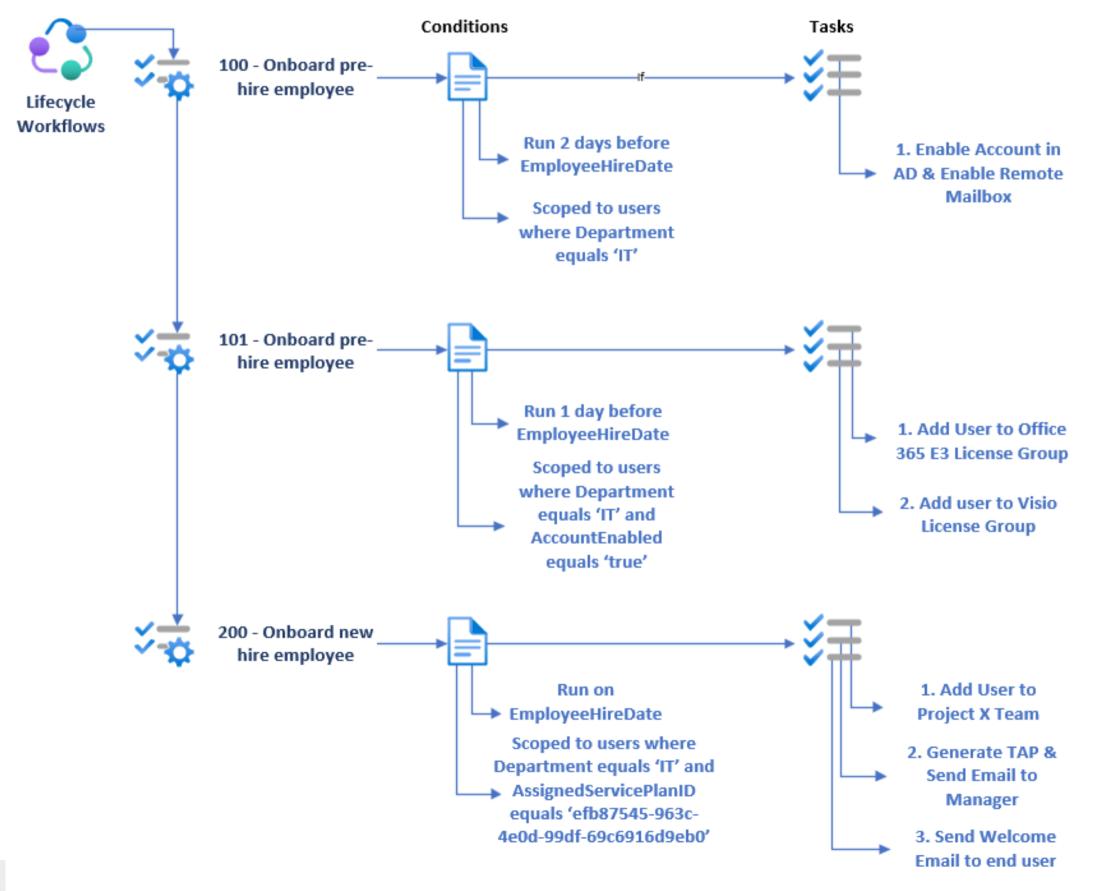
Inbound Provisioning API implementation

Keep in mind that:

- The manager is mapped based on the EmployeeID and <u>must</u> be in scope for provisioning to be set.
- The CN in Active Directory won't be updated even if set to always.
- An empty value received from the API won't overwrite an attribute value which has a value.



Plan 4 Lifecycle Workflows





Start simple and basic, <u>but with</u> <u>a plan!</u>

Fill the gaps with Azure Logic Apps to provide hybrid support and custom/complex tasks.

Least privilege

Lifecycle Workflows Administrator

Users in this role can create and manage all aspects of workflows and tasks associated with Lifecycle Workflows in Microsoft Entra. This role also grants the ability to check the execution of scheduled workflows, launch on-demand workflow runs, and inspect workflow execution log.

(Cloud) Application Administrator

Users in this role can add, manage, and configure enterprise applications, app registrations but will not be able to configure or manage on-premises like app proxy.



Lessons Learned



- The Inbound Provisioning API is extremely powerful so extend the user scope slowly and get HR involved.
- Preferably use an API of HR where possible!
- Configure dependencies on previous Lifecycle Workflows (like we also recommend in MIM).
- If the 1st of the month is a Saturday, we do require a Temporary Access Pass which is valid for 3 days (using built-in example).
 - When you want to go Passwordless Lifecycle Workflows can be extremely helpful (for onboarding and restrictions!)
 - Multi-use Temporary access passes are required
- Reboots during Out-of-the-Box experience are killing when providing temporary access passes with Lifecycle Workflows!

G & A

Thank you!