



PROMARK FOR MICROSOFT DYNAMICS 365 FOR FINANCE AND OPERATIONS

FUNCTIONAL DOCUMENTATION

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PROMARK FOR MICROSOFT DYNAMICS 365 FOR FINANCE AND OPERATIONS

0 REVISION LOG

Version	Date	By	Remarks
1.00	6/1-2020	VPE	Document created
1.01	7/5-2020	RAST	Added support to switch between journal and timesheet posting
1.02	20/8-2020	MOJ	Added section for Automated processing of ProMark registrations

1 PURPOSE

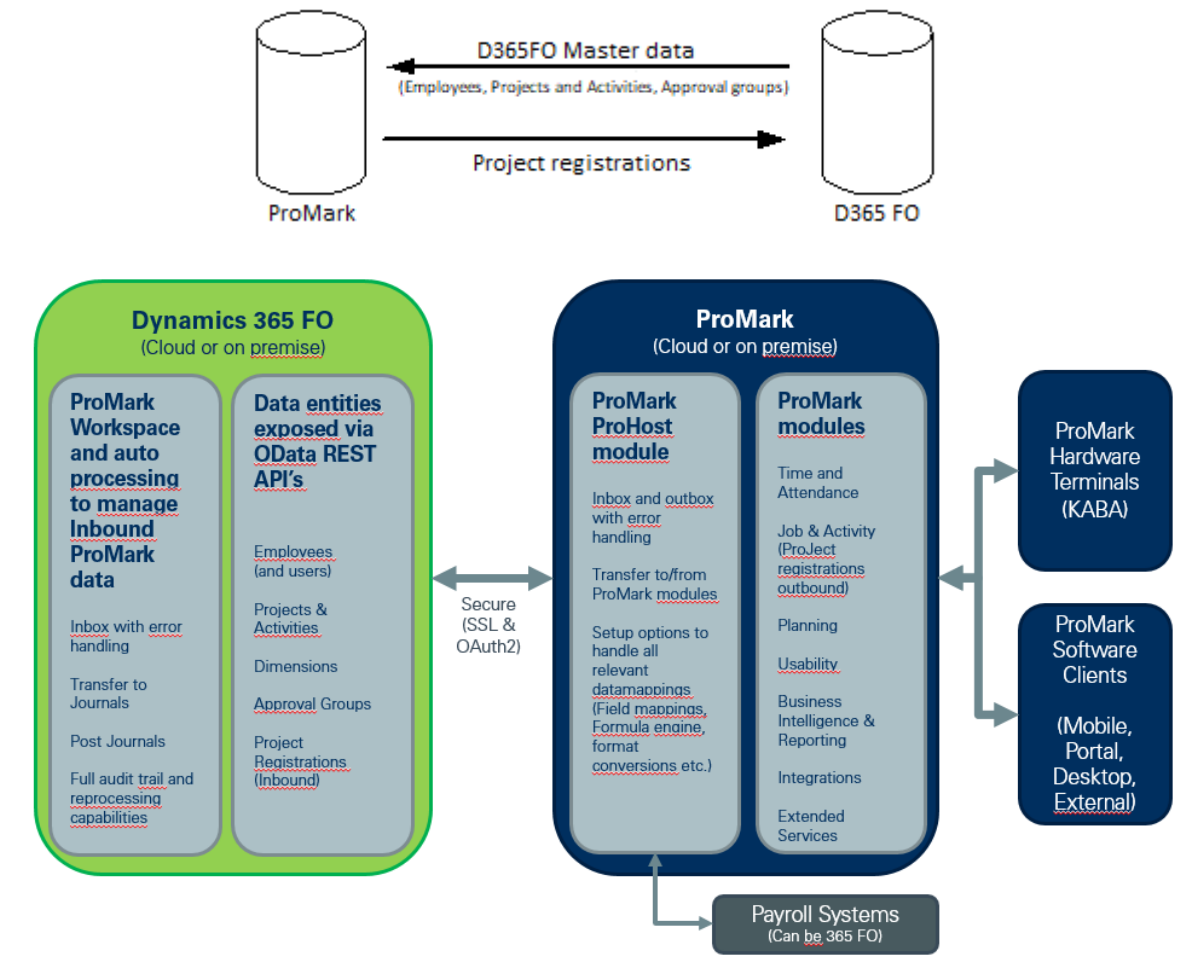
1.1 PURPOSE

This document describes the functional part of the interface between ProMark and Microsoft Dynamics 365 Finance and Operations. The document describes which functionalities the interface between ProMark and Dynamics 365 for Finance and Operations supports.

1.2 SCOPE OF THE INTERFACE

This integration covers exchange of data between ProMark and Dynamics 365 for Finance and Operations using OData APIs.

The illustrations below show how the dataflow of the interface works.



1.3 INTERFACE TECHNOLOGY

The communication between ProMark and Dynamics 365 for Finance and Operations is based on a new driver in the ProHost module, which handles OData API calls. OData is a standard protocol for creating and consuming data. The purpose of OData is to provide a Representational State Transfer (REST)-based protocol for Create, Read, Update, and Delete (CRUD)-style operations.

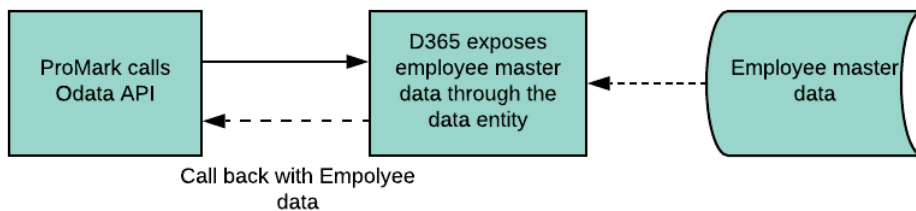
The driver, when scheduled, calls the relevant endpoints to import/export data to/from ProMark

2 INTEGRATION OVERVIEW

Entity	Master system	Direction	Trigger data exchange	Technology
Employees	D365	Export from D365	ProMark	ODATA
Approval Groups	D365	Export from D365	ProMark	ODATA
Project and Activities	D365	Export from D365	ProMark	ODATA
Project and Activities deletion	D365	Export from D365	ProMark	ODATA
Financial dimensions	D365	Export from D365	ProMark	ODATA
Time registration	ProMark	Import into D365	ProMark	ODATA

2.1 EMPLOYEES EXPORT

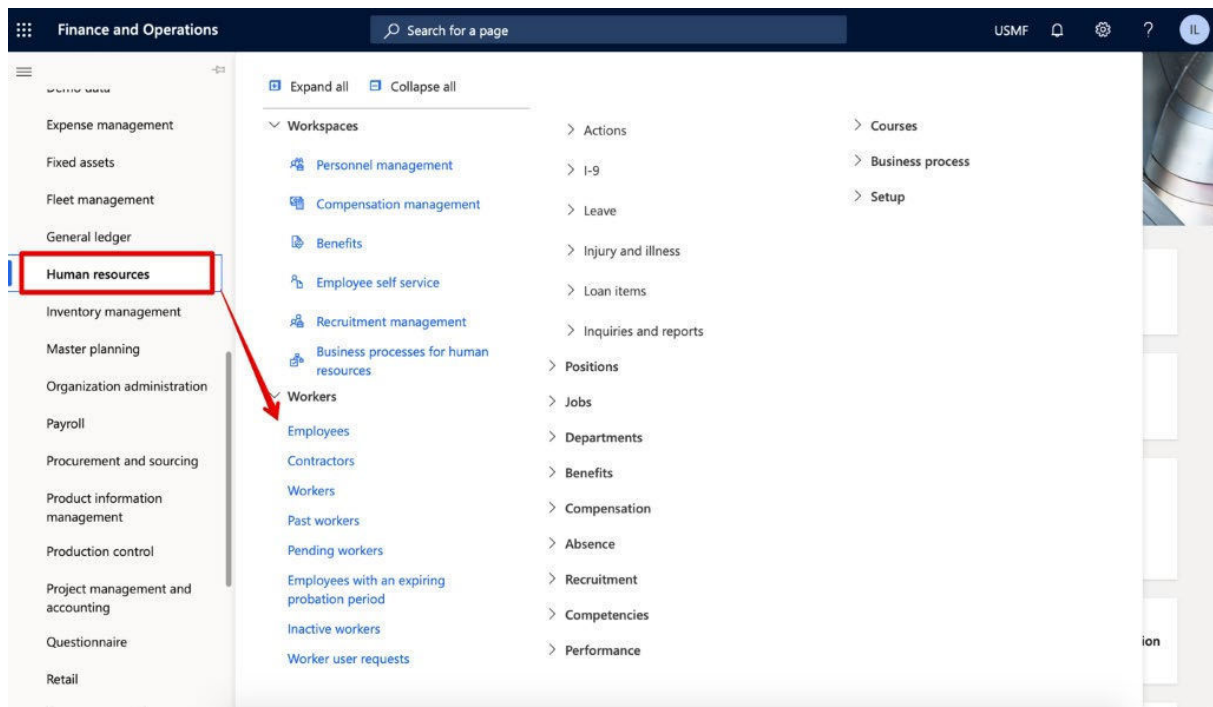
This integration is intended to synchronize employee master data between the two systems. This is one-direction integration, when ProMark system calls Dynamics 365 for Finance and Operations to extract employee master data.



For detailed field mapping please refer to separate excel document and look at the “373 Create employee data” sheet.

2.1.1 Dynamics 365 for Finance and Operations interface

User can find the Employee form by the following path: *Human resources > Workers > Employee*.



The API exposes employee data with an employment for an integration user default company.

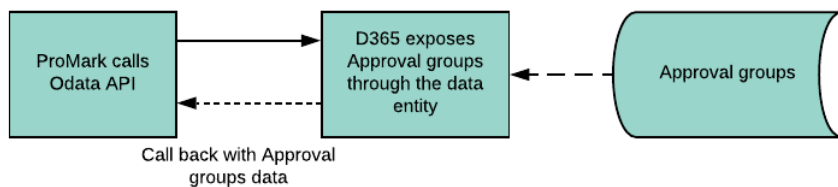
If there is no company's employment for a particular worker, user won't be able to find them on Employee form.

If user wants to add an employment for a specific worker for a specific company, user should go to Workers form, that is shared across all AX companies, and create a new employment for that company. Once the employment is created, this worker becomes visible through Employee form as well.

2.2 APPROVAL GROUPS EXPORT

This integration is intended to expose D365FnO Approval group master data to be consumed by ProMark system. ProMark needs this master data in order to use it for Time and attendance feature functionality.

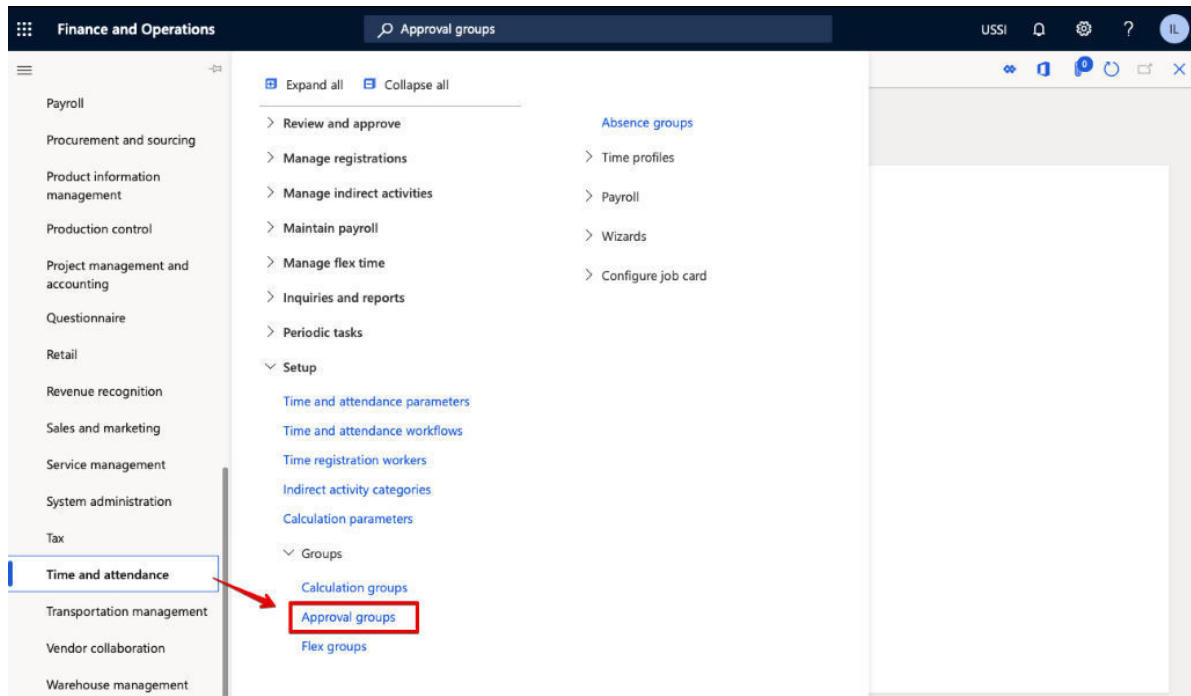
This is one-direction integration, when ProMark system calls D365FnO to request Approval groups data. It is supposed that ProMark doesn't change/create approval groups on their end.



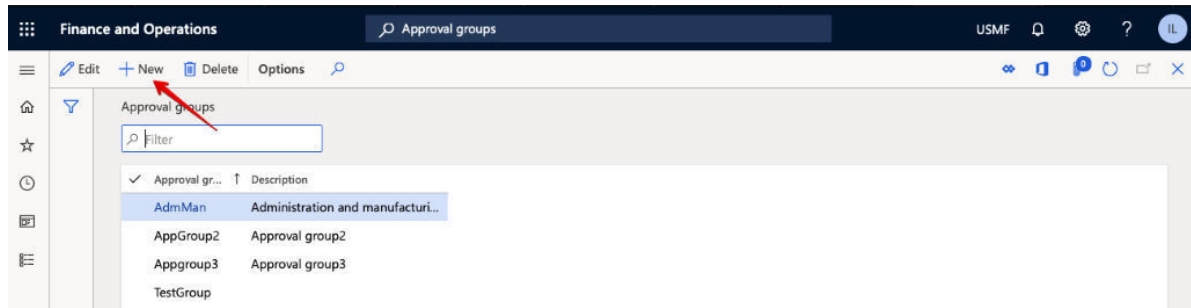
For detailed field mapping please refer to separate excel document and look at the "432 Create approval group" sheet.

2.2.1 Dynamics 365 for Finance and Operations interface

User can find approval groups by the following path: *Time and attendance* > *Setup* > *Groups*

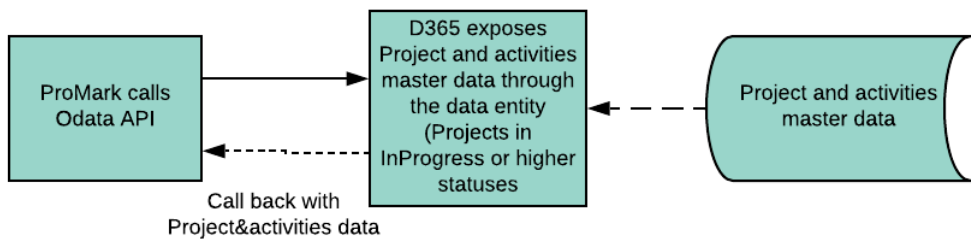


In order to create a new approval group, click New button on the Action pane and fill in *Approval group* and *Description* fields. Save the record.



2.3 PROJECT AND ACTIVITY EXPORT

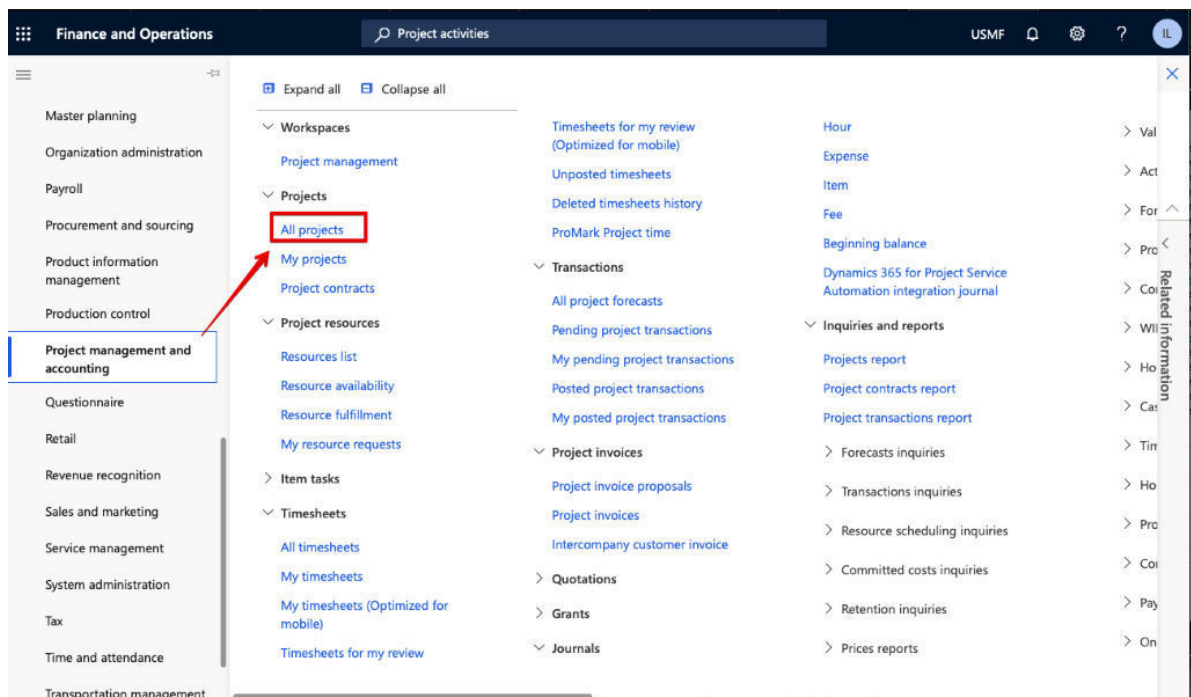
This integration is intended to synchronize project and activities master data between the two systems. This is a one-direction integration, when ProMark system calls Dynamics 365 for Finance and Operations to extract project and activities master data.



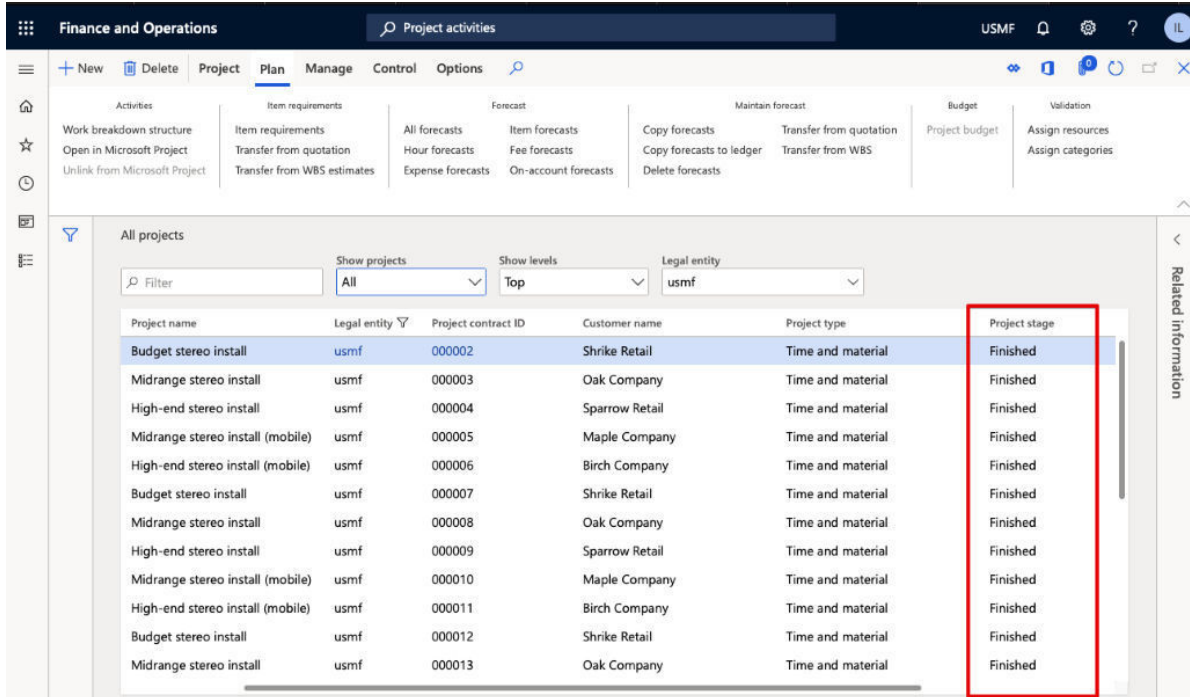
For detailed field mapping please refer to separate excel document and look at the “210 Create project and activity” sheet.

2.3.1 Dynamics 365 for Finance and Operations interface

In order to find the Projects form, navigate to *Project management and accounting > Projects > All projects*.

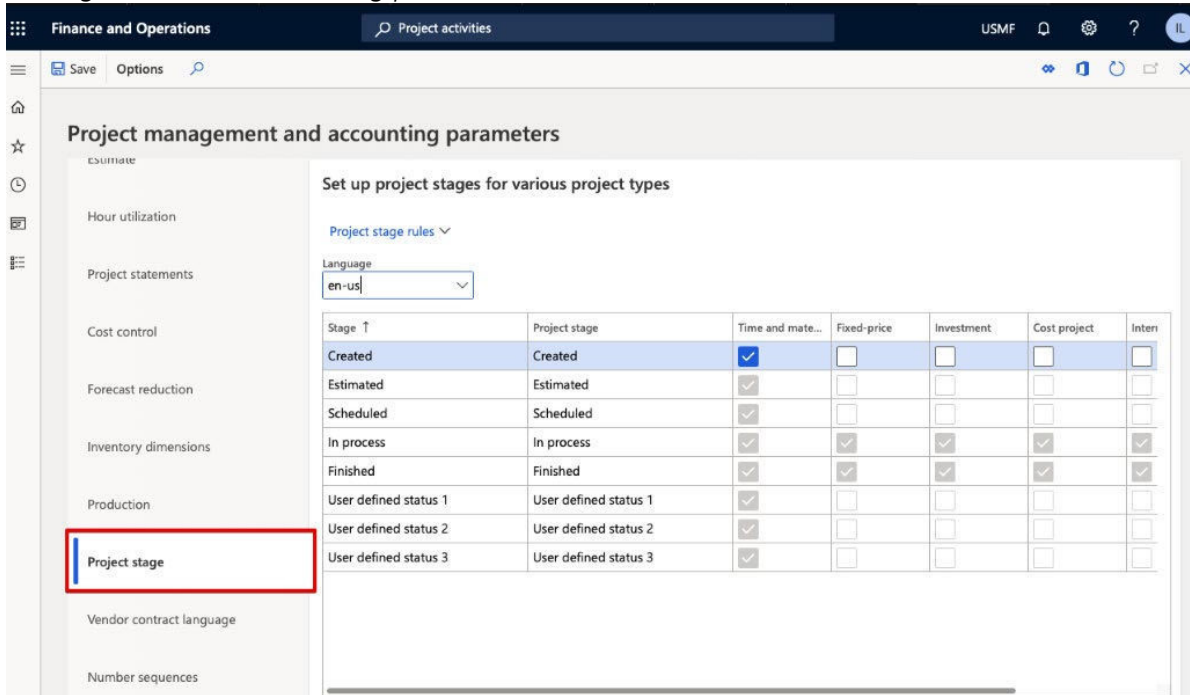


Only projects 'In Progress' and higher statuses will be exposed through the API.

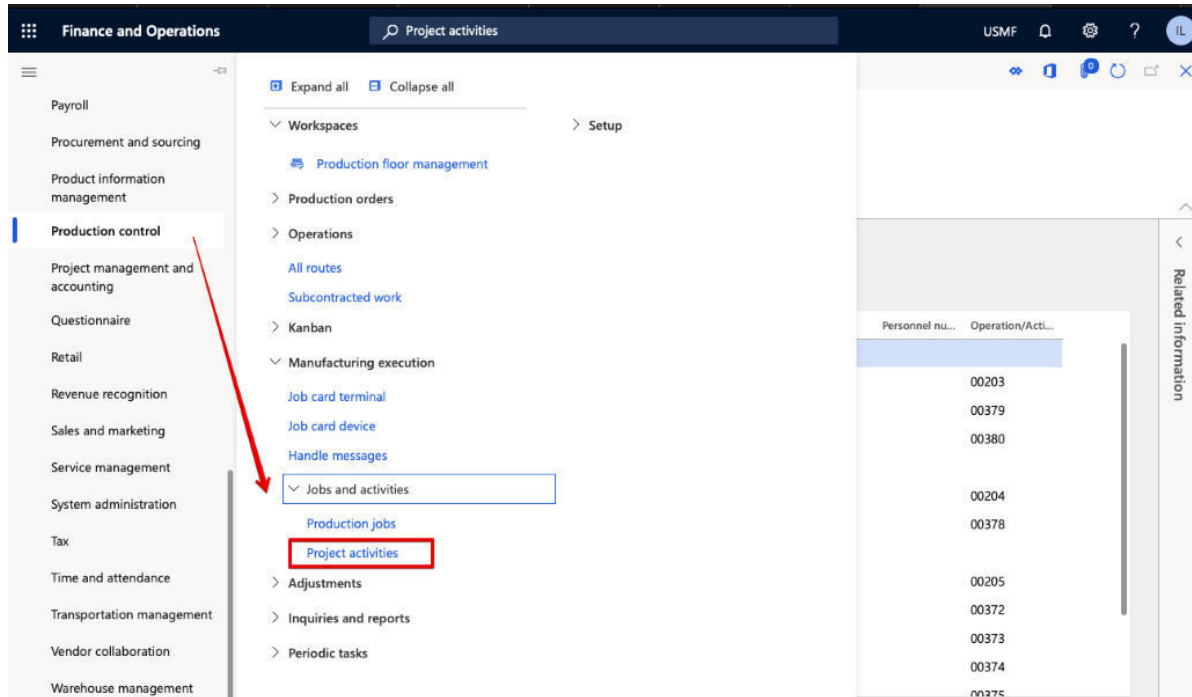


In OOTB functionality, user can set up 3 extra User Defined Statuses that will be displayed between 'In progress' and 'Finished' statuses. It means that depends on Customer's specific project setup, the API might expose projects in these statuses as well.

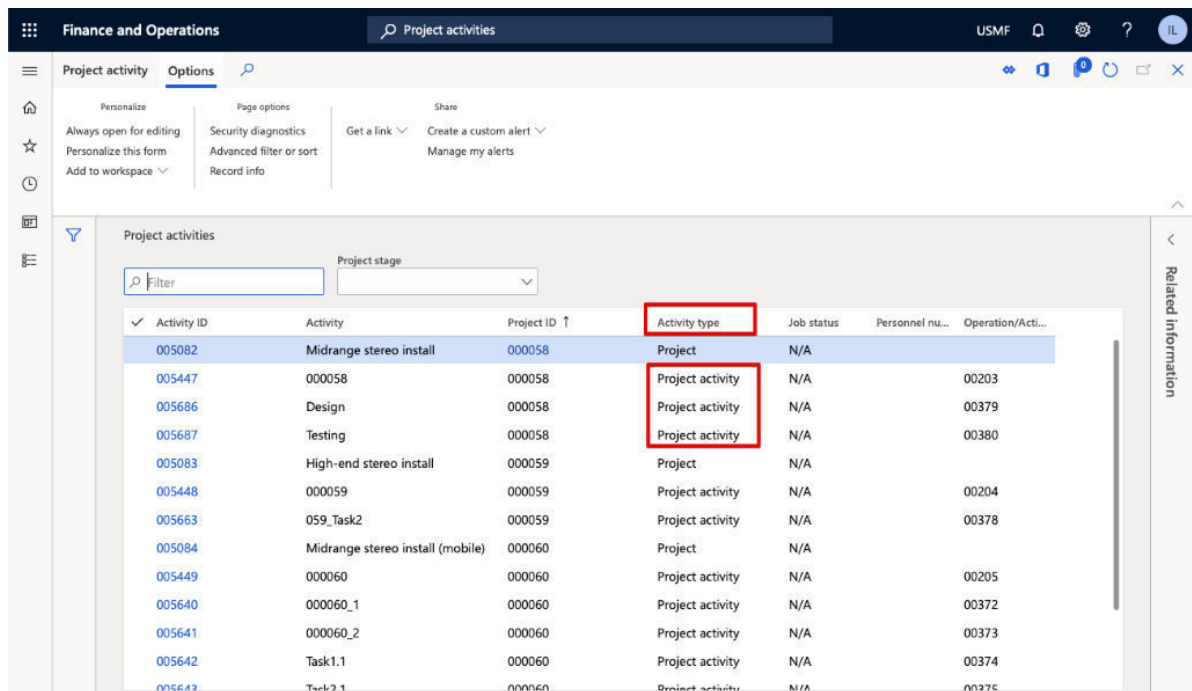
Project statuses setup is placed in *Project and accounting parameters* form, that user can find by the following path: *Project management and accounting > Setup > Project management and accounting parameters*.



In order to find *Project activities* form, navigate to *Production control > Manufacturing execution > Job and activities*.

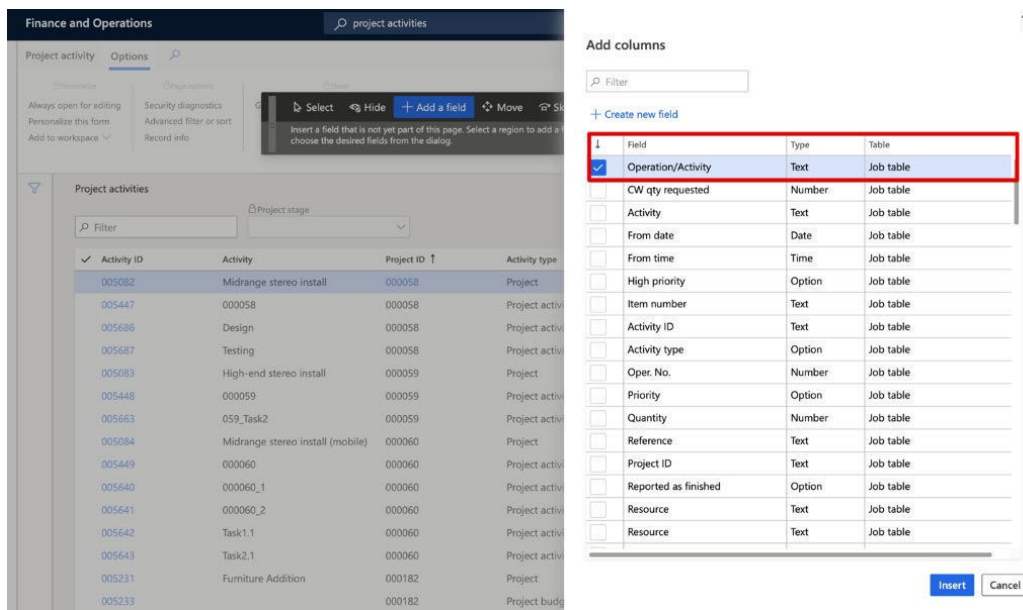
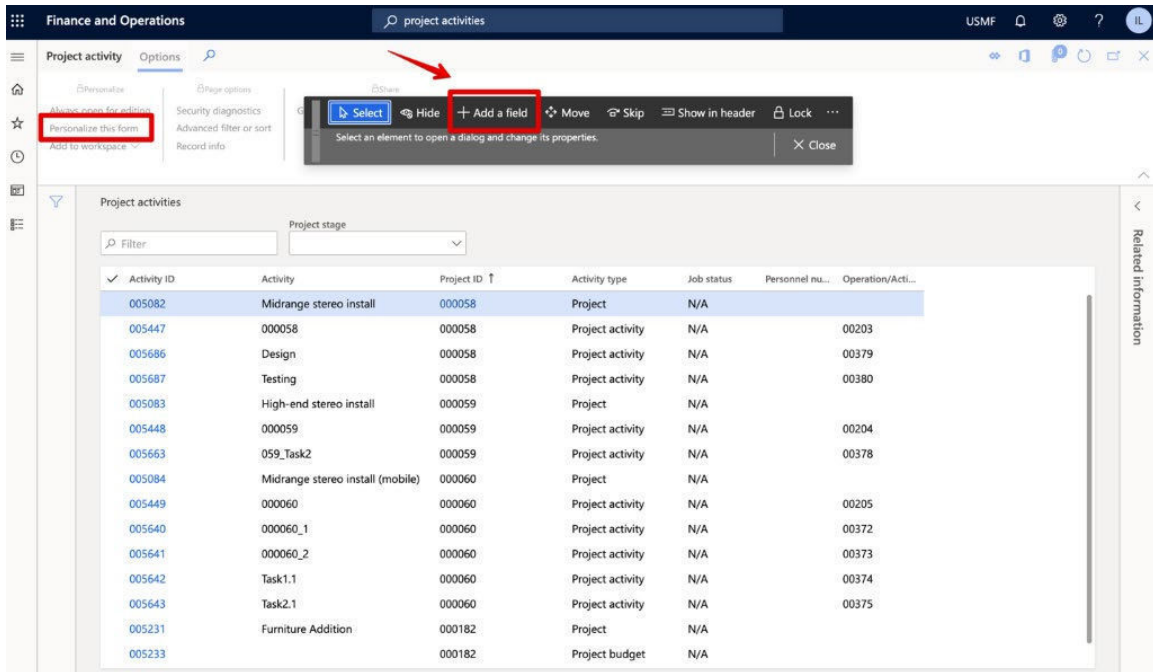


The API exposes project activities with *Project activity* type only. *Project Budget* and *Project* types are ignored by the system as they are not used by Project Timesheets functionality.



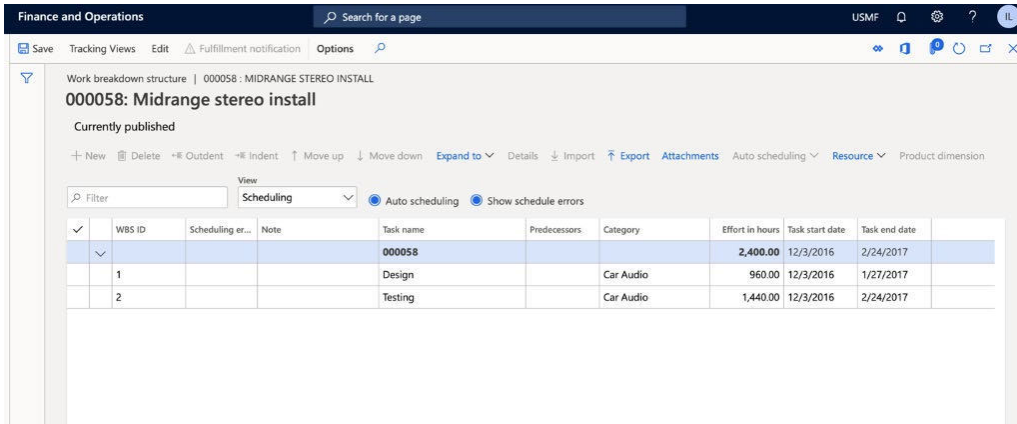
By default, Operation/Activity number isn't displayed on the Project activity form. In order to display this field, use form personalization.

Navigate to the *Action pane > Options > Personalize this form > Add a field button*. On the panel that is open on the right-hand side, select *Operation/Activity field*.



If user wants to add a new project activity, it might be done through WBS form for a particular project.

Path: Project management and accounting > Projects > All projects > Action pane > Plan Tab > Work breakdown structure.



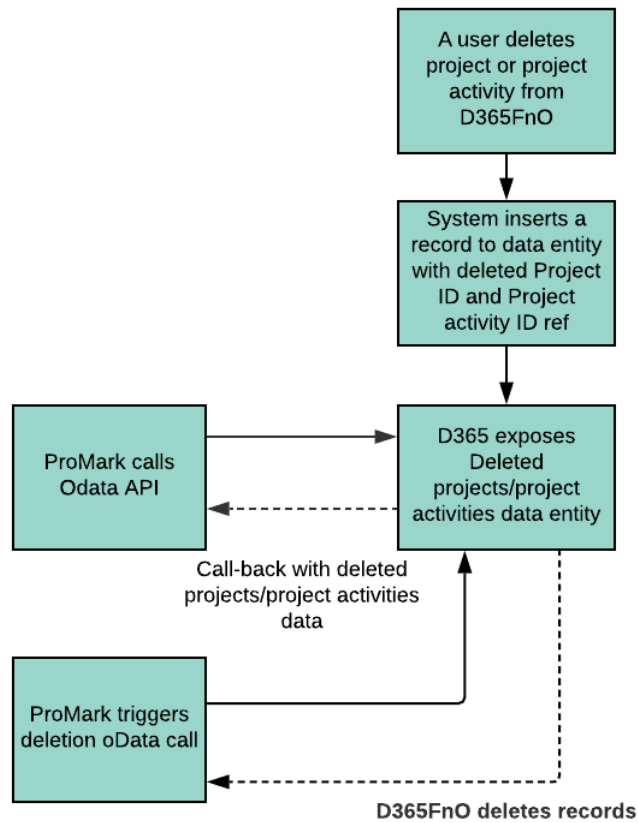
When user creates a new task, the WBS must be published. WBS in draft mode is not transferred to Project activities form, as a result, such an activity won't be exported through the API.

User can review the correct Project activity number through WBS form as well (use Details button)

2.4 PROJECT AND ACTIVITIES DELETION

This integration is intended to expose a list of Projects and Project activities that have been deleted from Dynamics 365 for Finance and Operations data base. ProMark will use this data in order to keep the list of projects and their activities up to date and delete unnecessary projects/activities from ProMark data base in time.

This is one-direction integration, when ProMark system calls Dynamics 365 for Finance and Operations to request the list of deleted projects and activities



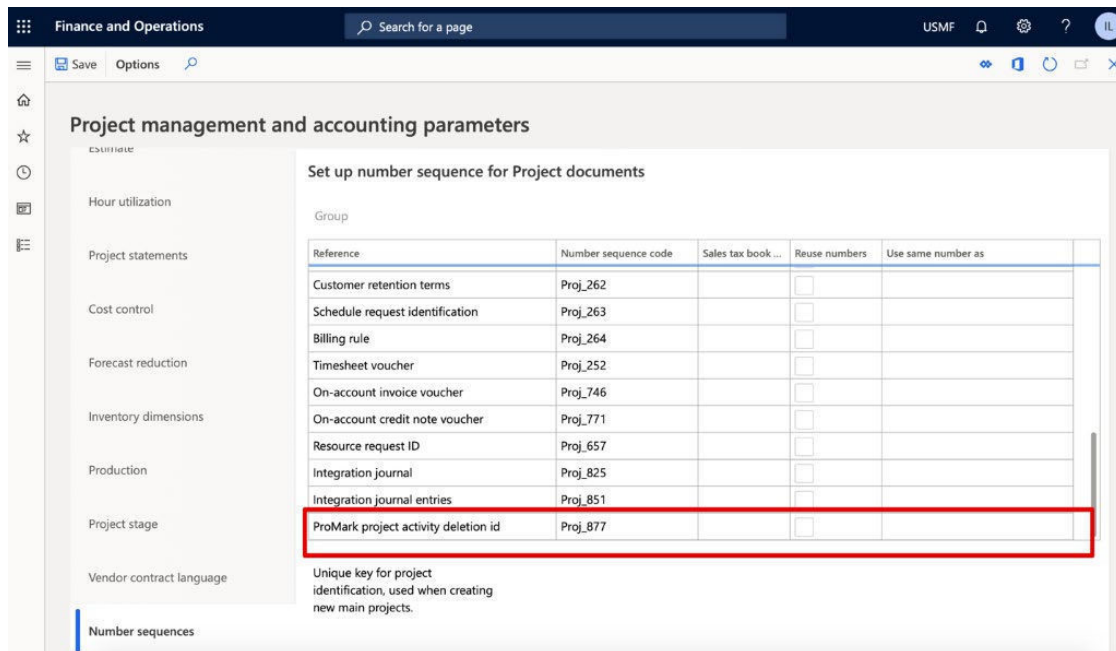
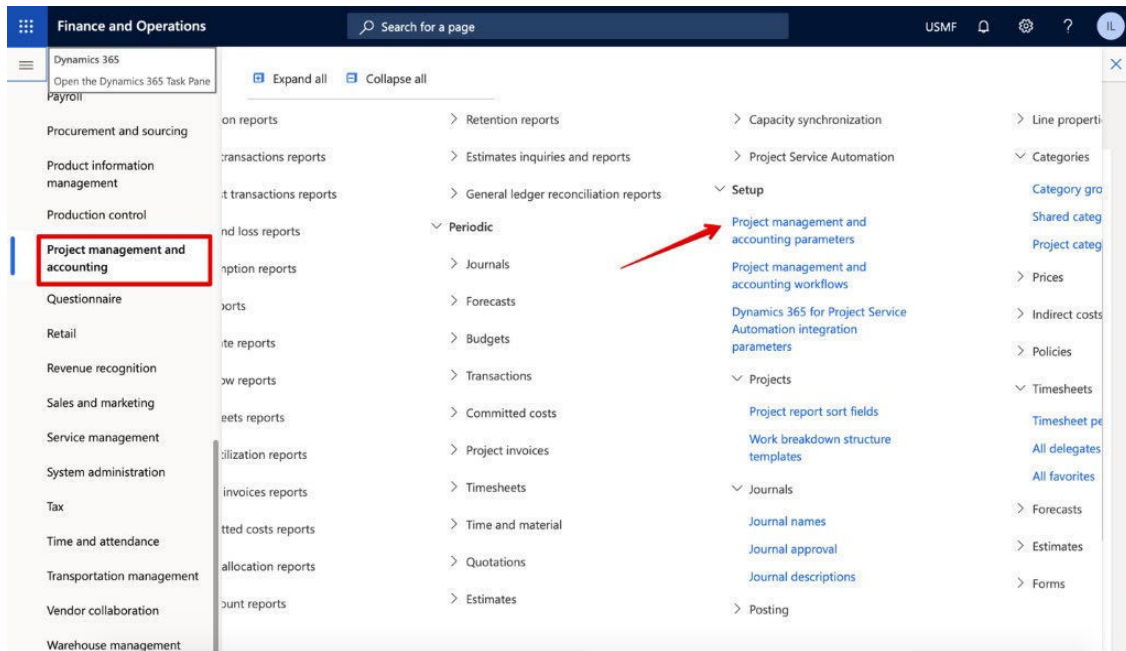
For detailed field mapping please refer to separate excel document and look at the “212 Delete project and activity” sheet.

2.4.1 Dynamics 365 for Finance and Operations interface

When project or project activities are deleted, system generates a deletion record. Each record in D365FnO has its unique number that might be generated automatically based on number sequence setup.

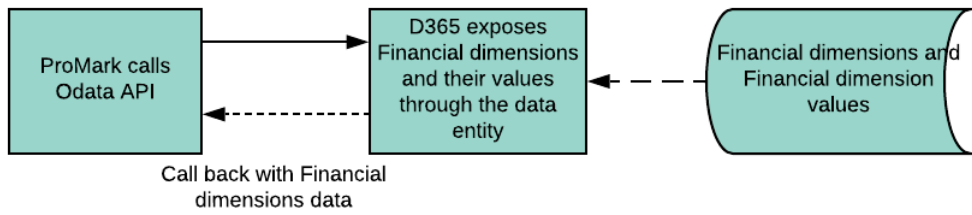
For that purpose, a reference for ProMark project activity deletion ID has been added to Project management and accounting parameters. *Path: Project management and accounting module > Setup > Project management and accounting parameters > Number sequence FastTab.*

Please, be sure, that some number sequence code is created and specified for that reference.



2.5 FINANCIAL DIMENSIONS EXPORT

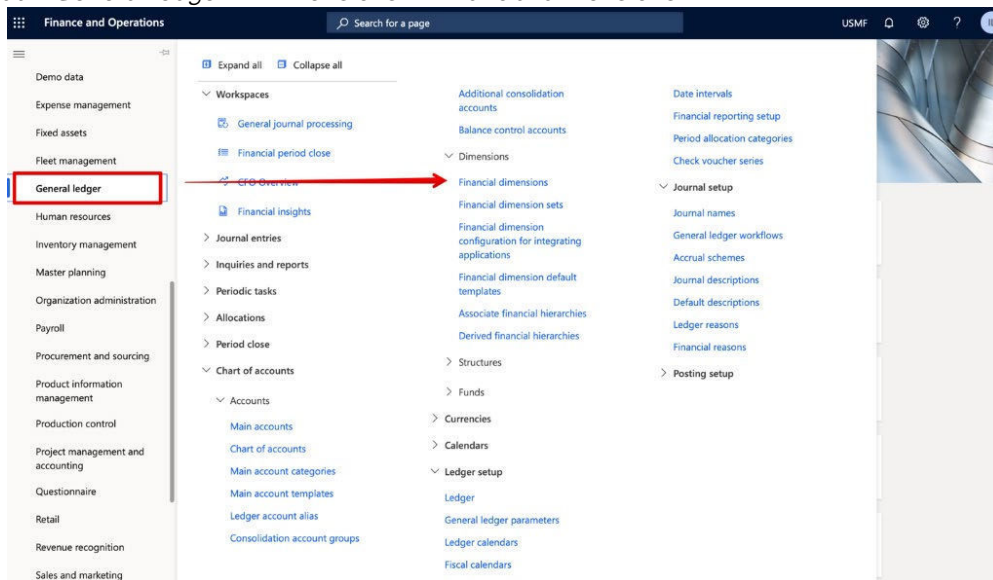
This integration is intended to expose a list of Financial dimensions and their values to be used by ProMark system. ProMark needs this master data in order to specify the right financial dimensions in employee time registration and send it to Dynamics 365 for Finance and Operations correctly. This is one-direction integration, when ProMark system calls Dynamics 365 for Finance and Operations to request all active financial dimensions. It is supposed that ProMark doesn't change/create financial dimensions on their end.



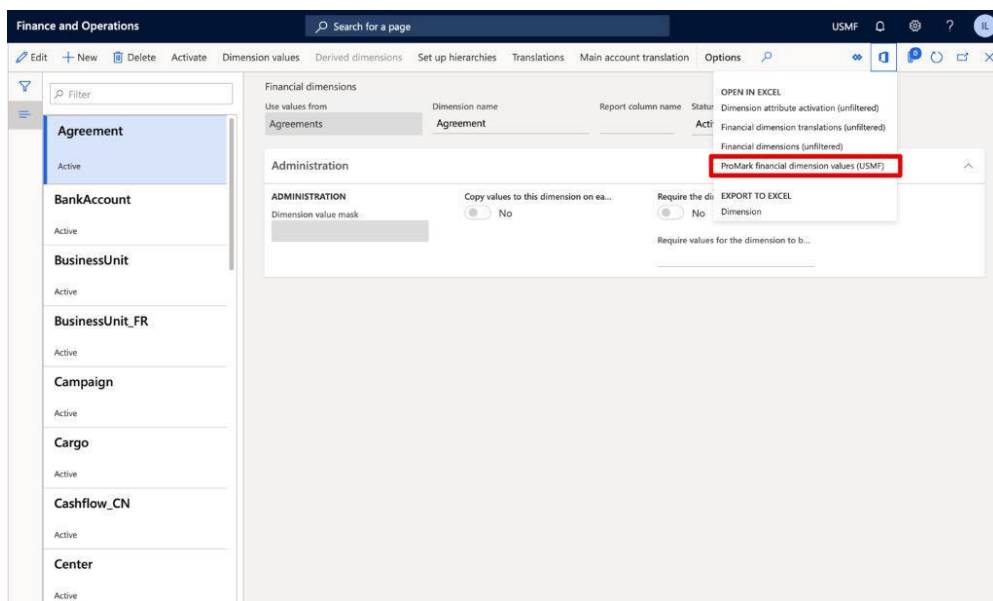
For detailed field mapping please refer to separate excel document and look at the “222 Project validation data” sheet.

2.5.1 Dynamics 365 for Finance and Operations interface

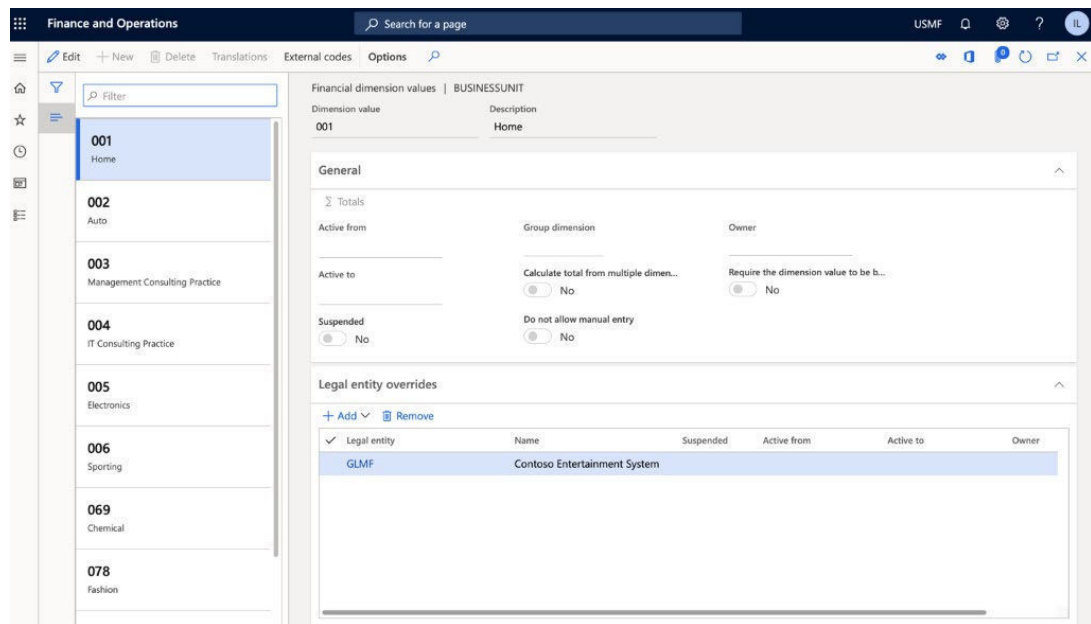
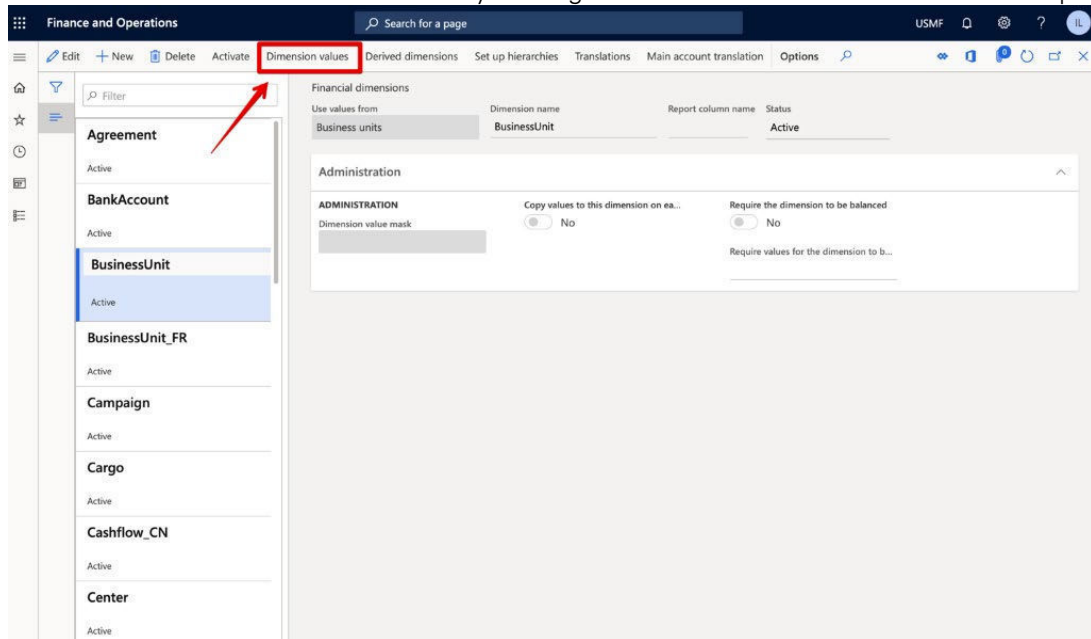
The main data source for the API is Dynamics 365 for Finance and Operations Financial dimensions form. *Path: General ledger > Dimensions > Financial dimensions*



User can also export Financial dimensions list to Excel file by clicking Office button.

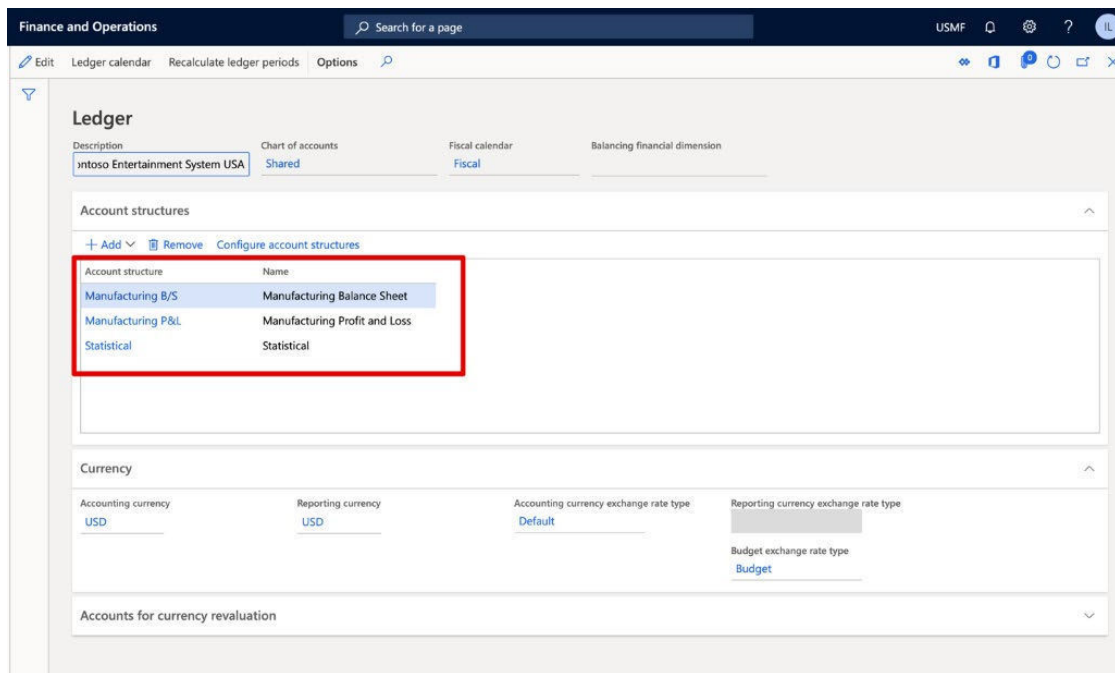
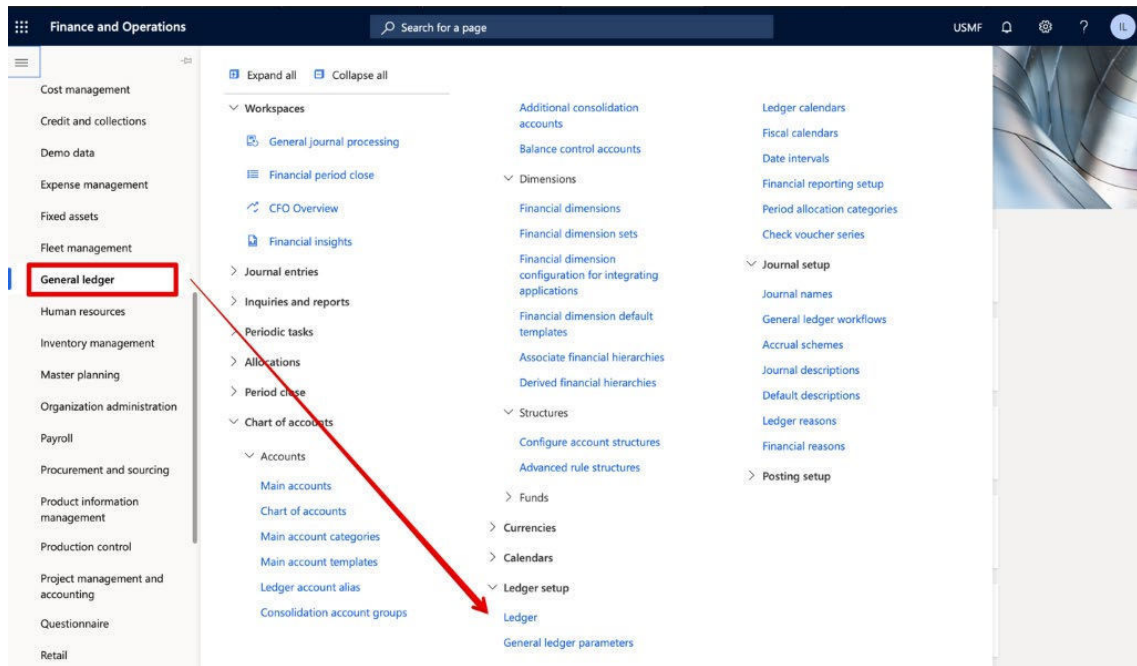


Dynamics 365 for Finance and Operations exposes the whole list of financial dimensions but their values are filtered by integration user default company in order to display only valid data. User can view Financial dimension values by clicking Dimension values button on the Action pane.

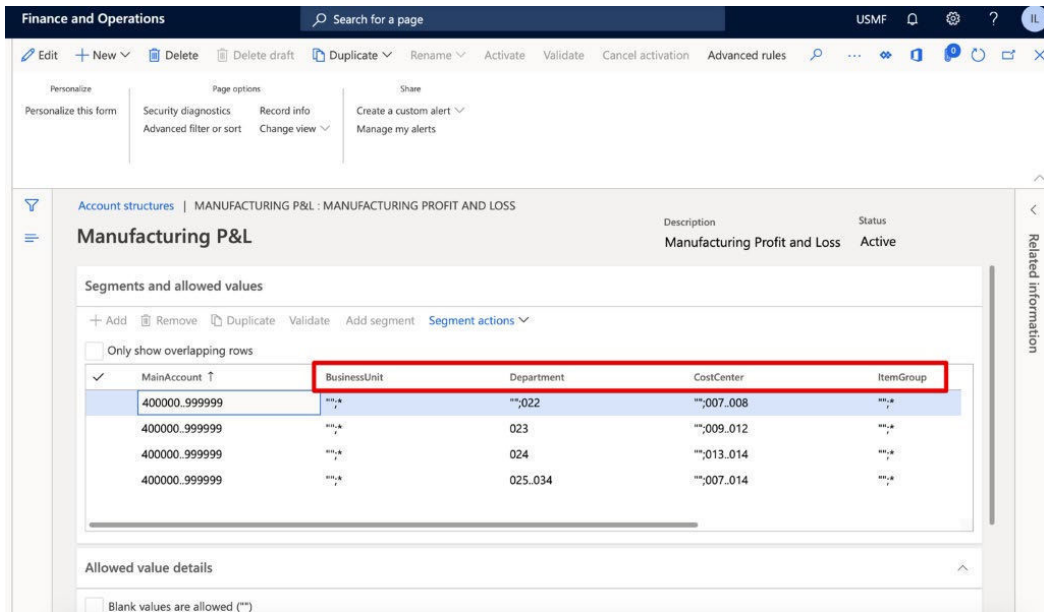


The next important setting that should be considered at the time of requesting Financial dimension values is Dynamics 365 for Finance and Operations Ledger setup and its account structure configuration. User can view the valid company's account structures on the Ledger form. *Path: General Ledger > Chart of account > Ledger.*

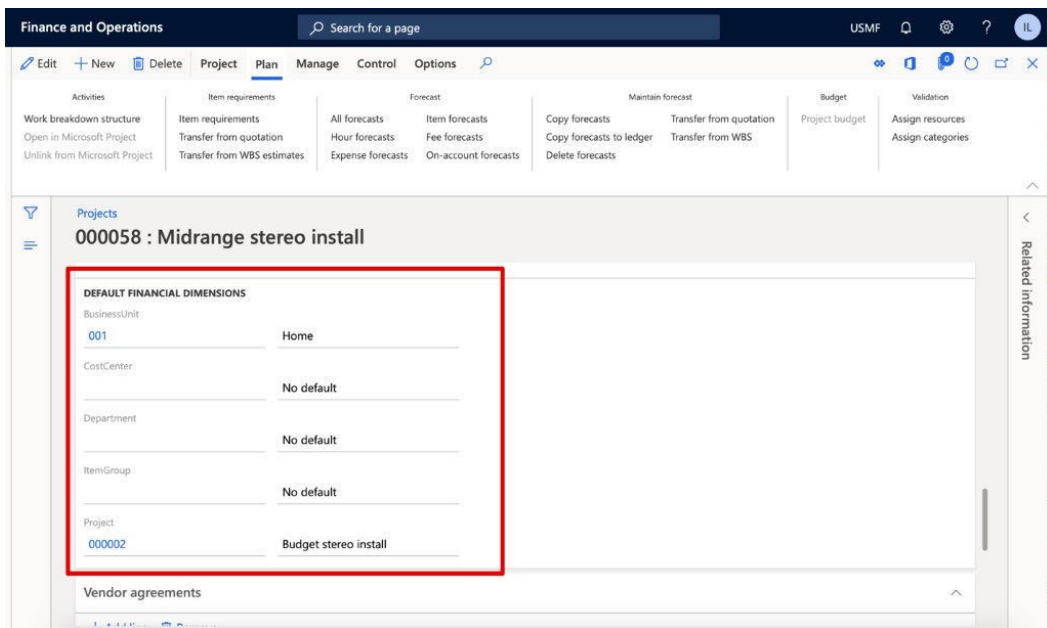
In Account structures section user can see the list of valid account structures that are applicable for the company.



In order to review the list of dimensions that compose company's account structures, click on each link in the section.

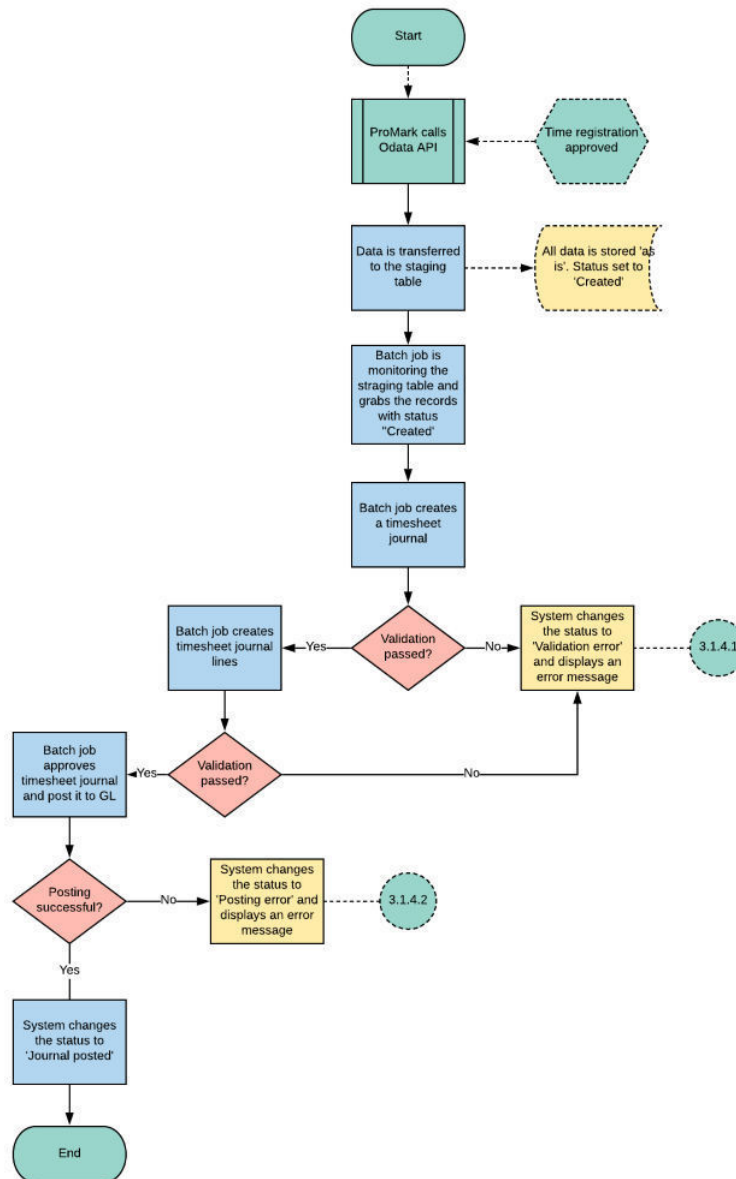


Also, user can check the list of applicable dimensions for a particular company on Project form itself.



2.6 TIME REGISTRATION IMPORT

This integration is intended to synchronize project hours data between the two systems. This is one-direction integration, when ProMark system sends approved project hours to Dynamics 365 for Finance and Operations.

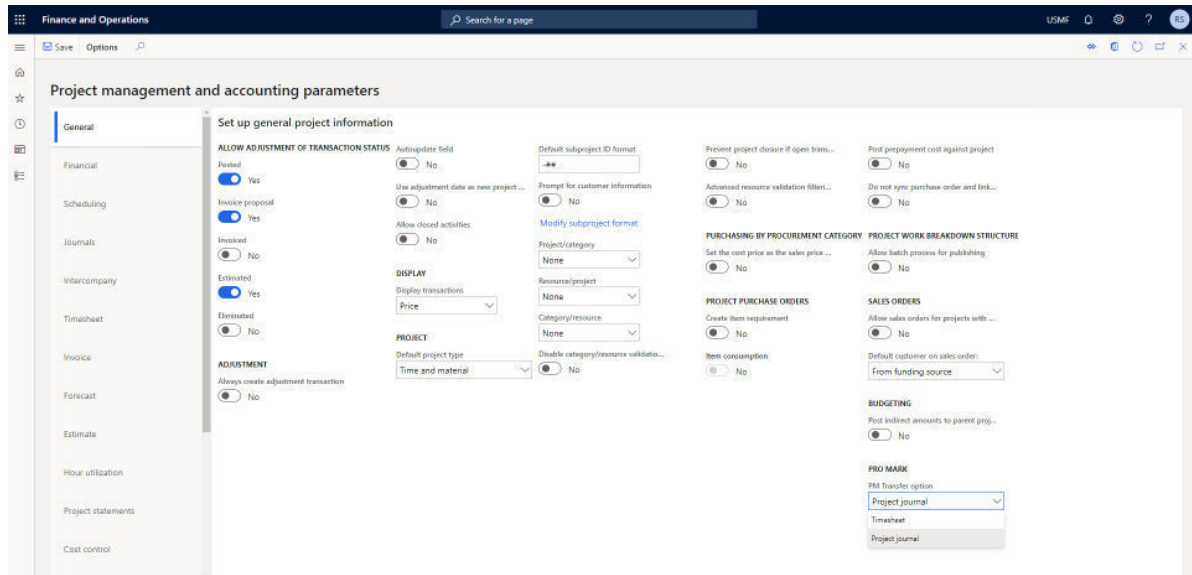
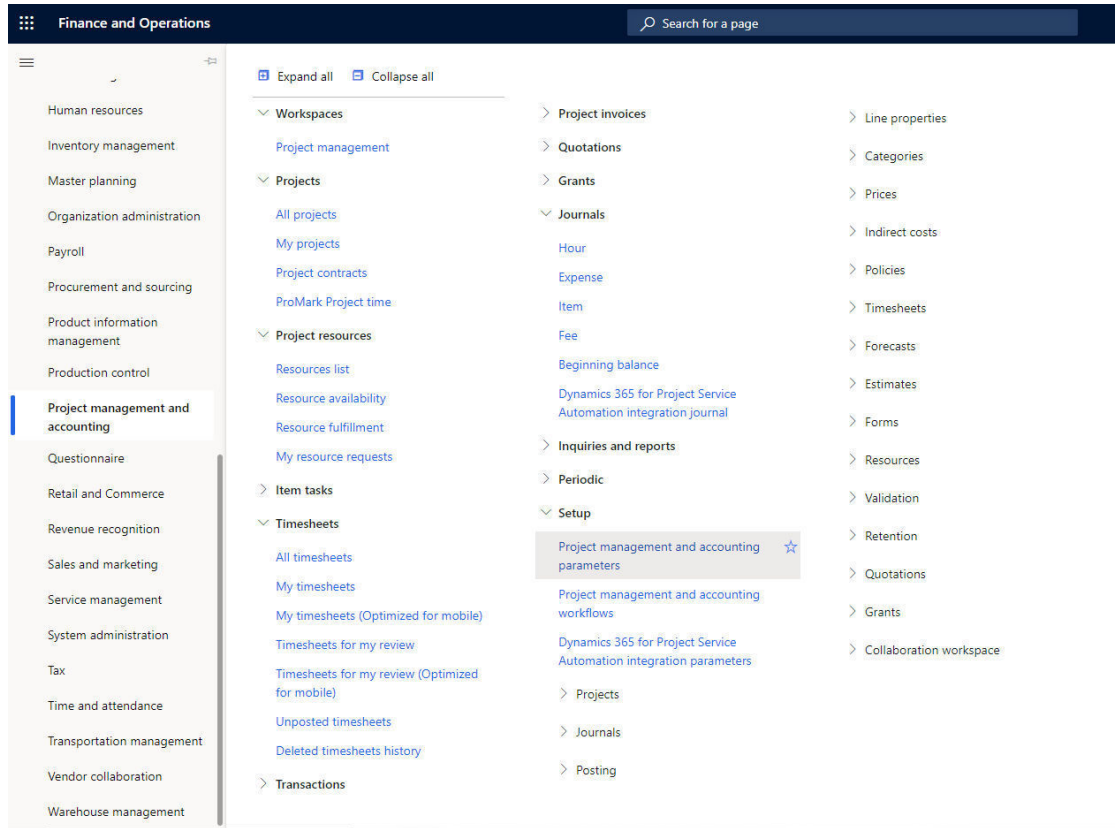


For detailed field mapping please refer to separate excel document and look at the “220 Activity time transaction” sheet.

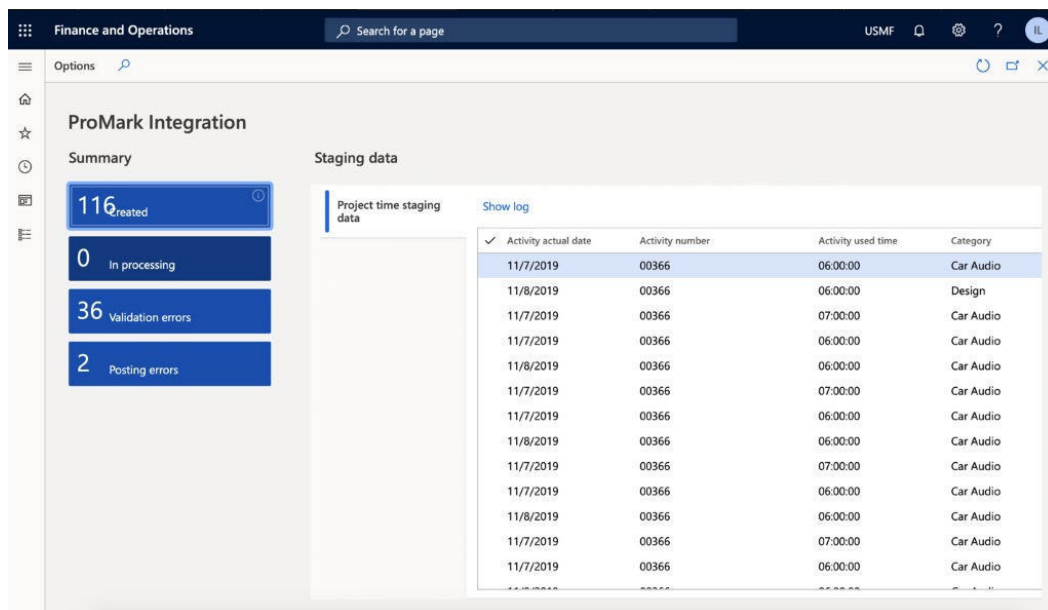
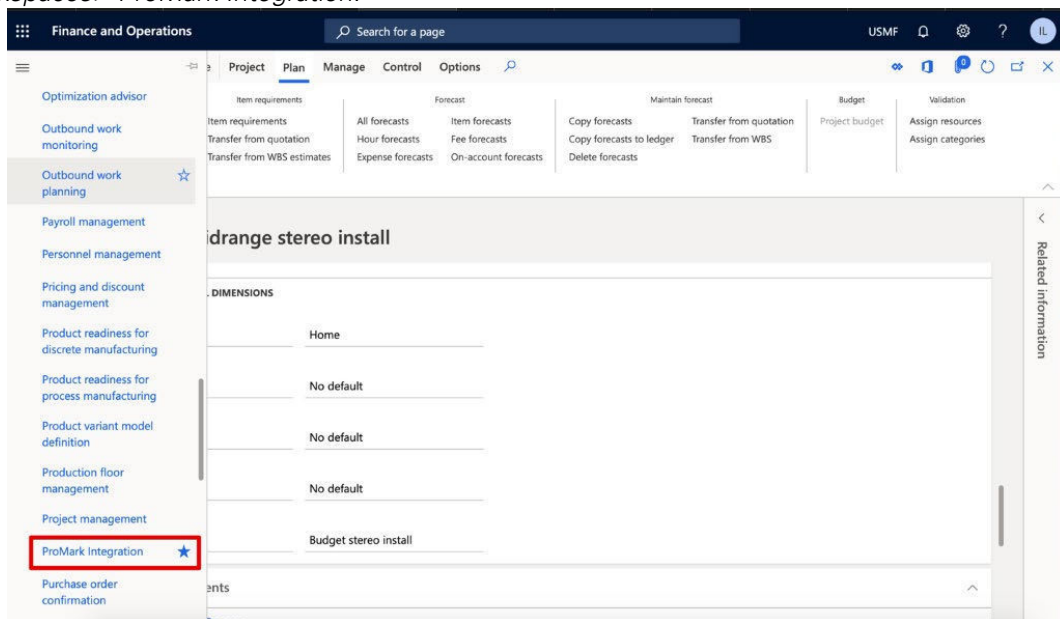
The integration can be set-up in two ways in Dynamics 365 for Finance and Operations, the project registrations can be imported either in timesheets or in the project journal.

2.6.1 Dynamics 365 for Finance and Operations interface

In the *Project management and accounting* module, under *Setup > Project management and accounting parameters*, the user can change where the registrations are imported.

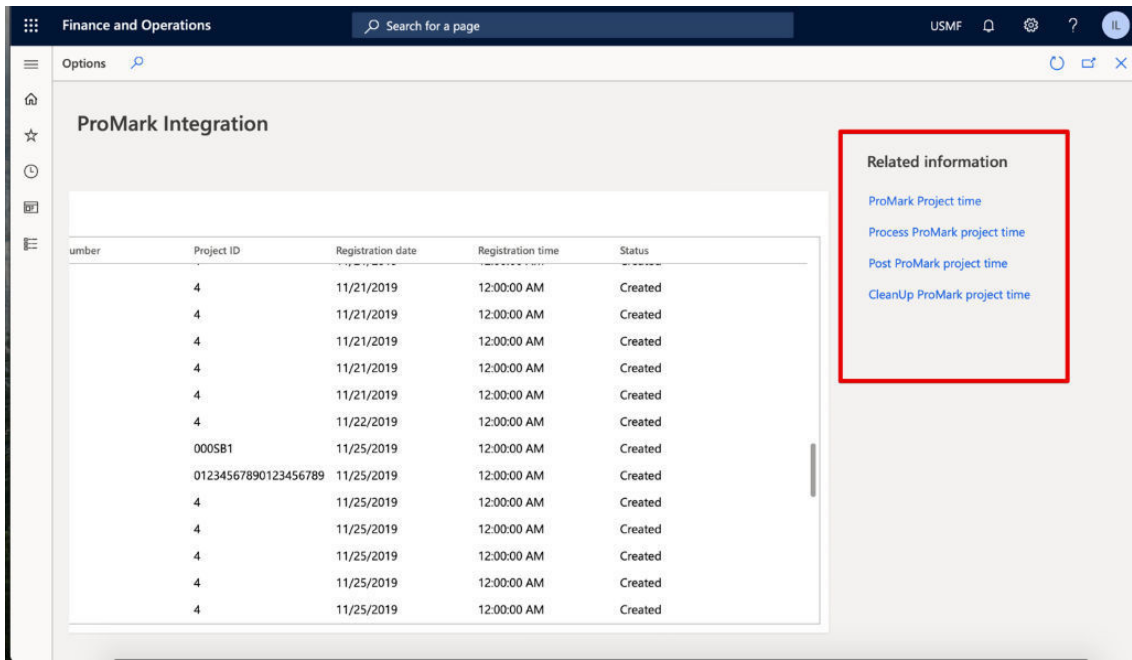


Once Project time registration hours are pushed to Dynamics 365 for Finance and Operations, user will be able to find the data on ProMark Integration workspace. *Path: Go to the Navigation pane > Workspaces> ProMark Integration.*

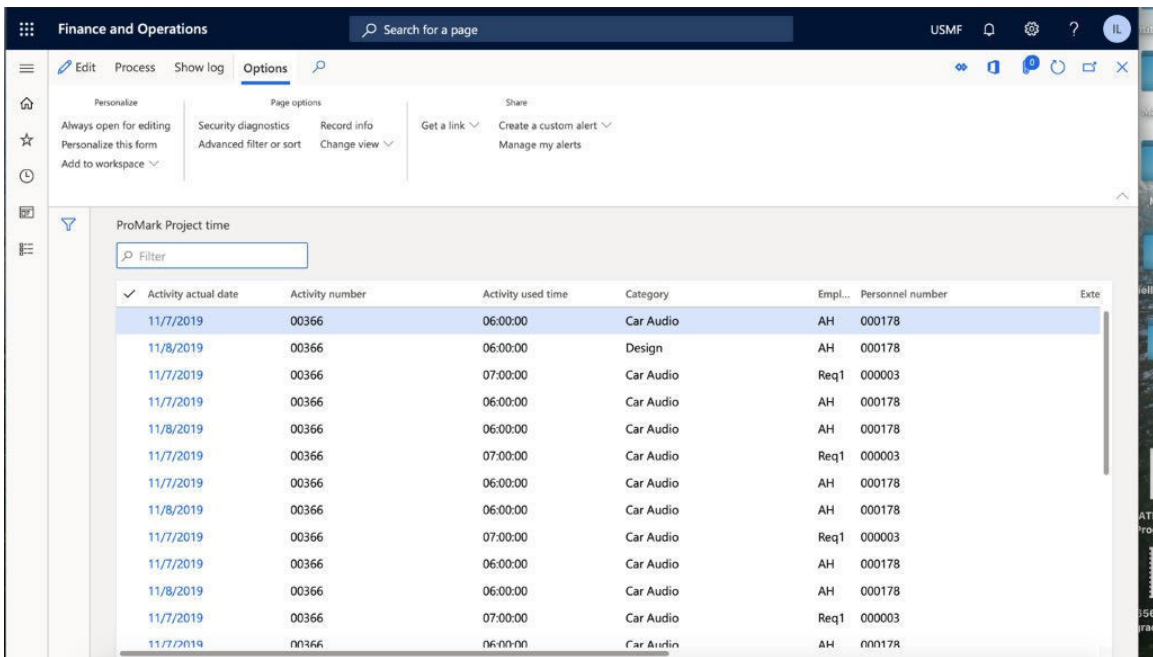


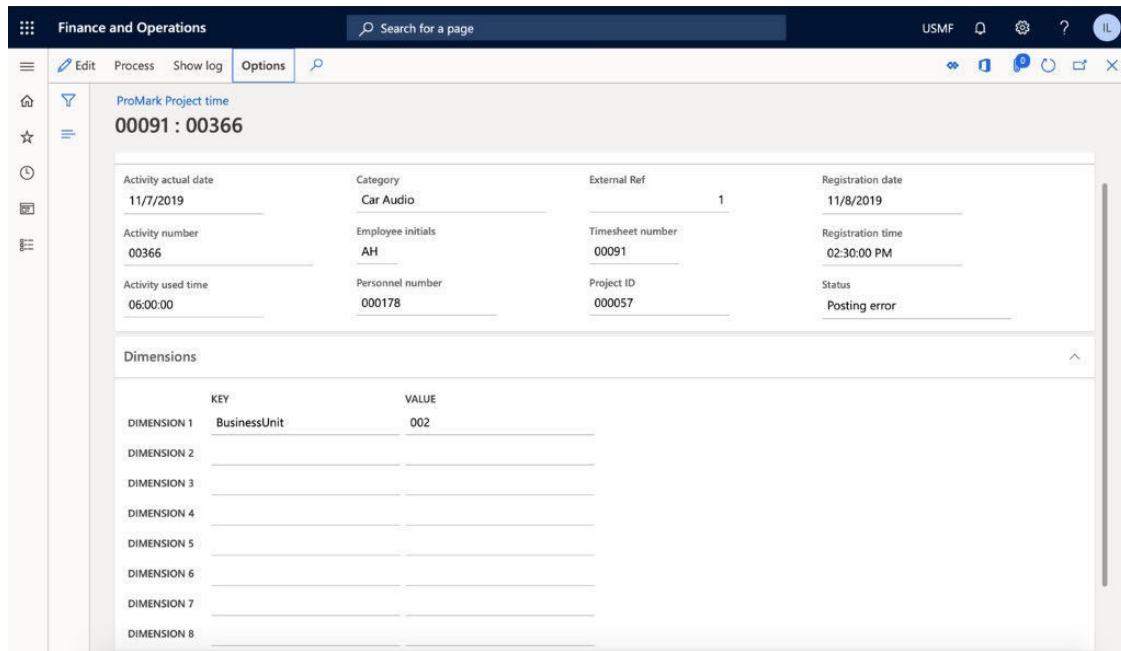
User is able to take some actions on ProMark Integration workspace using the following links:

1. ProMark Project time – opens ProMark Project time form that contains more time registration details.
2. Process ProMark project time – runs the process of timesheet creation and its posting.
3. ProMark project time – runs the process of timesheet posting after Validation error fixing.
4. CleanUp ProMark project time – cleans up staging table.

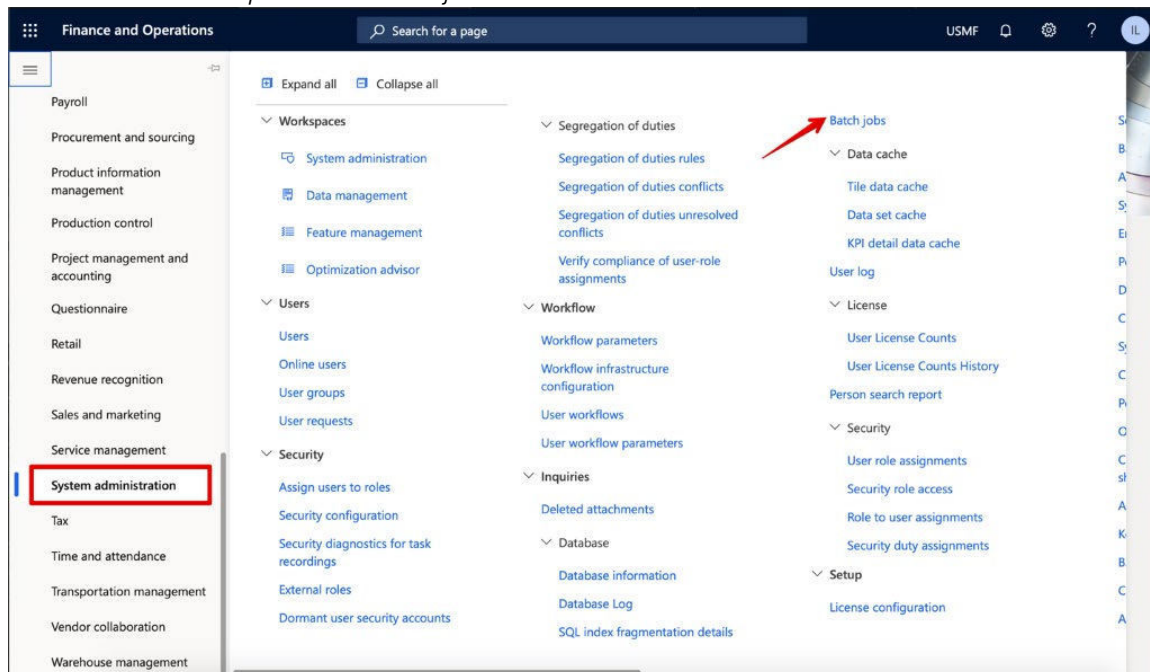


By clicking *ProMark project time*, user can go to the related form and review all details.



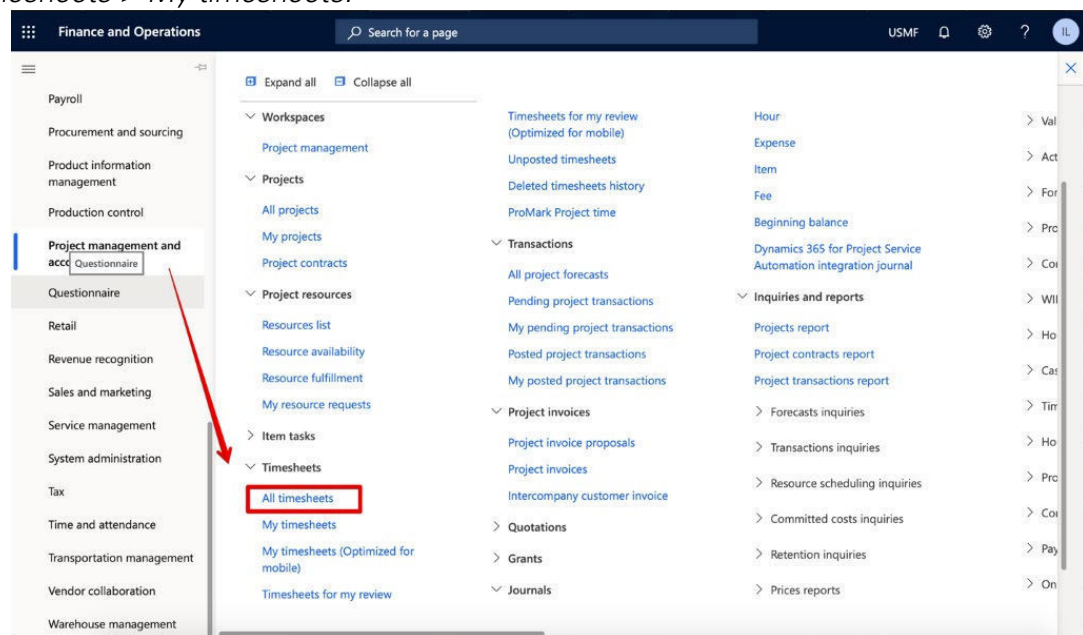


If *Process ProMark project time* or *ProMark project time* set up as batch jobs, they will be added to the queue and user can track their statuses on Batch job form. *Path: System administration > Inquiries > Batch jobs*



✓ Status	Job description	Scheduled start date/time ↓	Actual start date/time	End date/time
Waiting	Database index rebuild system j...	11/30/2019 11:00:00 AM		
Waiting	System job to clean up unrecov...	11/30/2019 09:00:00 AM		
Waiting	Database compression system j...	11/30/2019 08:00:00 AM		
Waiting	Diagnostics rule validation Daily	11/30/2019 08:00:00 AM		
Waiting	Retail Commerce Data Exchange...	11/30/2019 07:29:41 AM		
Waiting	Batch transfer for subledger jou...	11/30/2019 07:12:30 AM		
Waiting	Batch transfer for subledger jou...	11/30/2019 07:10:13 AM		
Waiting	Batch transfer for subledger jou...	11/30/2019 07:09:24 AM		
Waiting	Batch transfer for subledger jou...	11/30/2019 07:08:08 AM		
Waiting	Create a scheduled task that will...	11/30/2019 07:00:00 AM		
Waiting	Create a scheduled task that will...	11/30/2019 07:00:00 AM		
Waiting	Create a scheduled task that will...	11/30/2019 07:00:00 AM		
Waiting	Create a scheduled task that will...	11/30/2019 07:00:00 AM		
Waiting	Retail discovery batch job	11/30/2019 06:00:37 AM		
Waiting	Retail discovery batch job	11/30/2019 05:55:55 AM		

Once *Process ProMark project time* batch job is completed, user needs to check whether Timesheet journal has been created or not. In order to check Timesheet journal, go to *Project management and accounting > Timesheets > My timesheets*.



If journal is posted successfully, its status will be set to Posted.

Finance and Operations

Search for a page

USMF

Timesheet Options

Maintain Related information Accounting Print
My delegates Hour transactions View voucher Print timesheet

All timesheets

Filter

Timesheet number	Resource	Period start date	Period end date	Approval status	Timesheet total
00126	Adina Hagege	11/18/2019	11/24/2019	Draft	0.00
00091	Adina Hagege	11/4/2019	11/10/2019	Approved	12.00
00089	Adina Hagege	11/4/2019	11/10/2019	Posted	12.00
00088	Ted Howard	11/4/2019	11/10/2019	Posted	7.00
00087	Adina Hagege	11/4/2019	11/10/2019	Approved	12.00
00085	Adina Hagege	11/4/2019	11/10/2019	Approved	12.00
00083	Adina Hagege	11/4/2019	11/10/2019	Approved	12.00
00082	Ted Howard	11/4/2019	11/10/2019	Posted	7.00
00081	Adina Hagege	11/4/2019	11/10/2019	Posted	12.00
00080	Ted Howard	11/4/2019	11/10/2019	Posted	7.00
00079	Adina Hagege	10/28/2019	11/3/2019	Posted	0.22
00078	Ted Howard	10/28/2019	11/3/2019	Posted	0.25
00077	Adina Hagege	10/28/2019	11/3/2019	Posted	0.22

Related information

By clicking Timesheet number, user can go to the journal lines form and check all details

Finance and Operations

Search for a page

USMF

Timesheet Options

All timesheets

00089 : Adina Hagege

Lines Header

+ New line Remove Copy from

Activity	Category	Mon 11/04	Tue 11/05	Wed 11/06	Thu 11/07	Fri 11/08	Sat 11/09	Sun 11/10	Total	Line property
Design	Car Audio				6.00	6.00			12.00	Billable

Line details

Comments General Financial dimensions

DEFAULT FINANCIAL DIMENSIONS

BusinessUnit: 002 Auto

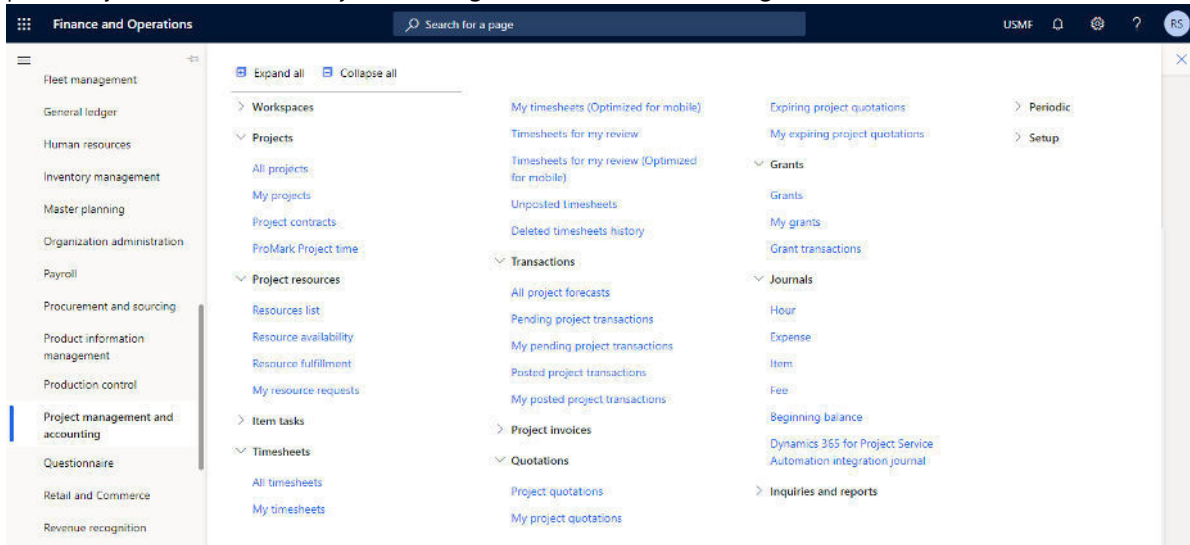
CostCenter: No default

Department: No default

ItemGroup:

Related information

If the import has been set-up with the *Project journal* setting, the user can check the posted journals under *Project management and accounting > Journals > Hour*.

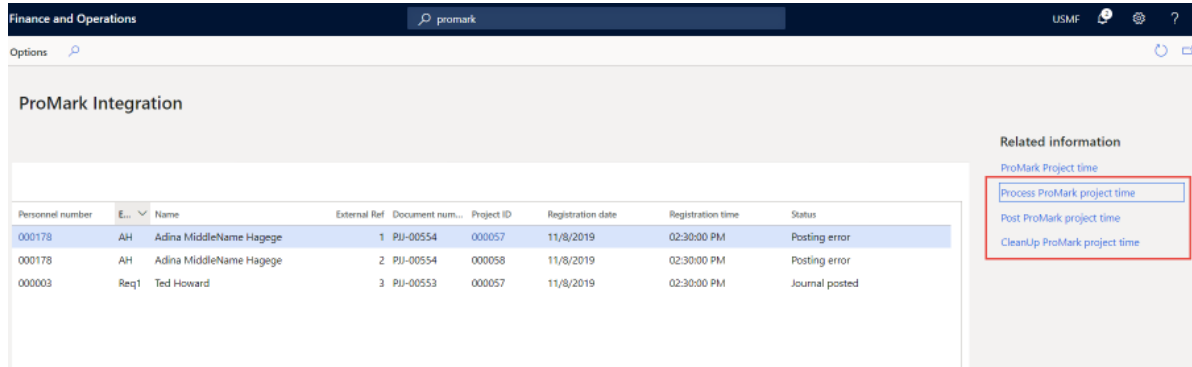


2.7 AUTOMATE PROCESSING OF PROMARK REGISTRATIONS

The integration is purposely utilizing the standard Batch jobs functionality in Dynamics 365 for Finance and Operations. This allows setup of automated processing of ProMark registrations as well as notifications upon error situations.

There are 3 jobs that can optionally be setup for recurring processing.

- Process ProMark Project Time, should run prior to Post ProMark Project Time
- Cleanup ProMark Project Time can be run optionally with a low recurring frequency as it only cleans up historic date, no longer needed for audit purposes



The Setup is done via the standard Dynamics 365 for Finance and Operations interface for this, by selecting the "Run in the Background" panel in the job processing screen

The screenshot displays the 'ProMark Integration' section in Dynamics 365 Finance and Operations. On the left, a table lists integration records with columns for Personnel number, Empl. Name, External Ref, Document num..., Project ID, Registration date, and Registration time. On the right, the 'Process ProMark project time' configuration panel is shown, featuring a 'Records to include' dropdown menu with 'Run in the background' selected. Other settings include 'Batch processing' (set to No), 'Task description' (Process ProMark project time), 'Batch group', 'Private' (set to No), 'Critical Job' (set to No), and 'Monitoring category'. The start date is 8/20/2020 (07:55:29 pm) (GMT) Coordinated Universal Time.

Personnel number	Empl. Name	External Ref	Document num...	Project ID	Registration date	Registration time
000179	AH Adina MiddleName Hagege	1	PUJ-00554	000057	11/8/2019	02:30:00 PM
000178	AH Adina MiddleName Hagege	2	PUJ-00554	000058	11/8/2019	02:30:00 PM
000003	Req1 Ted Howard	3	PUJ-00553	000057	11/8/2019	02:30:00 PM

In this screen the recurring schedule can be defined as well as the optional alerts for the job.

For further information on standard Dynamics 365 for Finance and Operations batch jobs processing, please refer to Microsoft's official documentation

<https://docs.microsoft.com/en-us/dynamics365/fin-ops-core/dev-itpro/sysadmin/batch-processing-overview>