Profitbase AS

Profitbase Planner

Customization Patterns

Profitbase

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Content

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31.10.2021	0.1	TN	Initial content
30.11.2021	0.2	TN	Extended for Profitbase Planner 5.1
27.10.2022	0.3	TN	Revised for Profitbase Planner 5.2.4
01.06.2023	0.4	TN	Revised for Profitbase Planner 5.4.0 (Patterns 3, 7 and 8)

Abstract, intended audience and pre-requisites

This document aims to describe common customization patterns and best practices for making custom extensions to Profitbase Planner and is aimed at implementation partners.

An in-depth knowledge of the Profitbase InVision designer is required.

The following patterns are described:

1. **Pattern 1** - Create a new Planner input module extension that will integrate with Planner's Plan Overview, produce financial transactions of its own, and follow Planner's versioning. A starting template exists, refer to:
2. **Pattern 2** - Create a new module that will follow Planner's versioning only (subset of 1) and be present in the hamburger menu. A starting template exists, refer to: EPM Planner Custom Extension Template
3. **Pattern 3 –** Customize the transaction pipeline. The transaction pipeline for Account, Personnel or Driver Based modules can be customized. It is, starting from Planner version 5.1, possible to add a custom sql script to execute pre and/or post the standard transaction pipeline.
4. **Pattern 4 –** Customize assumptions (lookup) measures for the Driver Based module, available starting from Planner 5.1.
5. **Pattern 5 –** A selection of tables are available as data import targets. If other targets are needed, creating a synonym for them will add them as options. Available starting from Planner 5.1
6. **Pattern 6 –** By default, CPV views are available from the export module. If additional tables need to be exported, synonyms must be created. Available starting from Planner 5.1
7. **Pattern 7 –** Add custom button and/or custom row context menu to Planner standard modules to enable UI integration with custom workbooks for custom input and/or custom reporting.
8. **Pattern 8 –** Import transactional plan data to be included in the plan from an external source.

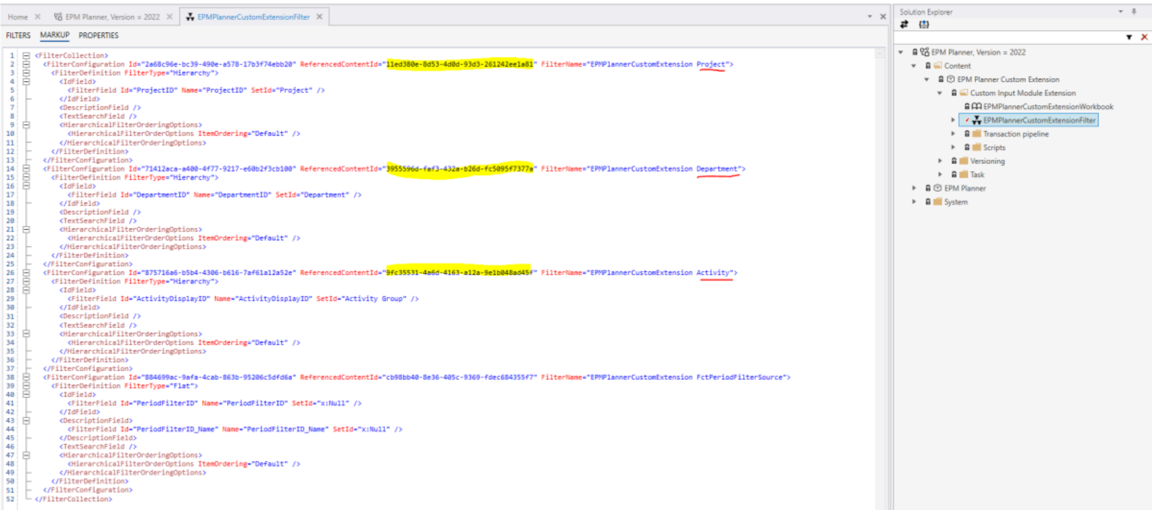
EPM Planner Custom Extension Template

This is a starter template that can should be used to rapidly set up a custom extension either for pattern 1 or 2 above.

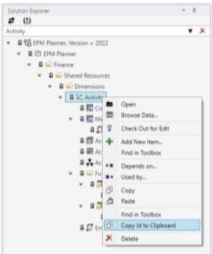
The custom extension template must be deployed to a solution in which the EPM Planner package exists already.

The custom extension package is not self-contained as its workbook uses hierarchical filters that refer to dimensions in EPM Planner.

Once deployed, the following markup changes must therefore be done to the hierarchical filters that refer to source dimensions that reside in EPM Planner:



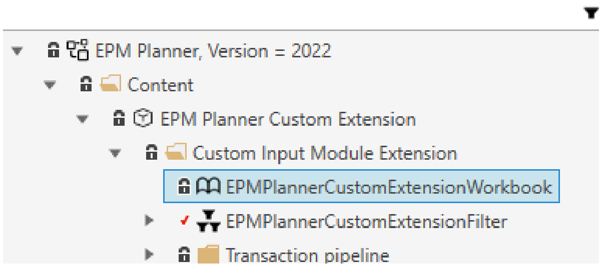
Replace the ids in yellow with the content ids for the dimensions within EPM Planner with names as underlined in red in the image above. You will find the id by locating the dimensions and right-click and select Copy id to clipboard as shown for the Activity dimension below:



Save the markup.

Assign yourself access to the workbook in the custom extension package. This is best done by re-publishing the workbook access in the solution hosting EPM Planner and the custom extension package.

Open the workbook by previewing it from the designer as it will not appear in the menu until the package is part of a process' content.



There is a basic list of todos listed in the workbook:

TO DO list:

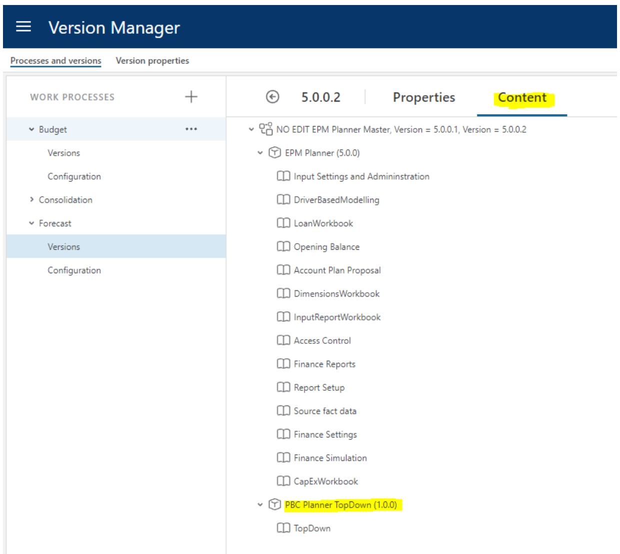
1. Set the @Var[ModuleExtensionID] variable value in Workbook load, action DefaultPre. NOTE naming convention Partner.EPM.WorkbookName
2. Insert row into @Var[ModuleExtensions,setting].dbObjectName with new ModuleExtension
3. Add store and worksheet.
4. Modify pipeline dataflow - add step(s) to pipe data to pbTransdataSourceCM
5. In worksheet, add On data modified event:
   a. @Var[HasUnsavedChanges] = true;
   b. Execute expression LBL_SaveDataWarning -> RemoveCssClass(hidden);AddCssClass(highlight);
   c. Enable Save button
6. Add Filter selection changed Load actions
7. Add Save button Save action and Refresh button Refresh action.

The following two chapters explain patterns 1 and 2 more in-depth. Note that much of the Planner integration specific topics are covered by the custom extension template.

Pattern 1 - Create a new Planner input module extension

NOTE: Before creating a new custom Planner input module extension, consider carefully if one or more driver-based models make up a "good enough" solution as they are supported and upgraded as part of standard Planner and a custom extension may thus be avoided in the first place.

NOTE: Any customizations made as additions to the EPM Planner package, should be contained in separate packages and developed in the solution that acts as the EPM Planner blueprint. This will allow for access to Planner objects using the `@Object` notation and any workbooks in the package that should appear in the hamburger menu can be included in the process content when creating a new Planner process:



NOTE: Never use Planner objects such as filters, worksheets, setting tables, reports, etc directly in custom module workbooks. Create custom objects that refer to the data in question.

Register new Planner input module extension

A Planner input module extension comes in the form of a **workbook** and associated store(s) and worksheet(s).

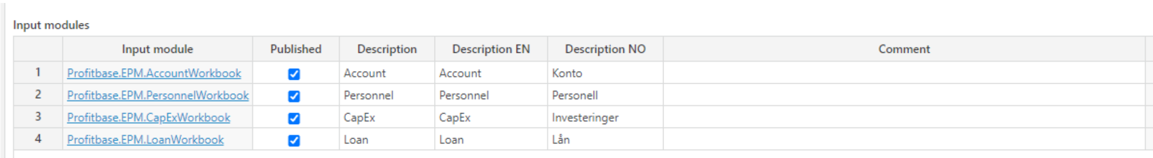
Input module extensions are registered in `@Object[ModuleExtensions,setting].dbObjectName`.

This allows for attaching the module to report lines and for Planner to launch the module from the Plan Overview workbook.

Relevant attributes:

Column	Description
ModuleExtensionID	The id of the module extension. Naming convention used by Profitbase for standard modules: Profitbase.EPM.<WorkbookName>. **Propose to use <Partner>.EPM.<WorkbookName>**
WorkbookID	Version specific workbook id (i.e. @Object[WorkbookName].Id). **Must be updated post version deployment to reflect the actual workbook id for the version in question.**
WorkbookName	The workbook object name as given in the Profitbase InVision designer. **NOTE: workbook names must be unique as there is no type-qualification available for workbooks when using @Object notation.**
InUse	Published | Not published (true | false)
ModuleExtensionID_Name	Default description.
ModuleExtensionID_Name_NO	Description - Norwegian translation
ModuleExtensionID_Name_EN	Description - English translation
WorkbookPixelHeight	Used when launching module in new window from Plan Overview (integer).
WorkbookPixelWidth	Used when launching module in new window from Plan Overview (integer).
WorkbookPixelLeftAdjustment	Used when launching module in new window from Plan Overview (integer).
WorkbookPixelTopAdjustment	Used when launching module in new window from Plan Overview (integer).

Attributes in bold above are maintainable by the user in the Input settings and administration workbook:



Input modules

	Input module	Published	Description	Description EN	Description NO	Comment
1	Profitbase.EPM.AccountWorkbook	☑	Account	Account	Konto	
2	Profitbase.EPM.PersonnelWorkbook	☑	Personnel	Personnel	Personell	
3	Profitbase.EPM.CapExWorkbook	☑	CapEx	CapEx	Investeringer	
4	Profitbase.EPM.LoanWorkbook	☑	Loan	Loan	Lån	

Plan overview interaction

This part is taken care of in the custom extension template.

The Plan overview workbook will launch the module and use query string variables to represent the context:

- **DepartmentID** – Department filter context
- **ProjectID** – Project filter context
- **ActivityID** – activity filter context
- **FilterChoice** – Period filter context
- **ReportLineID** – Report line context (when launched by clicking a report line)
- **MessageBackTo** – the WorkbookID for the Plan Overview workbook. If not null, this should be used for sending messages back to the Plan Overview workbook which listens for these messages. When sending messages, make sure to limit to CurrentUser or else a broadcast to all users having the Plan Overview workbook open will take place.
    - When data is changed: DirtyFlagRefresh
    - After transaction pipeline is completed: RefreshSummary
- **Back** – indicates whether launched in same window (1) or as new window (0). Used to activate/deactivate Back button. A click on an active Back button should execute an

OpenBrowserWindow with the Plan overview workbook as the target including the query string parameters except for ReportLineID, MessageBackTo and Back (query string parameter values may have changed if user has changed the context while in module).

NOTE: The URL may or may not contain certain variables, depending on the context. The custom workbook should handle situations where certain query string variables are not provided.

The relevant filter sources:

- Department filter: `@Object[Department,dim].dbObjectName`
- Project filter(*): `@Object[Project,dim].dbObjectName`
- Activity filter(*): `@Object[Activity,dim].dbObjectName`
- Period filter: `@Object[FctPeriodFilterSource,view].dbObjectName`

(*): the filters are optional, naming and visibility controlled in:
`@Object[InputFilters,setting].dbObjectName.`

Other issues to consider:

- IsAppReadonly() – to control availability of non-grid actions such as buttons (enable/disable) when a version is closed and thus editable.
- User-editable attributes in `@Object[ModuleExtensions,setting].dbObjectName` such as name (set using SetAppTitle()) and Published. Standard Planner input modules will avoid loading filters, enabling buttons and loading data when a module is not published. A message is displayed:

The text code for the message is: NoAccess

- Integration with New Task form (separate doc)
- If Workflow is to be used, a separate workflow with identical states to the Planner one should be created in the custom module as any interaction with the Planner workflow will not survive an upgrade. **In such cases the standard relaying of state from Plan Overview to its modules when changing the state from Plan Overview will not be supported for custom modules.**

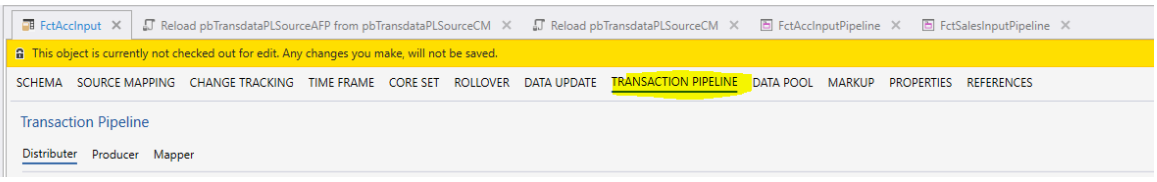
Create custom financial transactions

Custom financial transactions are created in `@Object[pbTransdataSourceCM,store].dbObjectName.`

Column	Description
LegalEntityID	Legal entity dimension id
DepartmentID	Department dimension id
DepartmentID_DCD	Department context dimension id
AccountID	Account dimension id
ProductID	Product dimension id
MarketID	Market dimension id
SupplierID	Supplier dimension id
EmployeeID	Employee dimension id
ProjectID	Project dimension id
ActivityID	Activity dimension id
Dim1	Free dimension 1 dimension id

Dim2	Free dimension 2 dimension id
Dim3	Free dimension 3 dimension id
Dim4	Free dimension 4 dimension id
CPLegalEntityID	Counterparty legal entity id – used for intercompany trade
CPDepartmentID	Counterparty department id – used for intercompany trade
CPAccountIDOvr	Counterparty account id – used for intercompany trade
CategoryID	Free dimension category dimension id
TextInpID	Free dimension text id dimension id
Transdate	Transaction date time
Amount	Amount in CurrencyForeignID
CurrencyForeignID	Currency id identifying the amount
TransTypeID	1 (regular transaction)
Qty	Optional quantity
AccTypeID	PL (Profit Loss)
ModuleExtensionID	ID uniquely identifying the module's data
SYS_OriginID	Used by Profitbase InVision when using the transaction pipeline
SYS_OriginColumnID	Used by Profitbase InVision when using the transaction pipeline
SYS_TransGeneratorID	Used by Profitbase InVision when using the transaction pipeline
SYS_OriginRowIdentity	Used by Profitbase InVision when using the transaction pipeline
SYS_DataSetID	Obsolete
WithholdTaxPctOvr	Optional financial setting value override
VATPctOvr	Optional financial setting value override
VacationPayPctOvr	Optional financial setting value override
SpecialTaxCOvr	Optional financial setting value override
SpecialTaxBOvr	Optional financial setting value override
SpecialTaxAOvr	Optional financial setting value override
ShrinkagePctOvr	Optional financial setting value override
ReturnPctOvr	Optional financial setting value override
PriceOvr	Optional financial setting value override
PensionEmployerPctOvr	Optional financial setting value override
PensionEmployeesPctOvr	Optional financial setting value override
ObsolescencePctOvr	Optional financial setting value override
GrossMarginPctOvr	Optional financial setting value override
FreightOutPctOvr	Optional financial setting value override
FreightInPctOvr	Optional financial setting value override
EmployerTaxPctOvr	Optional financial setting value override
DiscountPeriodicPctOvr	Optional financial setting value override
DiscountPctOvr	Optional financial setting value override
DaysOfCreditOvr	Optional financial setting value override
CostPriceOvr	Optional financial setting value override
CogsPctOvr	Optional financial setting value override
CashPctOvr	Optional financial setting value override
BadDebtPctOvr	Optional financial setting value override

The built-in Profitbase InVision Transaction pipeline function (using Distributer, Producer and Mapper functions) can be used, or the data can be scripted. If scripting is used, the existing slice of data must be deleted explicitly before re-inserting the slice of data.

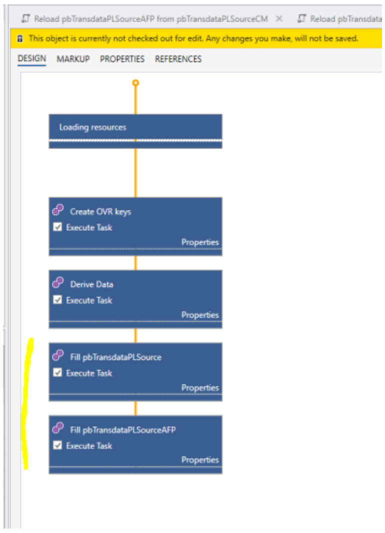


The data context defines the slice of data and must as a minimum include the ModuleExtensionID identifying data from the custom module. Normally, department is also part of the data context, making it possible to slice the data per module and department. For data context purposes, the DepartmentID_DCD column is used.

The following part is taken care of in the custom extension template:

In a transaction pipeline dataflow, the following two scripts must be executed post the creation of the transactions – they involve piping the data through to the PL (Profit & Loss) and AFP (preliminary social cost generation) stages:

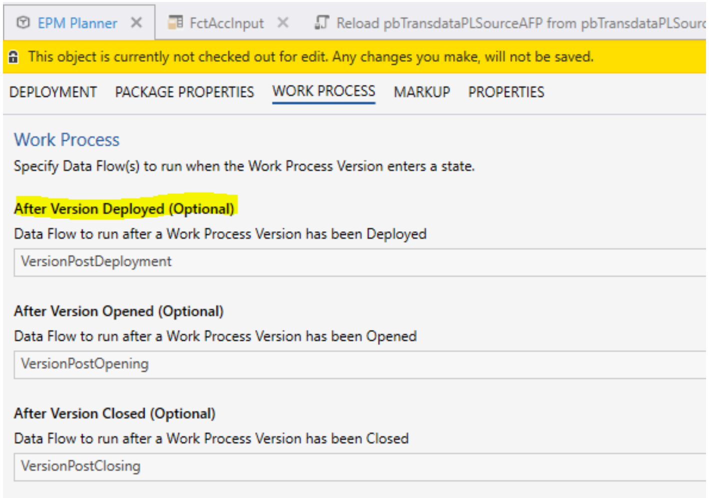
- `@Object[Reload pbTransdataPLSourceCM,script].Id`
- `@Object[Reload pbTransdataPLSourceAFP from pbTransdataPLSourceCM,script].Id`



Actions to be performed post version deployment

This section is also relevant for [Pattern 2 - Create a new module that will follow Planner's versioning only](#).

The custom package should have its own post version deployment dataflow:



This dataflow should be able to take actions based on the following package variables that are set depending on the user's selections made when creating a new version:

- `Profitbase_EPM_Planner_PostDeploymentAction`
  - **RollFwd** (*)
  - **Init** (#)
  - **Nothing** (pure copy, nothing to be done)

- (*) `Profitbase_EPM_Planner_RollOverDelta`
  - Number of months to roll forward

- (#) `Profitbase_EPM_Planner_StoreReferenceDate`
  - New store reference date

The custom package is responsible for its own initializing and roll forward operations.

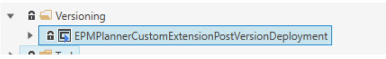
If the customization is a module extension (i.e. exists in `@Object[ModuleExtensions, setting].dbObjectName`), the WorkbookID column must be updated to reflect the actual WorkbookID (i.e. `@Object[<WorkbookName>].Id`).

If Workbook(s) are to be "go to" workbook options when creating new tasks, they must be registered in `SYN_Common_Workbook` in the correct process/version context:

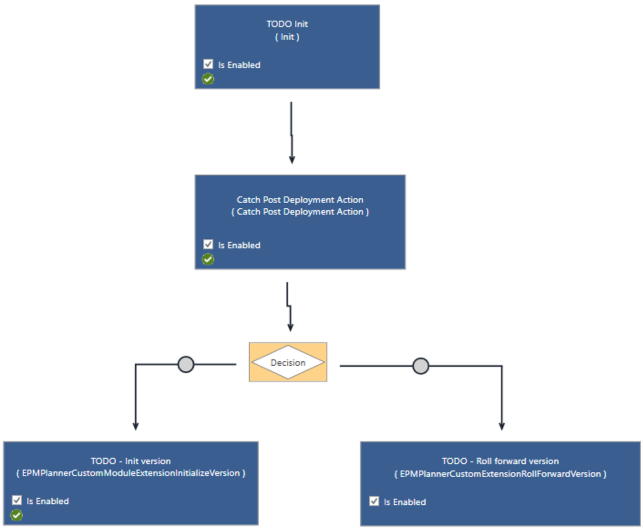
Column	Description
WorkbookID	The workbookid found as `@Object[<workbookname>].Id`
WorkbookName	The default title of the workbook
WorkbookName_EN	The English title of the workbook
WorkbookName_NO	The Norwegian title of the workbook
MasterWorkbookName	The workbook object name as found in the Profitbase InVision designer. This is used for Process tasks which are defined outside of a versioned context.
ProcessID	The current process id as found in `[dbo].[SYS_WorkProcessVersions]` for WorkProcessVersionID = '@CurrentWorkProcessVersionID'

VersionID	'@CurrentWorkProcessVersionID'
WorkbookURL	Same as WorkbookID
Editable	True
Versioned	True
ApplicationID	EPMPlanner

Note that this part is taken care of in the custom extension template but will require some adaptation. The following dataflow is attached to the custom extension package as a After Version Deployed dataflow:



It reads the relevant Planner package properties and splits into two control flows depending on the PostDeploymentAction package property:



Pattern 2 - Create a new module that will follow Planner's versioning only

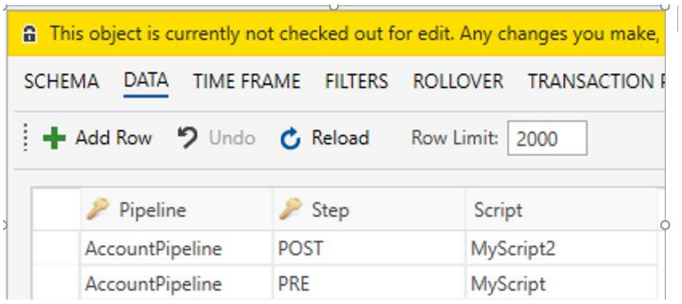
This should be a subset of pattern 1, refer to [Actions to be performed post version deployment]

Pattern 3 – Customize the transaction pipeline and/or FinanceAll dataflow

The transaction pipeline for the Account, Personnel and Driver based modules can be customized by adding a sql script that executes prior to (PRE) and/or after (POST) the standard transaction pipeline of the module.

It is possible to register a custom script per pipeline PRE and/or POST. Scripts registered as object **names** as defined in the Profitbase InVisiondesigner which are evaluated to version specific object ids at run-time.

Table for registering custom scripts: @Object[CustomPipelineScripts,setting].dbObjectName. There is no user interface, so content will have to be scripted or input using the Profitbase InVision designer:



Scripts must use context variables:

- @ModuleExtensionID – id defining the module or model
- @DepartmentID – selected filter value (id) in the department filter (123XYZZZYX321 outside of context)
- @DepartmentColumnName * - Column name in wide dimension that represents the selected filter value, default is DepartmentID (leaf).
- @ActivityID * – selected filter value (id) in the department filter (123XYZZZYX321 outside of context or if dimension is not used)
- @ActivityColumnName * - Column name in wide dimension that represents the selected filter value, default is ActivityID (leaf).
- @ProjectID * – selected filter value (id) in the department filter (123XYZZZYX321 outside of context or if dimension is not used)
- @ProjectColumnName * - Column name in wide dimension that represents the selected filter value, default is ProjectID (leaf).

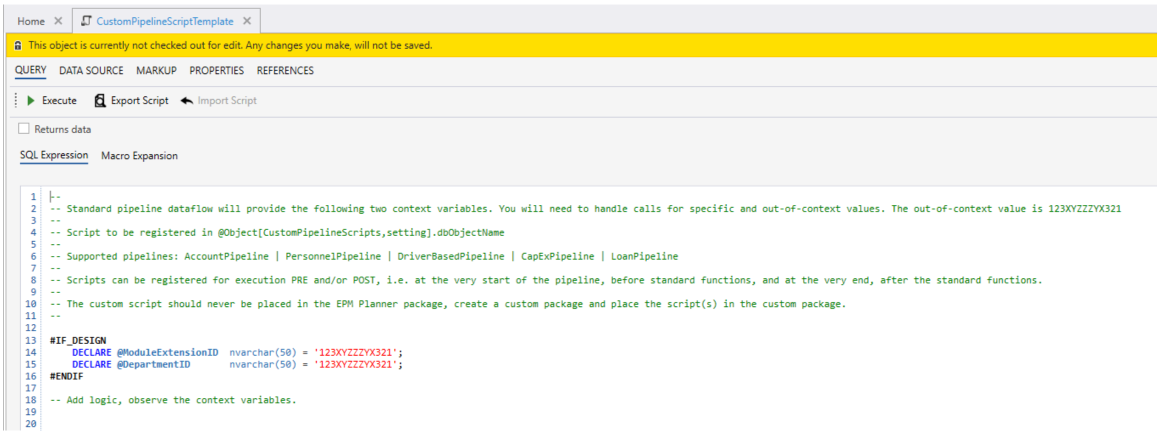
*From Planner 5.2.4, with the introduction of multi-department input, the context slice is dynamic and script must therefore handle situations where context is defined at higher filter levels, for example @DepartmentColumnName = ‘L2’ And @DepartmentID = ‘Norway’ when pipeline is triggered from a workbook. It is suggested that the script makes use of dimension slicers that is used to control the context, for example:

```
-- New dynamic slicing +

DECLARE @sql                    NVarchar(max);

Create Table    #DepartmentSlicer    (DepartmentID    NVarchar(50)    COLLATE database_default);
Create Table    #ActivitySlicer      (ActivityID      NVarchar(50)    COLLATE database_default);
Create Table    #ProjectSlicer       (ProjectID       NVarchar(50)    COLLATE database_default);

SET @sql = ' Insert Into #DepartmentSlicer (DepartmentID) Select distinct DepartmentID From @Object[Department, dim].dbObjectName Where ' + CASE WHEN Isnull(@DepartmentID,'123XYZZZYX321') <> '123XYZZZYX321' THEN @DepartmentColumnName + ' = ''' + @DepartmentID + '''' ELSE ' 1=1 ' END;
EXEC (@sql);

SET @sql = ' Insert Into #ActivitySlicer (ActivityID) Select distinct ActivityID From @Object[Activity, dim].dbObjectName Where ' + CASE WHEN Isnull(@ActivityID,'123XYZZZYX321') <> '123XYZZZYX321' THEN @ActivityColumnName + ' = ''' + @ActivityID + '''' ELSE ' 1=1 ' END;
EXEC (@sql);

SET @sql = ' Insert Into #ProjectSlicer (ProjectID) Select distinct ProjectID From @Object[Project, dim].dbObjectName Where ' + CASE WHEN Isnull(@ProjectID,'123XYZZZYX321') <> '123XYZZZYX321' THEN @ProjectColumnName + ' = ''' + @ProjectID + '''' ELSE ' 1=1 ' END;
EXEC (@sql);

-- New dynamic slicing -
```

The slicer table should be joined into any select that delimits the context.

If the registered script does not exist in current version context, no error message is given as the custom step is ignored.

Scripts should never be created in EPM Planner package. Should be created in a separate custom package co-existing with EPM Planner. A template script with variables can be copied from EPM Planner:



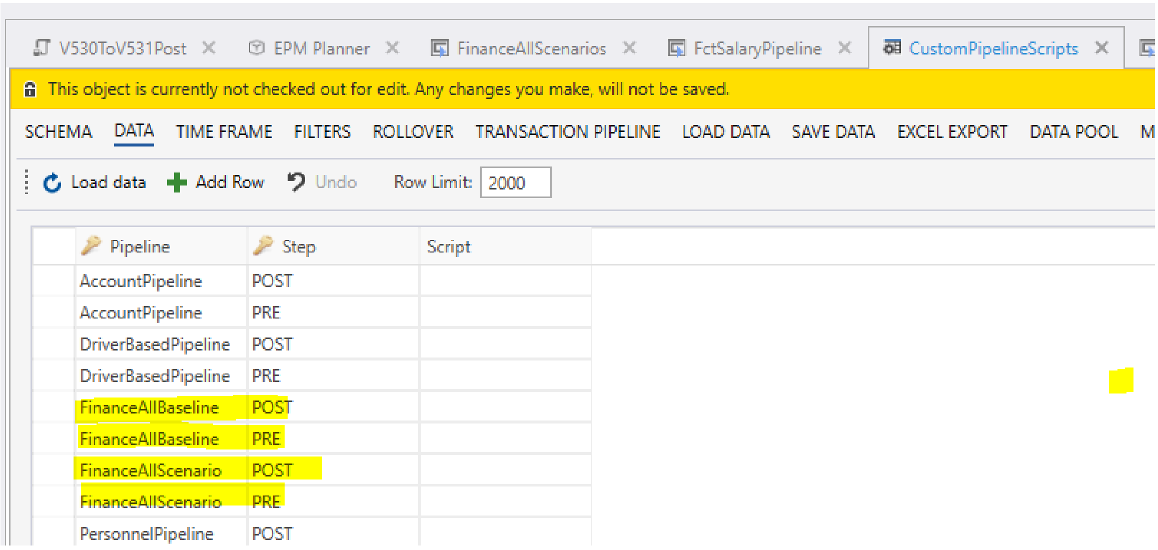
From Planner 5.4.0 the FinanceAll dataflows can also be customized with PRE and POST scripts (no parameters).

The FinanceAll dataflows (FinanceAllBaseline and FinanceAllScenario) source transactions from input modules and executes financial engines producing a plan ledger.

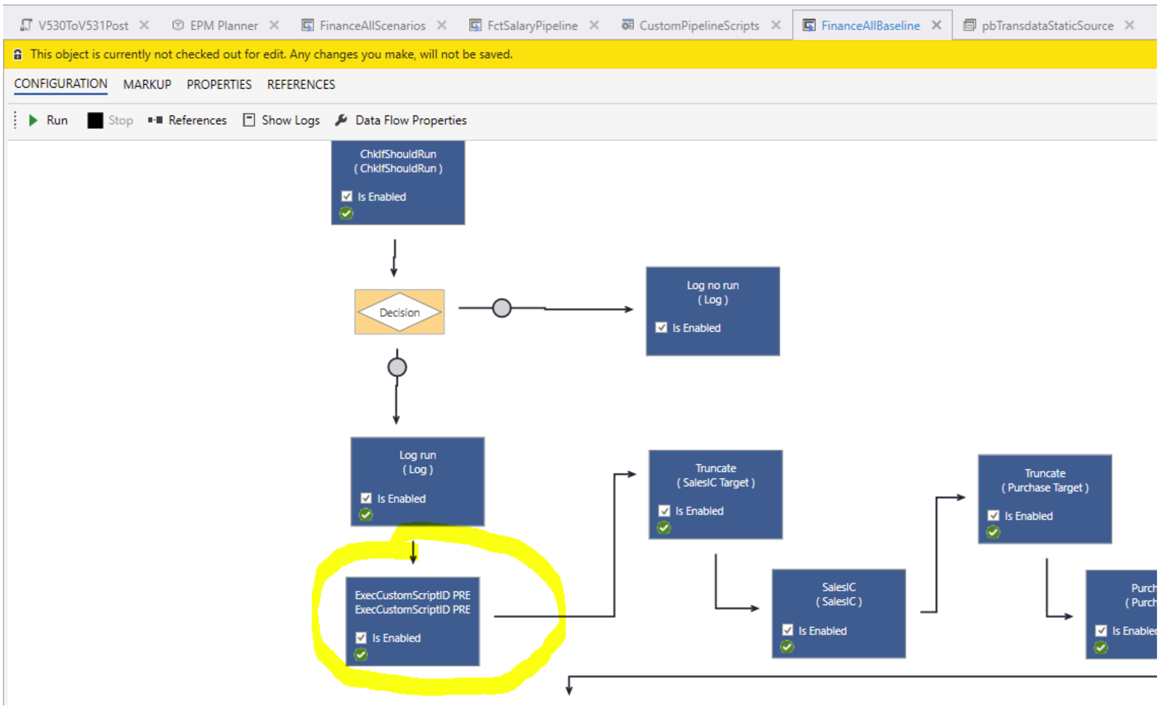
In some cases, it may be desirable to introduce custom logic before the financial engines starts and after the financial engines finish.

Use cases may be to add data to price list from say a driver-based model before if simulation on price is required and allocation (non-cash) of cost from admin to production departments after simulation is finished.

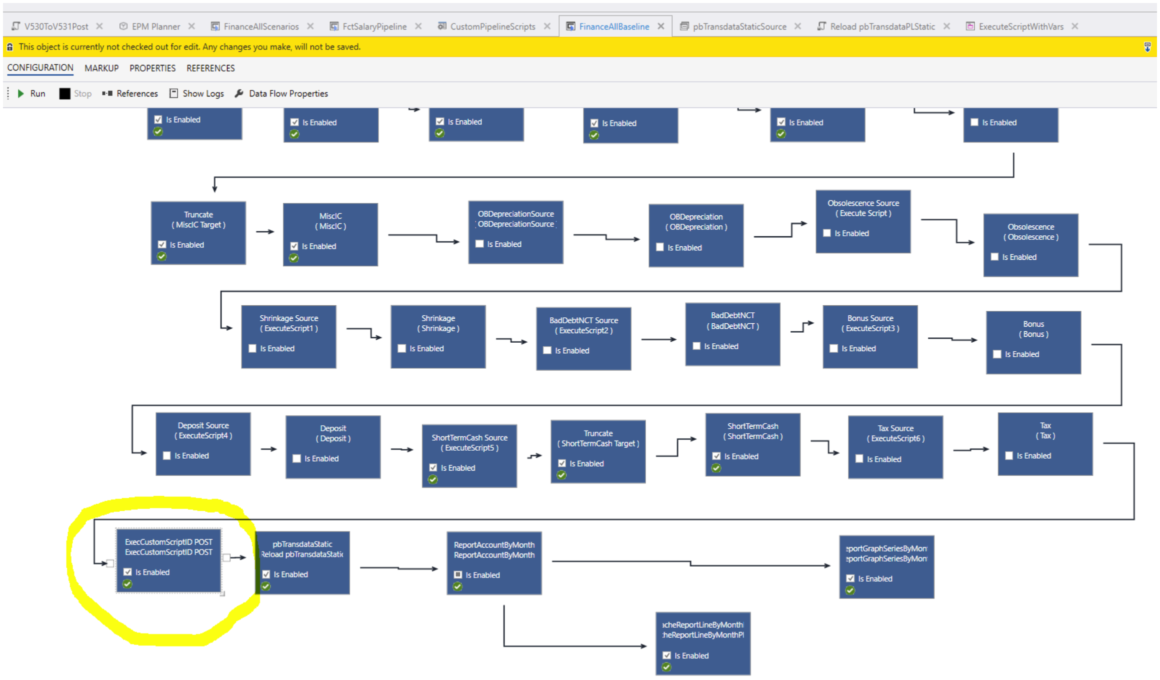
This can be done by adding custom scripts and registering these in the CustomPipelineScripts table in the same way as for transaction pipelines:



The PRE script executes before the start of the first financial engine:

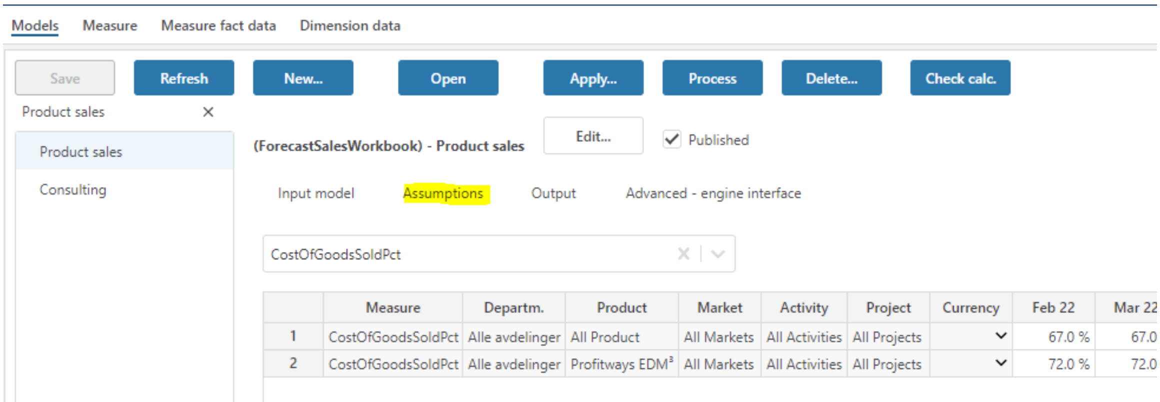


The POST script executes after the finish of the last financial engine and prior to the static feedback loop to the Plan overview workbook and the aggregation of report data:

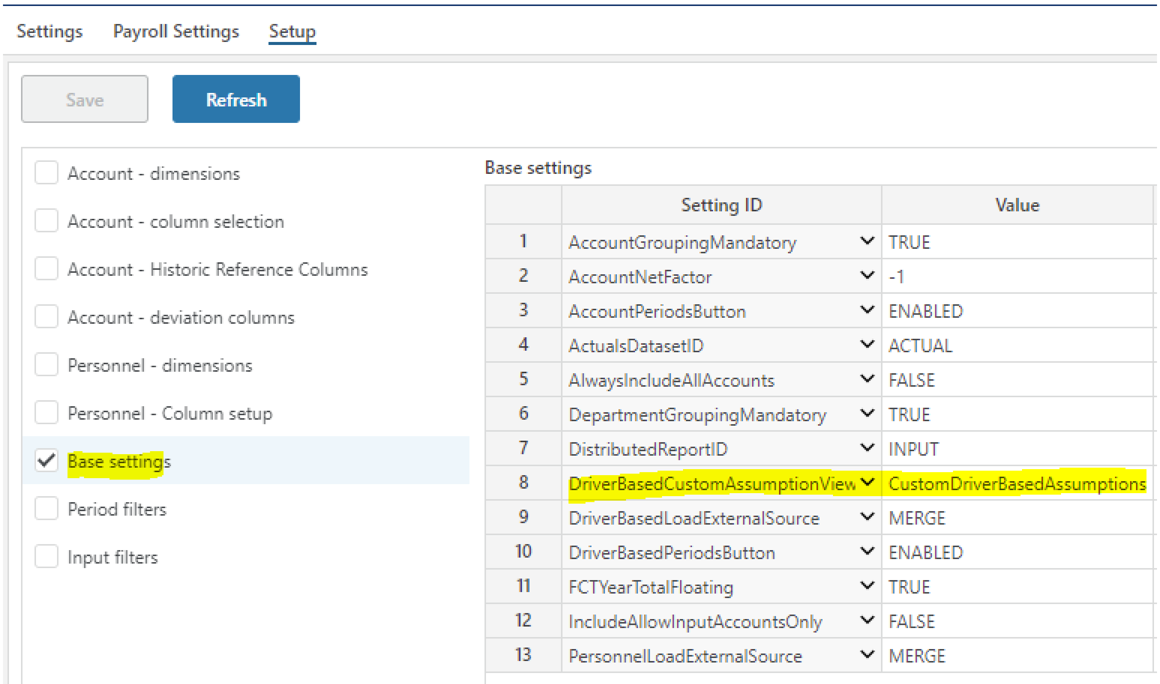


Pattern 4 – **Customize assumptions (lookup) measures for the Driver Based module**

The standard assumption table for the driver-based module is found in the Driver based modelling workbook:



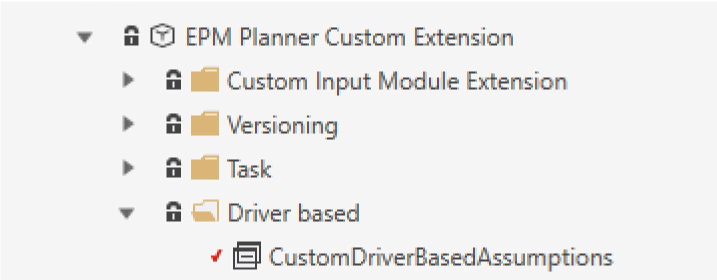
Sometimes it may be required to customize the source for assumptions. This can be done by creating a custom view adhering to the internal format of the standard assumption table and registering this view as an override in the Base settings table found in the Input Settings and Administration workbook settingID **DriverBasedCustomAssumptionView**:



Such a view should never be created in EPM Planner package. Should be created in a separate custom package co-existing with EPM Planner.

The view will have to be common for all driver-based models, i.e. either you customize or you don't. However, it's a good idea to combine with standard setting as described below so that only the assumptions you need to customize are custom.

View need to conform strictly to the format for FctSalesInputAssumptions, including PBRowIdentity. Example view established in custom extension package:



Rules that apply:

- The custom view can combine the standard assumption table (@Object[FctSalesInputAssumptions,setting].dbObjectName and custom sql but any one measure can EITHER have its assumption values from the standard table or custom sql.

  * can be used for indicating all as with ranked input. This can be used to avoid the custom values to explode if for example certain dimensions are not used and the assumption values apply across all dimension value combinations for that dimension.

- For any custom assumption values where all values and specific values are used, PBRowidentity and Pri (rank/specificity) field logic must be used, i.e. more specific values have higher Pri (rank/specificity) and the different rows for that specific assumption must have unique PBRowIdentity values.

Pattern 5 – **use a custom target store for data import**

Pattern 6 – **use a custom source for data export**

Pattern 7 – add custom button/row context menu in standard Planner modules

From Planner 5.4.0, it is possible to enable and configure a custom button and/or a custom row context menu in modules Account, Personnel, Driver Based and the Plan overview workbook. The purpose is to enable a UI integration to custom workbooks and pass the context from the standard workbook to the custom workbook without "breaking" the standard.

As an example, a custom workbook offering a drill-to-detail of ledger data may be configured as a custom row context menu receiving contextual information from the appropriate row such as department, account, project and so on that may be used to filter a custom report.

This is set up using the Profitbase InVision designer in the setting table ModuleExtensions:

CustBtn1Enabled	bit	▾
CustBtn1LaunchToWorkbookName	nvarchar(100)	▾
CustBtn1QSP	nvarchar(100)	▾
CustRowContextMnu1Enabled	bit	▾
CustRowContextMnu1LaunchToWorkbookN	nvarchar(100)	▾
CustRowContextMnu1QSP	nvarchar(100)	▾

While not a module, it is also supported to add a custom button and a custom row context menu to the Plan Overview workbook. Details stored in separate columns in the ModuleExtensions table (**NOTE**: Row for ModuleExtensionID = Profitbase.EPM.AccountWorkbook taken into account):

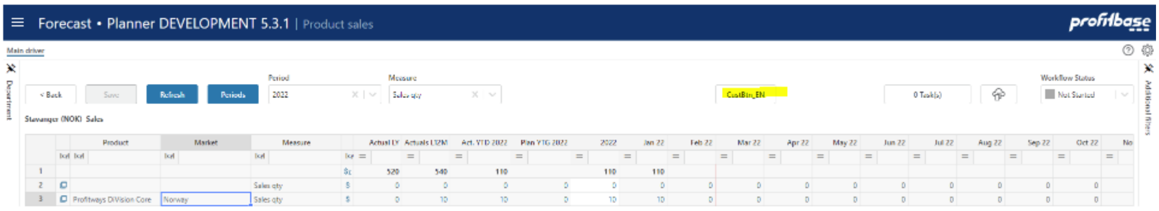
PlanOverviewCustBtn1Enabled
PlanOverviewCustBtn1LaunchToWorkbookName
PlanOverviewCustBtn1QSP
PlanOverviewCustRowContextMnu1Enabled
PlanOverviewCustRowContextMnu1LaunchToWorkbookName
PlanOverviewCustRowContextMnu1QSP

- **Custbtn1Enabled** - (true | false, default false). If false, the button is hidden
- **CustBtn1LaunchToWorkbookName** - the workbook **name** as given in the invision designer. Planner will evaluate the workbook id based on the version context in which it is called. The workbook must exist in the same version context as the calling workbook (e.g. a custom package parallel to the Planner package.
- **CustBtn1QSP** - an optional part of the query string that may hold context in addition to the standard context provided by Planner. This must be specified in the form parameter1=value1&parameter2=value2 (note the ampersand for separating multiple custom parameters).
- **CustRowContextMnu1Enabled** (true | false, default false). If false, the row context menu is inactive.
- **CustRowContextMnu1LaunchToWorkbookName** - the workbook **name** as given in the invision designer. Planner will evaluate the workbook id based on the version context in which it is called. The workbook must exist in the same version context as the calling workbook (e.g. a custom package parallel to the Planner package.
- **CustRowContextMnu1QSP** - an optional part of the query string that may hold context in addition to the standard context provided by Planner. This must be specified in the form parameter1=value1&parameter2=value2 (note the ampersand for separating multiple custom parameters).

Context

- Custom button - Department, Project and Activity filter values, the workbook id of the workbook from which the custom button is clicked and an optional query string context. Module specific context include the Account filter context is provided for the Account module. For Personnel, the Employee filter context is provided. For Driver based, the Product and Market filter context is provided.

Button is placed:



- Custom row context menu - The row context is provided, i.e. all values of relevant input dimensional context columns such as DepartmentID, ProjectID, ActivityID, CPLegalEntityID and so on. Module specific context include, AccountID for the Account module, EmployeeID for the Personnel module, ProductID, MarketID and SupplierID for the driver based module.
- Custom row context menu is available on right-click on Project and Activity dimension columns of main input fheet. Module specific additions include Account column for the Account module, Employee column for the Personnel module and Product and Market columns for the driver-based module.

Titles and translations

The following localization text codes is referenced:

Account module:

Account_CustBtn1
Account_CustBtn1
Account_CustRowContextMenu1
Account_CustRowContextMenu1

Personnel module:

Personnel_CustBtn1
Personnel_CustBtn1
Personnel_CustRowContext
Personnel_CustRowContext

Driver based module (generic texts):

DriverBased_CustBtn1
DriverBased_CustBtn1
DriverBased_CustRowContextMenu1
DriverBased_CustRowContextMenu1

For the custom button, driver-based model-specific texts may be added by adding a localization of the form <ModuleExtensionID>_CustBtn1 for example MyModel_CustBtn1 for a model with ModuleExtensionID = MyModel.

Note that model-specific texts are not supported for the custom row context menu.

Plan overview:

PlanOverview_CustBtn1	EN
PlanOverview_CustBtn1	NO
PlanOverview_CustRowContextMenu1	EN
PlanOverview_CustRowContextMenu1	NO

Size and positioning of custom workbook when called from standard modules

The OpenBrowserWindow command is used to open the custom workbooks. It is possible to control the height, width, left and top adjustments in pixels by setting the following values in the setting table ModuleExtensions:

For Account, Personnel and Driver based modules:

CustBtn1LaunchWBPixelHeight
CustBtn1LaunchWBPixelWidth
CustBtn1LaunchWBPixelLeftAdj
CustBtn1LaunchWBPixelTopAdj
CustRowContextMnu1LaunchWBPixelHeight
CustRowContextMnu1LaunchWBPixelWidth
CustRowContextMnu1LaunchWBPixelLeftAdj
CustRowContextMnu1LaunchWBPixelTopAdj

For Plan overview:

PlanOverviewCustBtn1LaunchWBPixelHeight
PlanOverviewCustBtn1LaunchWBPixelWidth
PlanOverviewCustBtn1LaunchWBPixelLeftAdj
PlanOverviewCustBtn1LaunchWBPixelTopAdj
PlanOverviewCustRowContextMnu1LaunchWBPixelHeight
PlanOverviewCustRowContextMnu1LaunchWBPixelWidth
PlanOverviewCustRowContextMnu1LaunchWBPixelLeftAdj
PlanOverviewCustRowContextMnu1LaunchWBPixelTopAdj

The values are pixels and the data type is therefore integer.

Communication back to caller

The workbookID of the caller is part of the query string to the custom workbook as the "MessageBackTo" variable. This value can be stored in a workbook variable in the custom workbook like this:

```
@Var[MessageBackTo] = @Var[QSP:: MessageBackTo];
```

A SendMessage event may be issued by the custom workbook to signal to the calling module/workbook to **refresh**.

The Plan overview workbook (InputReportWorkbook) has a "RefreshSummary" message received event that refreshes the summary page.

The Account, Personnel and Driver based modules (AccountWorkbook, PersonnelWorkbook and DriverBasedWorkbook) has an "RefreshInputPage" message received event that refreshed the main input page.

Example of a SendMessage instruction back to the calling module:

```
ConfigureMessage(@Var[MessageBackTo], SYS.CurrentUserName, "RefreshInputPage", '');
```

Pattern 8 – import transactional plan data from an external source.

In some cases plan data from external sources need to be included in the plan without involving any input, i.e. to be imported as transactional data to the plan.

In EPM Planner, the transaction store @Object[pbTransdataSourceCM,store].dbObjectName can be used for this.

Data should be identified by a ModuleExtensionID.

Use the following pattern:

Set up a standard Data Import job to EPM Datamart destination store pbTransdataSourceCMExternal (identified by synonym SYN_Datamart_pbTransdataSourceCMExternal).

This will import the data to EPM Datamart.

To import the data to an EPM Planner version, create an Operation that contains the following sql script steps:

1. ImportFrompbTransdataSourceCMExternal
   Parameter: @ModuleExtensionID, @DepartmentID = 123XYZZZYX321
2. Reload pbTransdataPLSourceCM
   Parameters: @ModuleExtensionID, @DepartmentID = 123XYZZZYX321, @SYS_OriginID = 123XYZZZYX321
3. Reload pbTransdataPLSourceAFP from pbTransdataPLSourceCM (optional)
   Parameters: @ModuleExtensionID, @DepartmentID = 123XYZZZYX321

Scripts have parameters that must be set. *Note that when adding parameter values to the Operation step, no quotes should be used as shown in the examples abov.*

Note that @ModuleExtensionID should always be set to identify the set of data imported.

Parameter value 123XYZZZYX321 means all.

For a description of the various data fields and the requirements related to the fields, please refer to [Create custom financial transactions]

Data Architecture and Extensions

When creating extensions you need to know where to find data and where to put data and using sources and targets that will be present and most stable over version upgrades. The picture below show the main dataflow in Profitbase Planner.

This presentation contains figures that show how the integration describe above will connect to the rest of Planner.

[Profitbase Planner Architecture.pptx]

Recommendation summary:

Use pbTransdataSourceCM when creating and inserting finance source transactions.

Use pbTransdataPL when presenting Profit & Loss information – typically in workbook report.

Use ReportAccountByMonth whenever you need to do postprocessing such as allocations and redistribution for reporting purposes. Use extract, process and present fi possible. Avoid doing deletes. Remember that "Finance All" will replace the total content.

Using table and views – try to use tables/views with SYN or CPV.

For dimensions there will be a shared dimension in datamart and a local dimension in versioned solution. Access these using @Object[Dimension, Dimension].DbObjectName to get the local and SYN_Dimension to get the shared dimension.

Avoid using other tables and views. If you have to: It is recommended to use a view as an interface to protect the implementation against changes and help document this dependency.

It is important to minimize external reference points to minimize risk that an upgrade will break compatibility.

Be aware of the content in this document which will be updated and extended with new patterns.