

Agenda

Selected Highlights

Application Foundation Highlights

Administration Tools

Job Management

Search

Standard Scripts

Widgets, Smart Panels & Insight groups

API Best Practice

Extensibility

Positioning the tools

Overview of Experience Designer

XtendM3

Other tools

Application Foundation Highlights

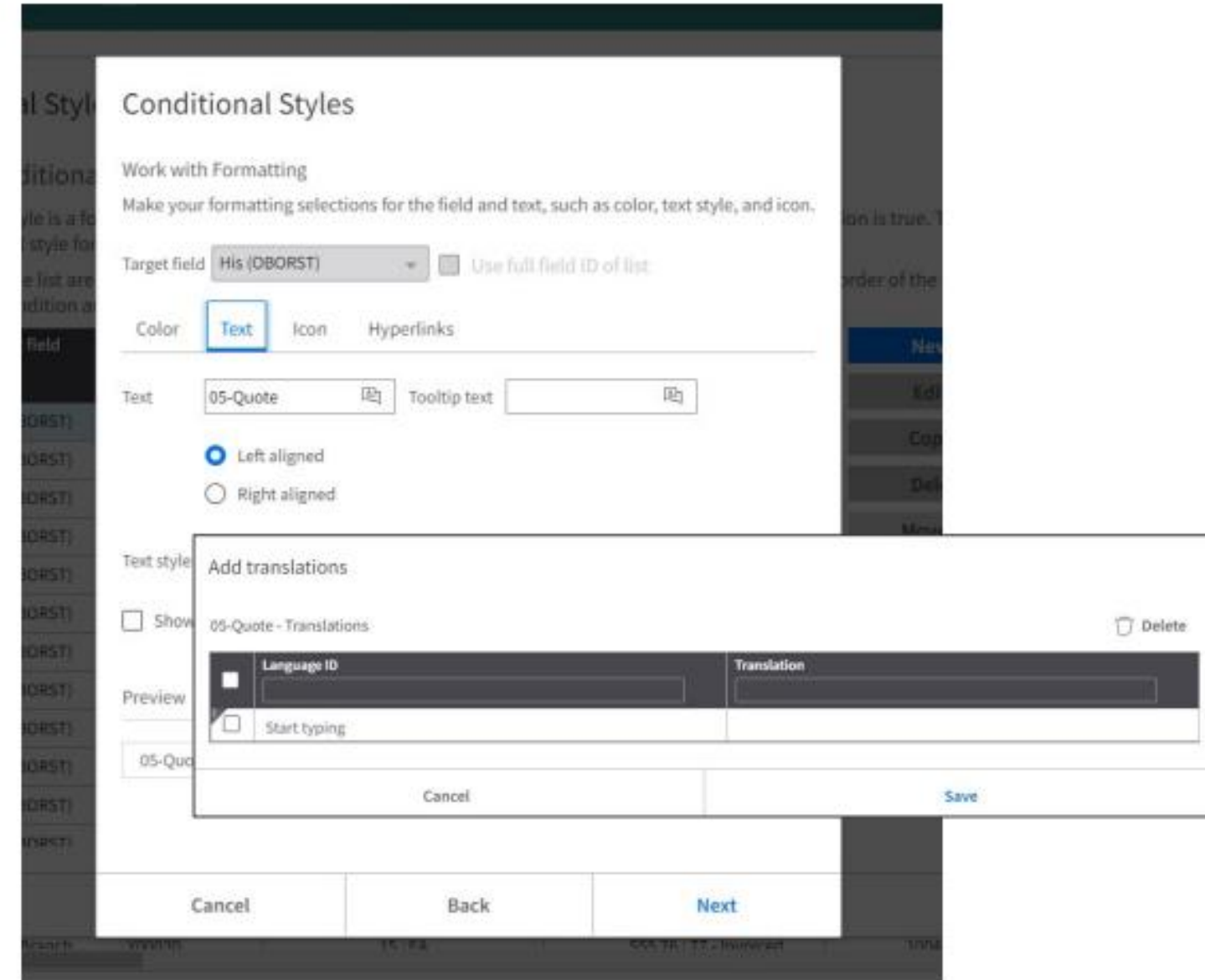
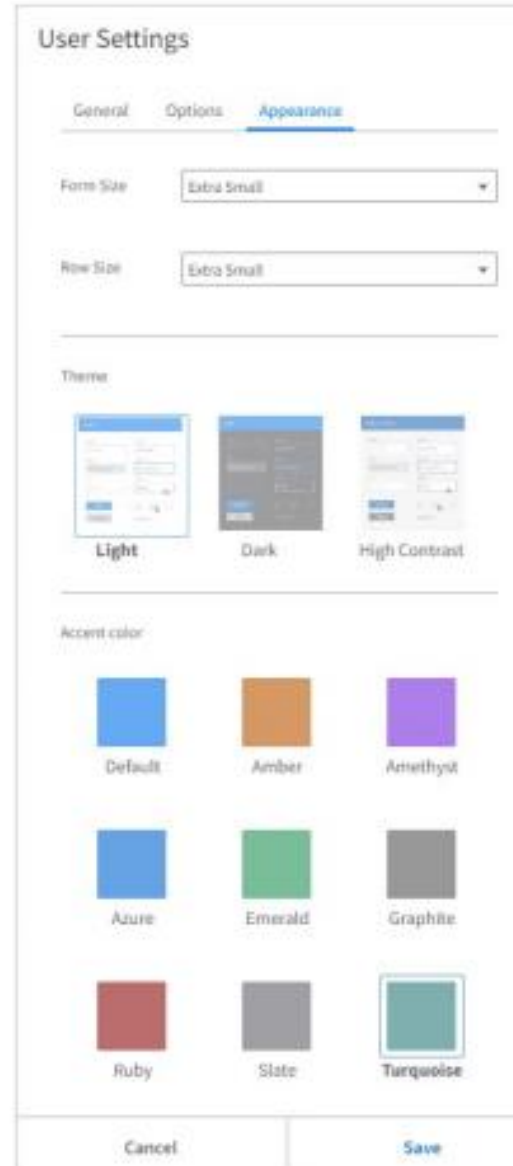
H5 update

- **Personalizations**

- Language handling
- More colors in the color picker

- **Appearance**

- Controlled by Infor OS Portal or H5
- Use extra small form/row size to get the appearance most similar to H5 Classic



H5 update

- **New datagrid component**

- Will affect all list programs in M3
- An H5 setting will activate the new datagrid
- Better performance
- Need to test scripts, might need some adjustments
- Planned availability January 2024

The screenshot shows the SAP Purchase Order Display Lines interface. The main table displays the following data:

PO no	Ln	Wks	Item number	Name	Qty	Order qty	Req dt	Confm qty	Chkdt	POu	Lot	Supplier
200003	20	001	10000001	Plasterboard 12.5mm	001	100	220023		EA	20-Printed		Y90001
200016	1	M00	10000002	LOG4 - Mini indicato	001	20	190719		EA	15-Registered		CROHPTON
200016	11	M00	10000002	Plasterboard 12.5mm	001	1	220023		EA	15-Registered		CROHPTON
211000	1	M00	00-000189	Hiltiush drill bits	282	1	190908	1	200220	EA	33-Confirmed not approved	ANALP
211000	1	M00	00-000188	HAMMER PSL	282	5	190916		EA	20-Printed		200004
211000	1	M00	00-000187	Electric screwdriver	262	1	190916		EA	20-Printed		200004
211001	70	003	10000006	Plasterboard 15mm 24	003	100	220223		EA	15-Registered		26-20329
211001	80	003	10000011	Plasterboard Adhesiv	003	100	220223		EA	15-Registered		26-20329
211001	90	003	10000012	Jointing Tape 100mm	003	100	220223		EA	15-Registered		26-20329
211001	70	003	10000006	Plasterboard 15mm 24	003	100	220226		EA	15-Registered		26-20329
211001	80	003	10000011	Plasterboard Adhesiv	003	100	220226		EA	15-Registered		26-20329
211001	90	003	10000012	Jointing Tape 100mm	003	100	220226		EA	15-Registered		26-20329
211001	10	003	10000000	Plasterboard 9.5mm 1	003	100	220907		EA	20-Printed		26-20329
211001	20	003	10000001	Plasterboard 9.5mm 1	003	100	220907		EA	20-Printed		26-20329
211001	30	003	10000002	Plasterboard 12.5mm	003	100	220907		EA	20-Printed		26-20329
211001	40	003	10000003	Plasterboard 15.5mm 2	003	100	220907		EA	20-Printed		26-20329

H5 Classic

H5 Classic will be decommissioned April 2024

- Existing scripts must be checked for compability
 - [Check the Developer Guide](#) – KB 1909067
- When using Infor OS Portal, the new version of H5 will automatically be activated for the users.
- H5 Classic does not support Experience Designer or Infor OS Portal

- Display company and division information on the status bar
- Show Program ID on program tab
- Display label tooltips
- Display help tooltips
- Activate context help

- Right align labels
- Use plus key as tab
- Position cursor in end of input fields
- Expand list
- Use small view for panel navigator

- Use Infor Ming.le Language
- Auto-switch to Homepages
- Enable classic UI

What we've done – Job scheduler

- Every year
 - Possible to schedule once a year.

The screenshot shows the 'SHS230 Job Schedule Information' form in the M3 Job Management system. The 'Schedule type' is set to '2-Repetitive'. The 'Settings' section includes various options for scheduling frequency and time limits. A red box highlights the 'Every year' and 'In month' options, both of which are currently unchecked. Other options include 'Every month', 'On day', 'Job sched cal', 'Every Monday', 'Every Tuesday', 'Every Wednesday', 'Every Thursday', 'Every Friday', 'Every Saturday', and 'Every Sunday'. The 'Time limits' are set to '1' and '235900', and the 'Date limits' are set to '1' and '235900'. The description is 'Safety Stock/Reorder Point. Ca'.

Setting	Value
Schedule type	2-Repetitive
Time zone	CST Cen Stnd Time
Now	<input type="checkbox"/>
Today	<input type="checkbox"/>
Next Monday	<input type="checkbox"/>
Next Tuesday	<input type="checkbox"/>
Next Wednesday	<input type="checkbox"/>
Next Thursday	<input type="checkbox"/>
Next Friday	<input type="checkbox"/>
Next Saturday	<input type="checkbox"/>
Next Sunday	<input type="checkbox"/>
Spec date	<input type="text"/>
Time	1
Description	Safety Stock/Reorder Point. Ca
Long descript	<input type="text"/>
Every year	<input type="checkbox"/>
In month	<input type="text"/>
Every month	<input type="checkbox"/>
On day	<input type="text"/>
Job sched cal	<input type="text"/>
Every Monday	<input type="checkbox"/>
Every Tuesday	<input type="checkbox"/>
Every Wednesday	<input type="checkbox"/>
Every Thursday	<input type="checkbox"/>
Every Friday	<input type="checkbox"/>
Every Saturday	<input type="checkbox"/>
Every Sunday	<input type="checkbox"/>
Rec action	<input type="checkbox"/>
Time limits	1 - 235900
Date limits	<input type="text"/> - <input type="text"/>

What is coming later? – Job scheduler

- Possible to add/subtract up to +/- 9999 days
- Multiple runs per day e.g. run a program every 30 minute

The screenshot displays the 'SHS231 Job Schedule Information. Open' window. The top navigation bar includes 'Actions', 'Options', 'Related', and 'Tools' menus, along with various utility icons. The main content area is divided into two sections:

- Job Details:** A table with the following entries:

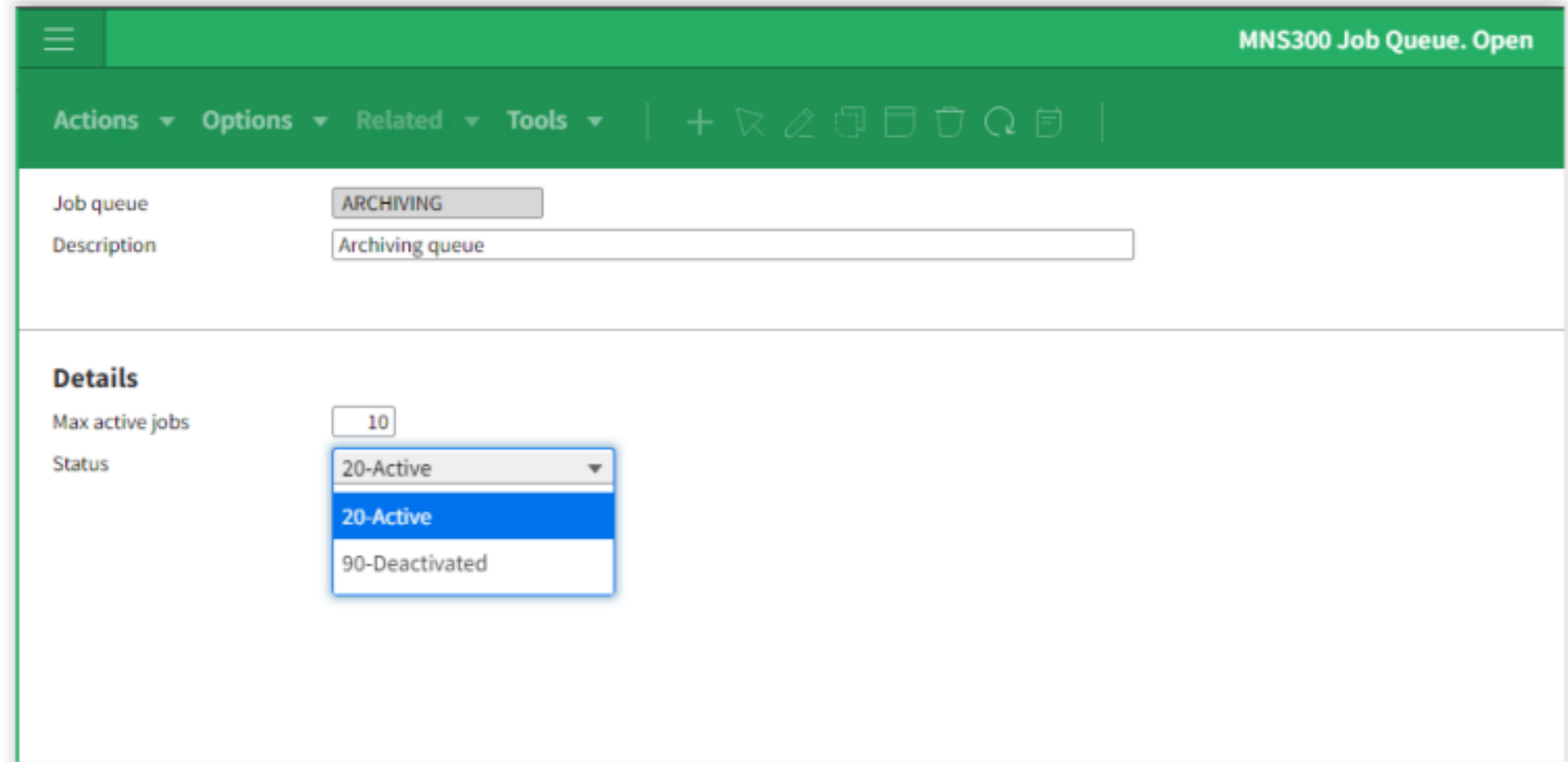
Program	MMS615	Safety Stock/Reorder Point. Calculate
Field name	ZFPPER	
Description	acquisition date	
- Detailed Information:** A section for scheduling configuration:

Movement	00-Fixed date
Add value	d
Subtract value	0

The 'Add value' field containing 'd' and the 'Subtract value' field containing '0' are highlighted with a red rectangular box.

What we've done – MNS300 Job queue

- Status
 - Possible to deactivate a job queue
 - Jobs can still be submitted to an inactive job queue
 - Could be used if you don't want CMNGJOB to pick any more jobs from that job queue



What we've done – MNS310 Job

- Selection record notification
 - Displays the number of records you're about to submit.
- Selection limit
 - Stop submission if > limit
- Duplicate job check
 - Allow to submit duplicate job, yes/no?
- All of the above requires
infor “Confirm job start”

The screenshot shows the 'MNS310 Job. Connect Job Queue' configuration page. The top navigation bar is green with a hamburger menu icon on the left and the title 'MNS310 Job. Connect Job Queue' on the right. Below the navigation bar is a toolbar with icons for Actions, Options, Related, and Tools. The main content area is divided into two sections: 'Job' and 'Details'. The 'Job' section contains fields for 'Job' (empty) and 'User/group' (JKARLSSON Jorgen Karlsson). The 'Details' section contains several configuration options: 'Job queue' (QBATCH Default job queue), 'Priority' (5), 'Conf job start' (2-Buttons), 'Save job hist' (checked), 'Sel rec notif' (1), 'Selection limit' (empty), and 'Dupl job check' (1-Yes, with a warning).

Best practise

- Run CRS998
 - System diagnostic, run at regular intervals
 - Will find issues in your configuration
- Use duplicate check and selection limit in MNS310
 - Will avoid unnecessary job submitting and too large results

Apply

Program	Description	Lst run	Last	Sts	
CRCHK002	Check calendar	23-07-31	6:45	00	
CRCHK003	Check number series	23-04-12	8:29	00	
CRCHK004	Check planning values for item/warehouse	22-12-12	22:49	00	
CRCHK005	Check item data	22-12-12	22:55	00	
CRCHK006	Check basic parameters	22-12-12	22:55	00	
CRCHK007	Check sorting options	23-02-16	5:55	00	
CRCHK008	Check dataset tables	22-12-12	22:56	00	
CRCHK009	Check selection filter usage	22-12-12	22:56	00	
CRCHK010	Validate user settings	22-12-12	22:56	00	
CRCHK011	Check adhoc report setup	23-03-14	8:27	00	

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Home / System Administration

Manage System Diagnostics

Background

M3 Business Engine is a very large product. To set up parameter combinations, to monitor certain key values, to avoid running out of a number series, for example, could be very difficult. To help the system administrator, M3 BE has monitoring capabilities. This solution contains two parts:

- 1 The system diagnostics checks are a number of batch runs that check the basic data and setups in the system. The idea is that these checks should proactively find potential errors before they occur, and act like help for troubleshooting already existing problems.
- 2 The application monitoring console consists of several small, fast, interactive checks of the application. They are performed at the initialization of the list view (or API call) and thus always contain fresh data. The application monitoring console also offers the possibility to set user-defined threshold values to define which result is acceptable, and which is not.

Follow these steps for system diagnostics

'System Diagnostics. Open' (CRS998) contains a number of batch runs that check the status of the basic data in the system. The result of the check is displayed with a status that indicates if the check contains errors, or if the check is performed OK.

Currently, the system diagnostics contain these check programs that perform 16 tests of the system.

Program name	Description
CRCHK002	Checks that each calendar entry has a valid period type. Checks that all divisions have a calendar at least as long as the calendar for blank division.
CRCHK003	Checks all number series and warns if usage is > 90%. This is valid for all number series (CRS165), including invoice number (MFS165), journal number (CRS400) and voucher number (CRS410). Journal number is also checked so that a record exists for the next year.
CRCHK004	Checks planning values in Item/Warehouse (MMS002). Checks that low-level code is < 50 and that the planning horizon is not further out in the future than the calendar entries.
CRCHK005	Checks that all fields in Item Master (MMS001), Item/Warehouse (MMS002) and Item/Facility (MMS003) have a valid value.
CRCHK006	Checks that all CRS7* programs have a corresponding CSYPAR value.

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<https://docs.infor.com/m3udi/16.x/en-us/m3beud/default.html?helpcontent=appfoundhs/qhj1571384965441.html>

Search

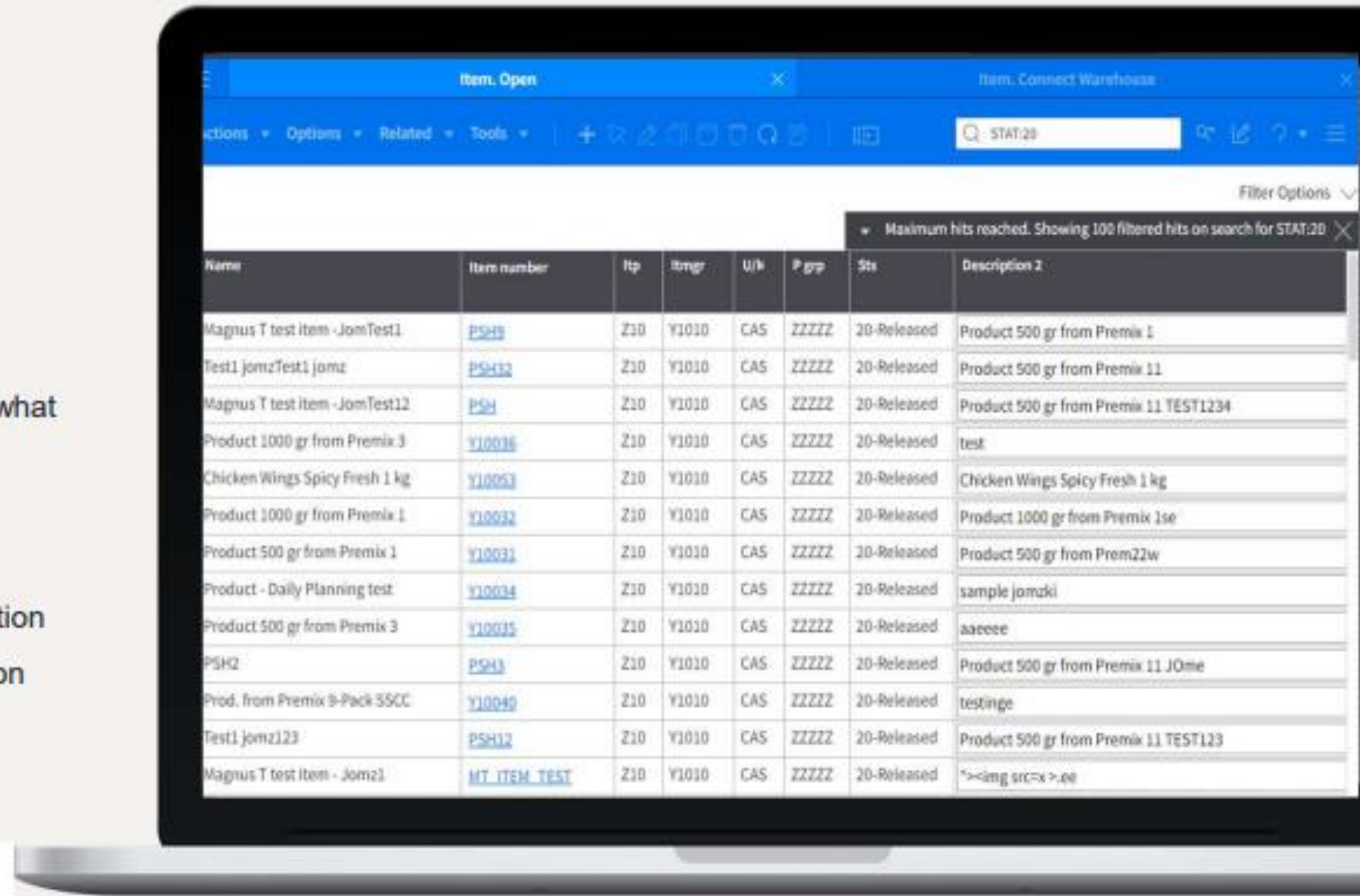
Sorting

Search always sorts the result, not the used sorting order!!

- Default – Elastic search sorting (newest record ranks high)
- Can create a problem when hitting Max records – do not know what is there and what is not
- Keyword to control sorting - SortBy:xxxx,yyyy,!zzzz
- Best practice – Always include sorting when searching
- Tip: If aggregating make sure the sorting is identical to aggregation
- Tip2: Re-sort full table without need of user defined sorting option (Ux, Vx, Xx) – CONO:xxx SortBy:!STQT
- Tip3: Preset main sorting in CMS021

Sort-by field

ITND



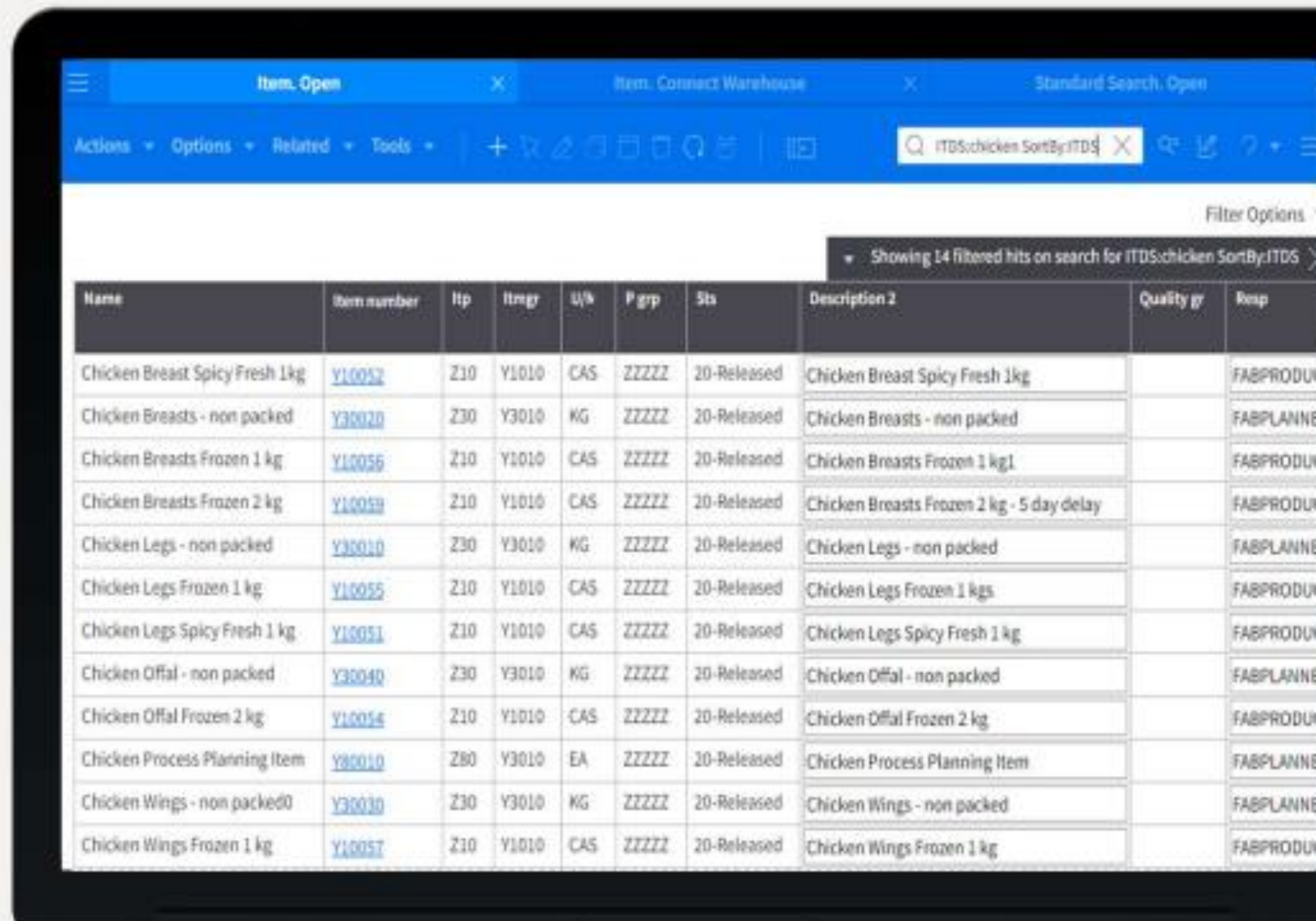
Performance

Always include field to be searched!!

- Like ITDS:chicken
- Eliminates risk for false hits by found term in other fields than planned
- Very important when using wildcards (*). High risk otherwise to get an error (Too many clauses)

Search across multiple fields with same term(s)

- SearchFields:xxxx;yyyy;zzzz
- Like query: magnus 500 SearchFields:ITDS;FUDS
- Search for the terms in all listed fields
- Used when unknown in which field each search term is found



Showing 2 filtered hits on search for magnus 500 SearchFields:ITDS;FUDS

Name	Item number	Itp	Itmgr	U/W	P grp	Sts	Description 2	Quality gr	Resp
Magnus T test item -JomTest1	PSH9	Z10	Y1010	CAS	ZZZZZ	20-Released	Product 500 gr from Premix 1		FABPROD
Magnus T test item -JomTest12	PSH	Z10	Y1010	CAS	ZZZZZ	20-Released	Product 500 gr from Premix 11 TEST1234		FABPROD

Search Knowledge Base Articles

M3: Using search - basics (video)

<https://support.infor.com/espublic/EN/AnswerLinkDotNet/SoHo/Solutions/SoHoViewSolution.aspx?SolutionID=1493969>

M3: Using key search - basics (video)

<https://support.infor.com/espublic/EN/AnswerLinkDotNet/SoHo/Solutions/SoHoViewSolution.aspx?SolutionID=1493943>

Guide: M3 Function Search - How to Search Basics : Search query examples

<https://support.infor.com/espublic/EN/AnswerLinkDotNet/SoHo/Solutions/SoHoViewSolution.aspx?SolutionID=1687355>

Scripts

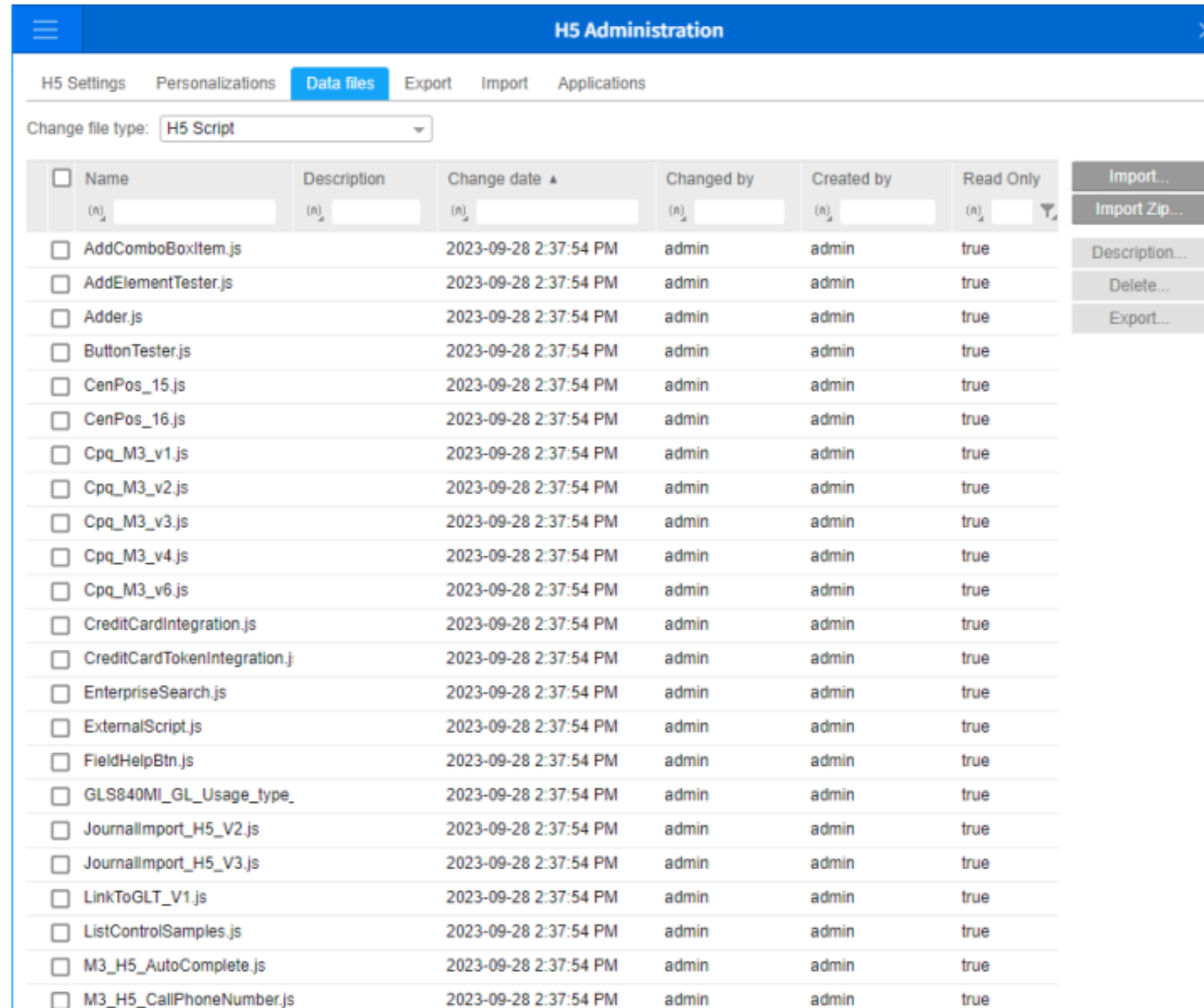
H5 Scripts administration

H5 Scripts delivered by Infor is read-only

It is still possible to download a read-only script, change it and upload with a different name.

All new scripts delivered by Infor will be prefixed with “M3_H5_”

It is not possible to upload a script that starts with the prefix “M3_H5_”



The screenshot shows the 'H5 Administration' interface with the 'Data files' tab selected. A dropdown menu shows 'Change file type: H5 Script'. Below is a table listing various H5 scripts, all of which are marked as 'Read Only'.

<input type="checkbox"/>	Name	Description	Change date ▲	Changed by	Created by	Read Only	
	(N)	(N)	(N)	(N)	(N)	(N)	
<input type="checkbox"/>	AddComboBoxItem.js		2023-09-28 2:37:54 PM	admin	admin	true	Import...
<input type="checkbox"/>	AddElementTester.js		2023-09-28 2:37:54 PM	admin	admin	true	Import Zip...
<input type="checkbox"/>	Adder.js		2023-09-28 2:37:54 PM	admin	admin	true	Description...
<input type="checkbox"/>	ButtonTester.js		2023-09-28 2:37:54 PM	admin	admin	true	Delete...
<input type="checkbox"/>	CenPos_15.js		2023-09-28 2:37:54 PM	admin	admin	true	Export...
<input type="checkbox"/>	CenPos_16.js		2023-09-28 2:37:54 PM	admin	admin	true	
<input type="checkbox"/>	Cpq_M3_v1.js		2023-09-28 2:37:54 PM	admin	admin	true	
<input type="checkbox"/>	Cpq_M3_v2.js		2023-09-28 2:37:54 PM	admin	admin	true	
<input type="checkbox"/>	Cpq_M3_v3.js		2023-09-28 2:37:54 PM	admin	admin	true	
<input type="checkbox"/>	Cpq_M3_v4.js		2023-09-28 2:37:54 PM	admin	admin	true	
<input type="checkbox"/>	Cpq_M3_v6.js		2023-09-28 2:37:54 PM	admin	admin	true	
<input type="checkbox"/>	CreditCardIntegration.js		2023-09-28 2:37:54 PM	admin	admin	true	
<input type="checkbox"/>	CreditCardTokenIntegration.js		2023-09-28 2:37:54 PM	admin	admin	true	
<input type="checkbox"/>	EnterpriseSearch.js		2023-09-28 2:37:54 PM	admin	admin	true	
<input type="checkbox"/>	ExternalScript.js		2023-09-28 2:37:54 PM	admin	admin	true	
<input type="checkbox"/>	FieldHelpBtn.js		2023-09-28 2:37:54 PM	admin	admin	true	
<input type="checkbox"/>	GLS840MI_GL_Usage_type_		2023-09-28 2:37:54 PM	admin	admin	true	
<input type="checkbox"/>	JournalImport_H5_V2.js		2023-09-28 2:37:54 PM	admin	admin	true	
<input type="checkbox"/>	JournalImport_H5_V3.js		2023-09-28 2:37:54 PM	admin	admin	true	
<input type="checkbox"/>	LinkToGLT_V1.js		2023-09-28 2:37:54 PM	admin	admin	true	
<input type="checkbox"/>	ListControlSamples.js		2023-09-28 2:37:54 PM	admin	admin	true	
<input type="checkbox"/>	M3_H5_AutoComplete.js		2023-09-28 2:37:54 PM	admin	admin	true	
<input type="checkbox"/>	M3_H5_CallPhoneNumber.js		2023-09-28 2:37:54 PM	admin	admin	true	

New standard scripts – October 2023

Link to documentation:

https://docs.infor.com/m3cs/2023.x/en-us/industry_content_m3cloudsuite/default.html

H5 Settings Personalizations **Data files** Export Import Applications

Change file type: H5 Script

<input type="checkbox"/> Name	Description	Change date	Changed by	Created by	Read Only
<input type="checkbox"/> M3_H5					
<input type="checkbox"/> TM3_H5_ToggleStartPanel.js	Imported through ACM	2023-10-03 7:01:43 AM	ACMAdmin	RPUNAY	false
<input type="checkbox"/> mod_M3_H5_CenPos_16.js	Imported through ACM	2023-10-03 7:01:43 AM	ACMAdmin	LBALDELOMA	false
<input checked="" type="checkbox"/> M3_H5_UpdateSKU.js		2023-10-03 4:52:09 AM	admin	admin	true
<input type="checkbox"/> M3_H5_CreditStop.js		2023-10-03 4:52:09 AM	admin	admin	true
<input checked="" type="checkbox"/> M3_H5_SimpleQuery.js		2023-10-03 4:52:09 AM	admin	admin	true
<input checked="" type="checkbox"/> M3_H5_Shortcut.js		2023-10-03 4:52:09 AM	admin	admin	true
<input type="checkbox"/> M3_H5_MMS080B_ShowPlanningInfo.js		2023-10-03 4:52:09 AM	admin	admin	true
<input checked="" type="checkbox"/> M3_H5_Mos199WorkCenterNames.js		2023-10-03 4:52:09 AM	admin	admin	true
<input checked="" type="checkbox"/> M3_H5_AutoComplete.js		2023-10-03 4:52:09 AM	admin	admin	true
<input type="checkbox"/> M3_H5_Cpq_M3_v7.js		2023-10-03 4:52:09 AM	admin	admin	true
<input type="checkbox"/> M3_H5_OIS120E_Limit_CO_Stop.js		2023-10-03 4:52:09 AM	admin	admin	true
<input type="checkbox"/> M3_H5_CreateAgreementFromCustomerQuote.js		2023-10-03 4:52:09 AM	admin	admin	true
<input type="checkbox"/> M3_H5_FilterItemsWithHierarchy.js		2023-10-03 4:52:09 AM	admin	admin	true
<input checked="" type="checkbox"/> M3_H5_CreateMail.js		2023-10-03 4:52:09 AM	admin	admin	true
<input checked="" type="checkbox"/> M3_H5_GenericAPICallButton.js		2023-10-03 4:52:09 AM	admin	admin	true
<input checked="" type="checkbox"/> M3_H5_ConverterUOM.js		2023-10-03 4:52:09 AM	admin	admin	true
<input type="checkbox"/> M3_H5_ToggleStartPanel.js		2023-10-03 4:52:09 AM	admin	admin	true
<input checked="" type="checkbox"/> M3_H5_CallPhoneNumber.js		2023-10-03 4:52:09 AM	admin	admin	true
<input checked="" type="checkbox"/> M3_H5_PDS100B_IndentedBoM.js		2023-10-03 4:52:09 AM	admin	admin	true
<input type="checkbox"/> M3_H5_IDM_DocumentIndicator.js		2023-10-03 4:52:09 AM	admin	admin	true
<input checked="" type="checkbox"/> M3_H5_IES_Button.js		2023-10-03 4:52:09 AM	admin	admin	true
<input checked="" type="checkbox"/> M3_H5_ToolbarShortcutButtons.js		2023-10-03 4:52:09 AM	admin	admin	true
<input checked="" type="checkbox"/> M3_H5_M3P3Button.js		2023-10-03 4:52:09 AM	admin	admin	true

https://docs.infor.com/m3cs/2023.x/en-us/industry_content_m3cloudsuite/default.html

Infor M3 CloudSuite Industry Content User Guide

Home / H5 Scripts

M3_H5_ToolbarShortcutButtons

Use this H5 script to add check boxes to selected menu bar options in the panel, specifically actions, options, and related options. When you select one or more check boxes, shortcut buttons are created on the Filter Options section representing the selected actions, options, and related options. Clicking any shortcut button provides you with the similar behavior that the button represents.

The buttons are placed in groups related to their type and you can assign colors to the group of buttons through optional arguments.

Note: This script only works in the new H5 UI.

Script arguments

Examples of arguments are as follows:

- Argument to be used in 'Item. Open' (MMS001) to add toolbar shortcuts.

#55A3F3,#FBAF50,#78D8A3,auto

Argument	Example	Optional	Descriptions
Color for related options	#55A3F3	Yes	The color assigned to all related options from the menu bar of the current panel. The default argument is #999999.
Color for actions	#FBAF50	Yes	The color assigned to all actions from the menu bar of the current panel. The default argument is #999999.
Color for options	#78D8A3	Yes	The color assigned to all options from the menu bar of the current panel. The default argument is #999999.
Maximum width	auto	Yes	Use this argument to adjust the maximum width of the shortcut button. You can specify the width property in CSS, use auto, or leave it blank. The default width is 100.
- Argument to be used in 'Customer. Open' (CRS610) to add toolbar shortcuts.

You can skip adding optional arguments. Without any arguments, the shortcut buttons use the default color and the default width property for all actions, options, and related options.

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DEMO

[Infor M3 CloudSuite Industry Content User Guide](#)

Widgets, Smart Panels & Insight Groups

Smart Panel

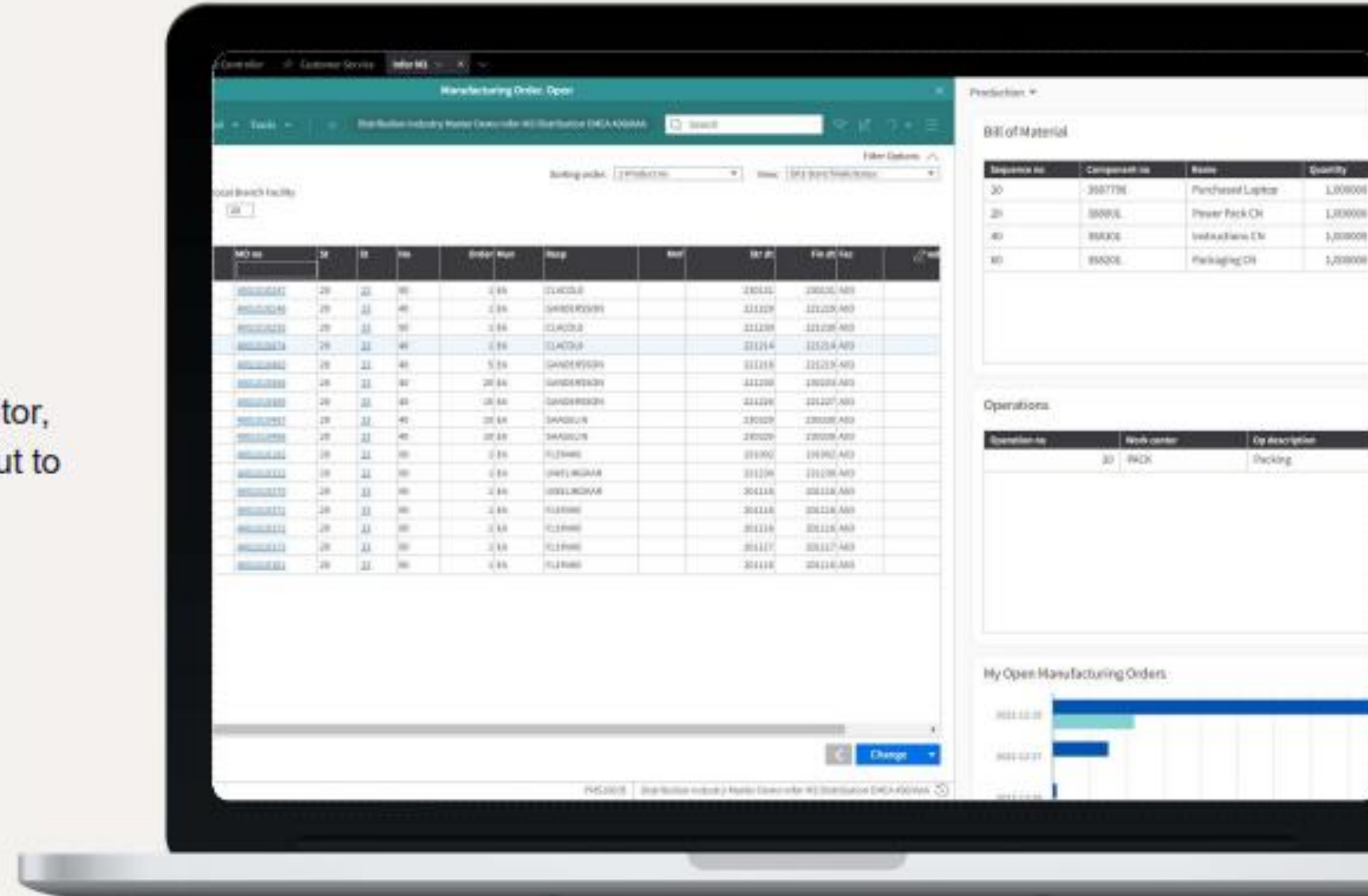
M3 widgets and Infor Business Context

Use the M3 standard widgets (information viewer, monitor, editor, creator) in the smart panel, use Infor Business Context as input to the widgets.

Input/Output Parameters

Input Output

Input	Name	Description	Value	User Input	Entity Type	Mandatory	Type
<input checked="" type="checkbox"/>	FACI	Facility	{FACI}	<input type="checkbox"/>		YES	String
<input checked="" type="checkbox"/>	PRNO	Product	{InfoProduct}	<input type="checkbox"/>	InfoProduct	YES	String
<input checked="" type="checkbox"/>	MPOD	MO number	{InfoProductionOrder}	<input type="checkbox"/>	InfoProductionOrder	YES	String



[Understanding Insight Groups documentation link](#)

[Widgets documentation link](#)

DEMO

API Best Practice

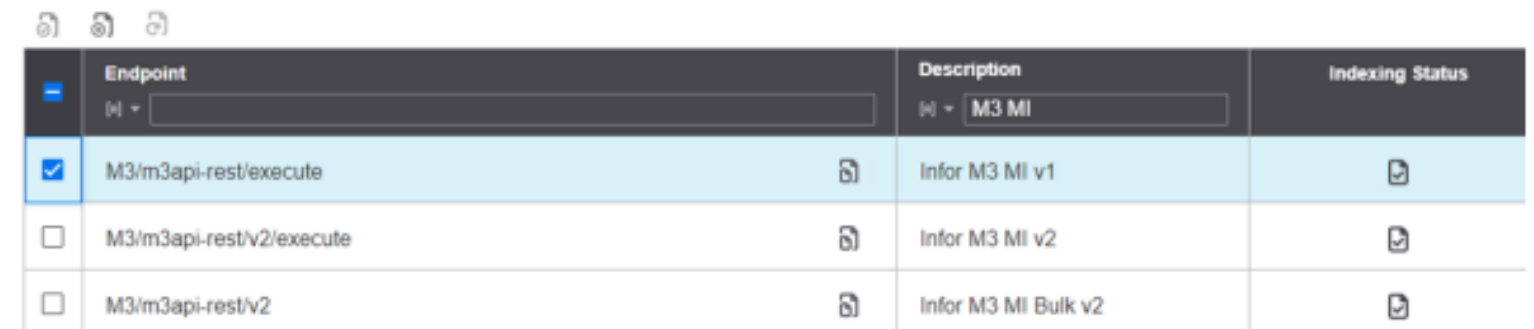
Use M3 API v2

Background

- v2 is more optimized than v1
- Certain streaming functionality is limited in v1, higher risk for timeouts
- Goal to deprecate v1 as new versions get introduced
- All new examples and content from Infor is using v2

Recommendation

- Disable the API Gateway metadata for v1 to improve usability in ION



Endpoint	Description	Indexing Status
<input checked="" type="checkbox"/> M3/m3api-rest/execute	Infor M3 MI v1	<input type="checkbox"/>
<input type="checkbox"/> M3/m3api-rest/v2/execute	Infor M3 MI v2	<input type="checkbox"/>
<input type="checkbox"/> M3/m3api-rest/v2	Infor M3 MI Bulk v2	<input type="checkbox"/>

Optimize M3 API request

Recommendation

- Set header
 - Accept: application/json
- Control response with
 - maxrecs, returncols
 - number of filters ([NFTR](#))
- Avoid using additional parameters if not needed
 - maxrecs, dateformat, cono, divi, format

Recommendation

- EXPORTMI
 - Use index and filter
- Select more specific requests if available
 - Example: OIS100MI .GetOrderHead instead of OIS100MI .GetHead

API improvements

NFTR

New field, number of filters.

Start from the key input and only list what matches the input to the API.

PPS330MI/LstPOTrans

Default behavior – Start from the key input and list every following entry in the database.

NFTR

The screenshot displays the 'Test API' configuration and results for the 'PPS330MI: ListPOTrans' endpoint. The configuration includes a program dropdown set to 'PPS330MI', a transaction dropdown set to 'ListPOTrans - List record for purch', and an unchecked checkbox for 'Include General Transactions'. The input data section contains four filters: 'PUNO Alpha(10)' set to '0001RBPO02', 'PNLI Integer(3)' set to '10', 'PNLS Integer(3)' set to 'Purchase order line subnumber', and 'PUOS Alpha(2)' set to 'Purchase order status'. The 'NFTR Integer(1)' filter is set to '2'. The results table shows two entries with columns for 'No', 'Purchase ord...', and 'Purchase ord...'. The footer indicates 'Run Show as REST' and 'Displaying: 1 - 2 of 2 Page 1 of 1'.

Test API

Program: PPS330MI

Select

Transaction: ListPOTrans - List record for purch

Include General Transactions

Input Data:

1 PUNO Alpha(10) : 0001RBPO02

2 PNLI Integer(3) : 10

3 PNLS Integer(3) : Purchase order line subnumber

4 PUOS Alpha(2) : Purchase order status

NFTR Integer(1) : 2

Run [Show as REST](#)

PPS330MI: ListPOTrans

No	Purchase ord...	Purchase ord...	F
1	0001RBPO02	10	0
2	0001RBPO02	10	0

Displaying: 1 - 2 of 2 Page 1 of 1

Generic APIs

Appropriate API for your context

- Generic APIs e.g.
 - MDBREADMI
 - CMS100MI
 - EXPORTMI
- Specific APIs e.g.
 - MMS200MI/Get
 - MMS200MI/GetItmBasic

API Purposes

- Real Time
- Search
- Analytics

Response Time \neq Execution Time

Response Time = Execution Time + Network Roundtrip

Sample Execution - 5 APIs – Same Item

API	Transaction	Execution Time (ms)*	Read Queries*
MMS200MI	Get	21	14
MMS200MI	GetItmBasic	35	37
MDBREADMI	GetMITMAS00C1	24	23
CMS100MI	LstMITMAS00	100	47
EXPORTMI	Select	21	21

* Times & Queries are variable based on environment and data setup

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API improvements

KB [2232142](#) shows performance improvements Infor has made in standard BODs

KB [2313562](#) shows performance improvements to APIs

MMS200MI/GetItemBasic

Commonly used to get basic item information.

MMS200MI/Get

New API to return basic item information. Faster.



MMS200MI/Get also contains

price information. An entire call to MMS200MI/GetPrice can be excluded from many mappings.

M3 BE Functions: General Performance good practices ([KB 2226472](#))

M3 Important information - Integrations

Restrictions on data download through M3 API

M3 API's and infrastructure used by M3 are designed for retrieval of limited sets of data and reasonable frequency in their access. They are NOT designed for:

- Massive data downloads or small downloads with high frequency
- To continuously replicate M3 Database tables to on-prem or other solutions
- Be a base for reports

Best practice includes a maximum execution time on 5 minutes per API call as well as a reasonable number of calls per time unit. Please note that, even though, restrictions are not enforced by code they are enforced through monitoring and manual blockage or throttling on a tenant level. This in order to ensure the overall performance and stability of the system.

Extraction of M3 data must follow best practices and be downloaded through Data Lake. Data Lake is part of Infor OS, see Infor OS user guide at [this location](#) referencing Compass functions and Data Lake ETL capabilities.

M3 Important information - Integrations

Base filters and selection fields on indexes in Ad-Hoc reporting, EXPORTMI, and CMS100MI

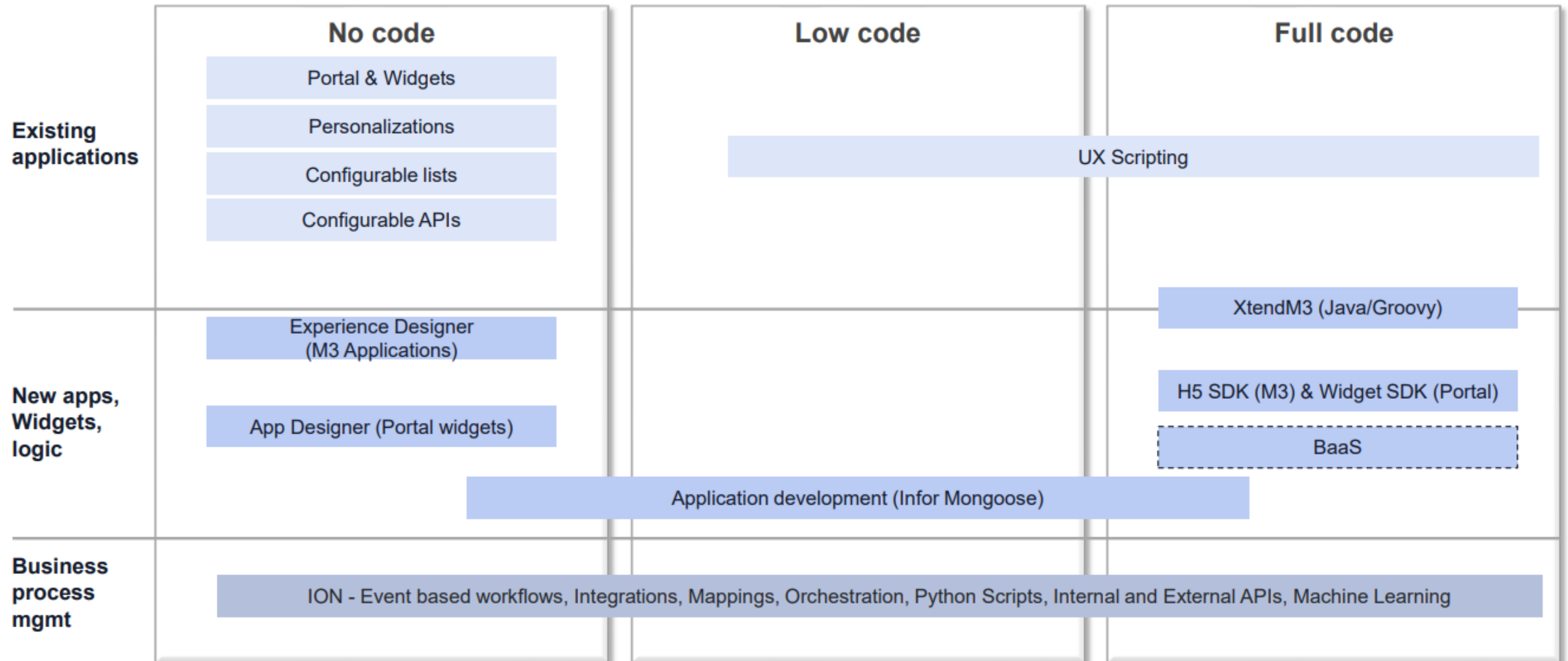
The API CMS100MI, EXPORTMI, and Ad Hoc Reporting functions can currently cause excess and unwanted load on the M3 database server. This primarily relates to the usage of field selections without corresponding filters having been used in combination with the field selection or that there is no suitable index in the M3 database. To execute this on top of very large tables can result in a full table scan to find a few records. This results in bad performance in the API/Ad Hoc call as well as a very high load on the database server, that can in turn affect other processes in M3. Similar problems also occur for smaller tables when the call frequency of the API transaction or Ad Hoc reports are high.

The best practice is to always base needed filtering on the existing database indexes. If no standard database index exists, new ones can be created through the M3 sorting options in 'M3 File. Create Sorting Option' (CRS021). To help achieve suitable filtering, an enhancement was made in January where the filter can be defined as an interval rather than a single value.

Best practice to retrieve M3 data is to use Data Lake data retrieval capabilities. As Data Lake is part of Infor OS, see Infor OS user guide at [this location](#) referencing Compass functions and Data Lake ETL capabilities.

Positioning of Extensibility & SDKs

The M3 User Experience Landscape



Enterprise solutions

XtendM3

Architecture Capabilities

- Custom Data Model
 - Transaction data compatibility
- Custom APIs
 - On-Fly new API capabilities
- Custom Batch Programs
 - Run time/transaction intensive in background
- Custom Extensions
 - Customize internal behavior of Business Engine
- Instant impact
 - On-fly activation/deactivation and updates both on extensions and tables

50M+ Executions / Day

3.6K+ Extensions Live

460+ Tenants Enabled

450+ Consultants Trained

```
1 public class FinalDelivery extends ExtendM3Trigger {
2     private final loggerAPI logger;
3     private final MICallerAPI mICaller;
4     private final MethodAPI method;
5     private final ProgramAPI program;
6     private final SessionAPI session;
7
8     public FinalDelivery(loggerAPI logger, MICallerAPI mICaller, MethodAPI method, ProgramAPI program, SessionAPI session) {
9         this.logger = logger;
10        this.mICaller = mICaller;
11        this.method = method;
12        this.program = program;
13        this.session = session;
14    }
15
16    public void main() {
17        String rout = method.getArgument(0);
18        String rodn = method.getArgument(1);
19        double grw = method.getArgument(2);
20
21        if(rout == null || rodn == null || grw == 60) {
22            return;
23        }
24        logger.info("method.getArgument(0): " + method.getArgument(0) + " method.getArgument(1): " + method.getArgument(1) + " height " + method.getArgument(2));
25
26        String finalDelivery = finalM3DL(rout, rodn, grw);
27        logger.info("Final Delivery Method: " + finalDelivery);
28        method.setReturnValue(finalDelivery);
29    }
30
31    private String finalM3DL(String rout, String rodn, double totalHeight) {
32        String result = "";
33
34        String defaultDelivery = defaultDelivery(rout);
35
36        def parameters = ["FILE": "50001", "Y001": rout, "FE02": rodn];
37        Closure? handler = { Map<String, String> response ->
38            if(response.containsKey("errorid")) { response.error == true }
39            logger.info("No record found!");
40        } else {
41            logger.info("Found a record!");
42            //Out the 3 values for weight ratio
43        }
44    }
45 }
```

XtendM3 Use Cases

Situation: I need to be able to update a CO orders Requested Date via api but there is no such api.

Solution: Build an EXT001MI.ChgOrderheadDate with input

- Order number
- Date

Construct logic to update OOHEAD with the Database API available in XtendM3.

XtendM3 Use Cases

Situation: I need a feature in standard OIS100MI.AddOrderLine that updates the CO heads Order Date.

Solution: Build EXT001MI.AddOrderline with all default input field from OIS100MI.AddOrderline + the new field "Update order head date".

Construct logic to update OOHEAD with the Database API plus calling standard OIS100MI.AddOrderline using MICaller API.

XtendM3 Use Cases

Situation: I need to store transactional data, similar to what I did in CUGEX before.

Solution: Build EXT001MI.Add/Upd/Del/Lst/Get + a dynamic table.

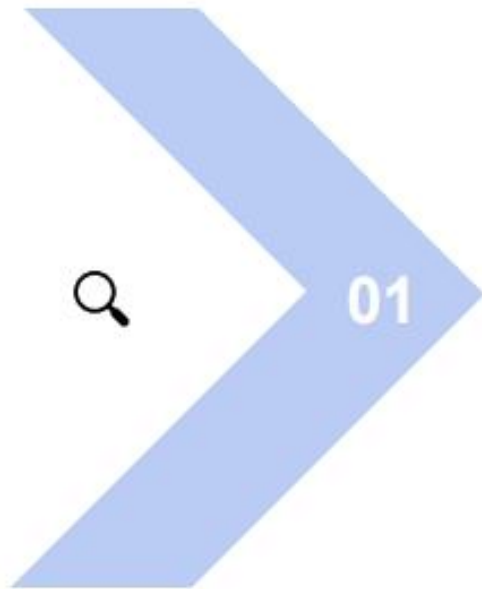
Deployment Process

Extension Design

Design Extension and the Extension Points required to deliver this modification

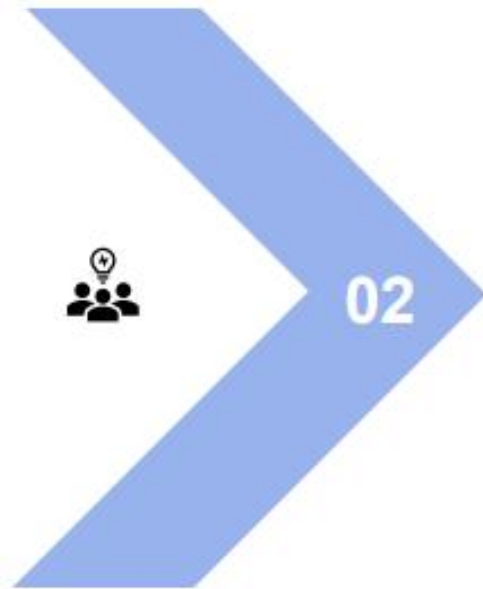
Testing & Verification

Verify that the extension works as intended and solves business requirement



GAP Analysis

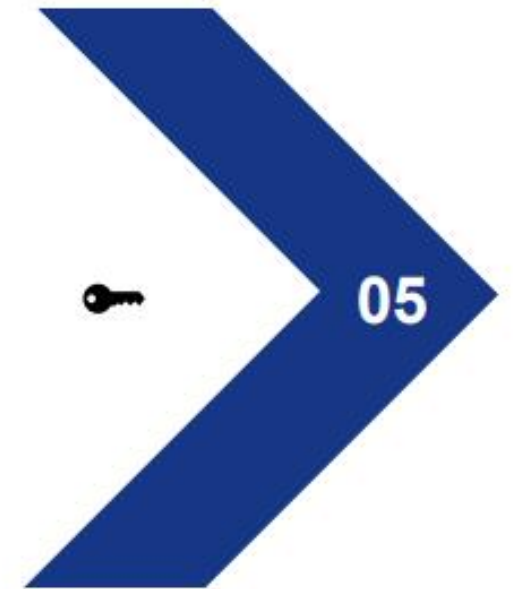
Analyze and see if this is doable and if XtendM3 is a match



Extension Implementation

Implement Extension (GDS / ICS / Selected Partners)

Implement Extension Point (IPD)



Signing & Approval

Approve and sign the extension so that it can be run in production tenant

XtendM3 Generic Print

What?

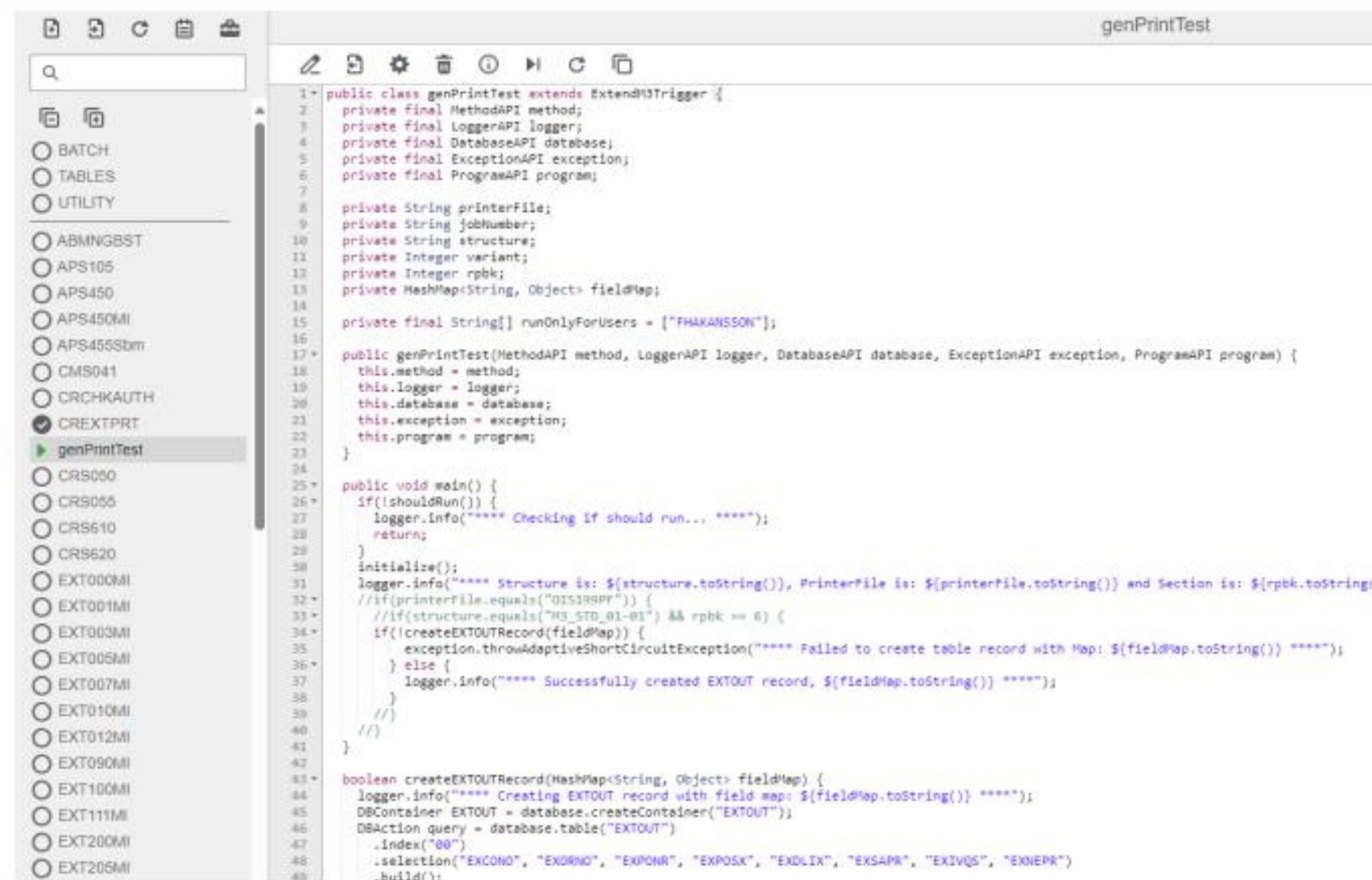
- Extended printing functionality
 - Add processes before printouts

How?

- Trigger extension on new Batch program
 - CREXTPRT/extendOutput/FULL
 - Contains generic input parameters
- Toggle in CMS007

Why?

- More flexible printouts
 - Inject custom logic before a section is printed



```
genPrintTest
1 public class genPrintTest extends ExtendM3Trigger {
2     private final MethodAPI method;
3     private final LoggerAPI logger;
4     private final DatabaseAPI database;
5     private final ExceptionAPI exception;
6     private final ProgramAPI program;
7
8     private String printerFile;
9     private String jobNumber;
10    private String structure;
11    private Integer variant;
12    private Integer rpbk;
13    private HashMap<String, Object> fieldMap;
14
15    private final String[] runOnlyForUsers = {"FHAKANSSON"};
16
17    public genPrintTest(MethodAPI method, LoggerAPI logger, DatabaseAPI database, ExceptionAPI exception, ProgramAPI program) {
18        this.method = method;
19        this.logger = logger;
20        this.database = database;
21        this.exception = exception;
22        this.program = program;
23    }
24
25    public void main() {
26        if(!shouldRun()) {
27            logger.info("**** Checking if should run... ****");
28            return;
29        }
30        initialize();
31        logger.info("**** Structure is: ${structure.toString()}, Printerfile is: ${printerfile.toString()} and Section is: ${rpbk.toString()} ****");
32        //if(printerfile.equals("015199PF")) {
33        //if(structure.equals("MS_STD_01-01") && rpbk == 6) {
34        if(!createEXTOUTRecord(fieldMap)) {
35            exception.throwAdaptiveShortCircuitException("**** Failed to create table record with Map: ${fieldMap.toString()} ****");
36        } else {
37            logger.info("**** Successfully created EXTOUT record, ${fieldMap.toString()} ****");
38        }
39        //}
40        //}
41    }
42
43    boolean createEXTOUTRecord(HashMap<String, Object> fieldMap) {
44        logger.info("**** Creating EXTOUT record with field map: ${fieldMap.toString()} ****");
45        DBContainer EXTOUT = database.createContainer("EXTOUT");
46        DBAction query = database.table("EXTOUT")
47            .index("00")
48            .selection("EXCONO", "EXORNO", "EXORNA", "EXPOSK", "EXDLIX", "EXSAPR", "EXIVQS", "EXNEPR")
49            .build();
```

XtendM3 documentation

XtendM3 on GitHub

<https://infor-cloud.github.io/xtendm3/>

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[Examples](#)
[Support & Resources](#)

Focus on writing good extensions

A secure, scalable and upgradable customization tool for M3 in cloud

[Get started now](#) [Get the SDK](#)

The What and The Why

XtendM3 is an extensibility tool targeted for modifying and extending M3 Business Engine in M3 Cloud Edition. For M3 there are different extensibility tools e.g. Mongoose, H5 Script, H5 SDK, etc. but the lack of capabilities for changing the business engine logic at realtime was the motivation to create another extensibility tool where realtime modification or extension of the logic is possible.

About the project

XtendM3

XtendM3 is a customization tool and service provided by Infor for modifying and extending M3 Business Engine logic in Cloud.

Just the Docs

This website uses Just the Docs, a documentation theme for jekyll. © 2017-2019 by [Patrick Marsceill](#).

Contributing

When contributing to this documentation, please first discuss the change you wish to make via issue, email, or any other method with the owners of this repository before making a change. Contact us on [our GitHub repo](#).

THANK YOU TO THE CONTRIBUTORS OF JUST THE DOCS!

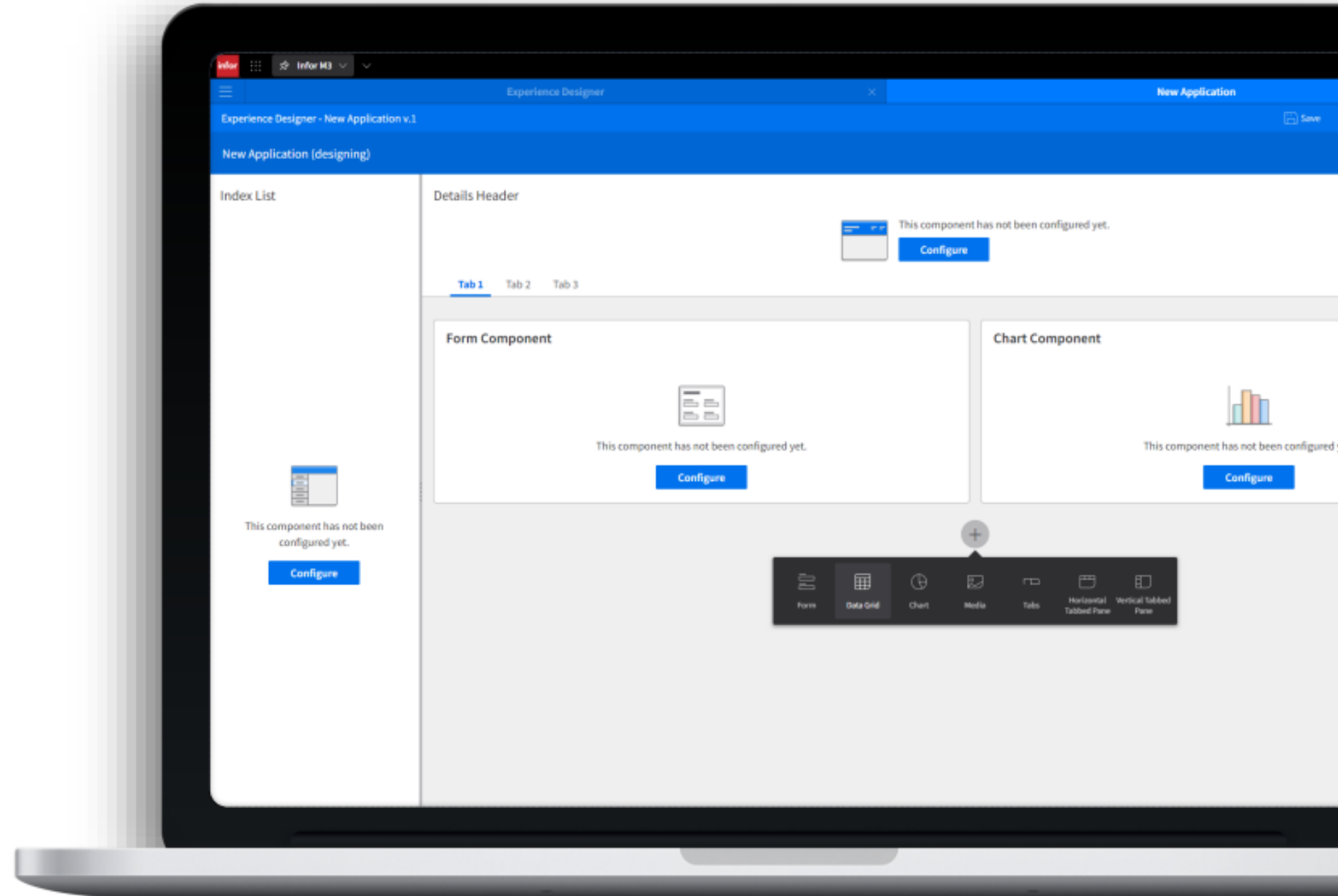
This site uses [Just the Docs](#), a documentation theme for Jekyll.

Experience Designer

Key Parts & Concepts

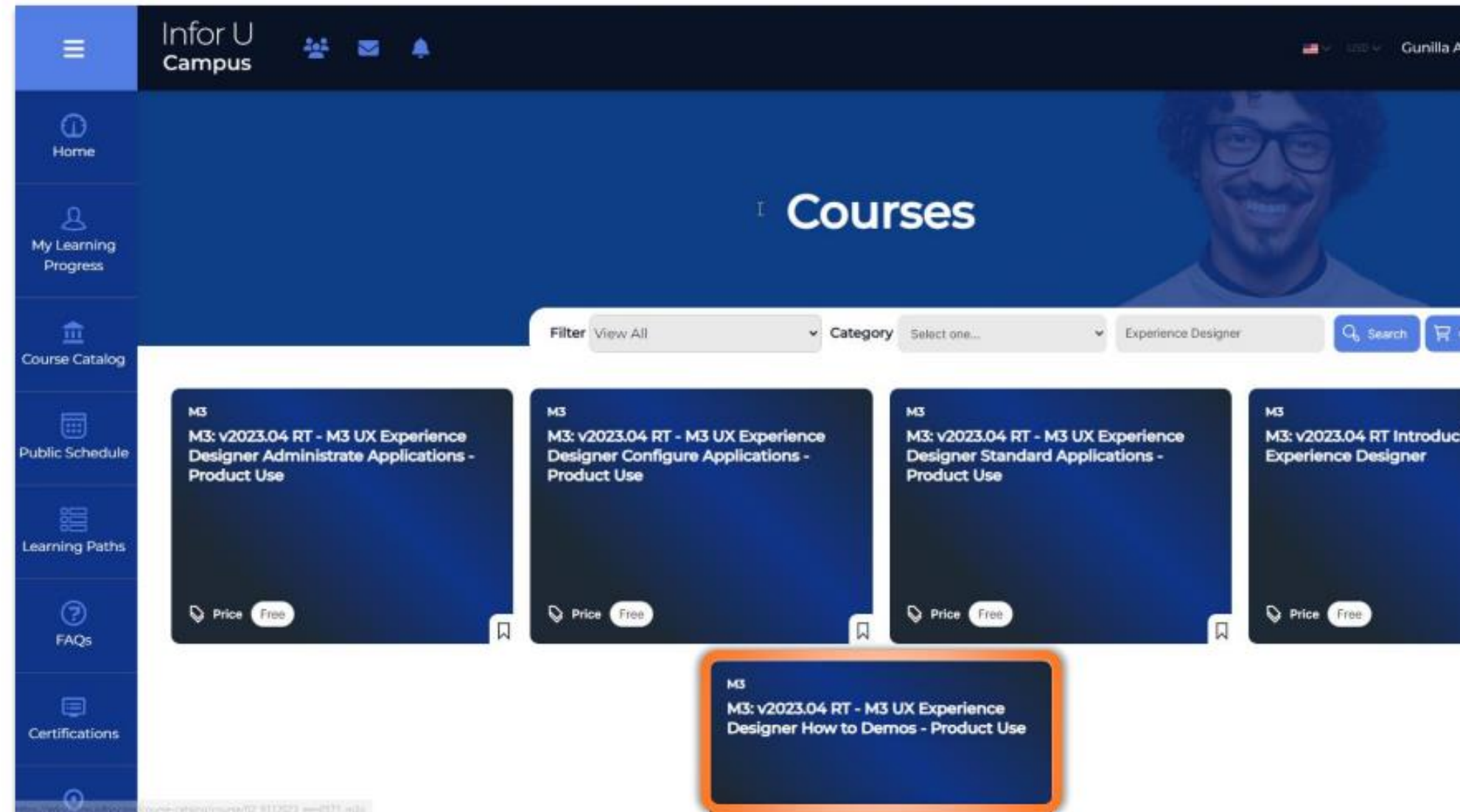
Before we get started, we will introduce a couple of key parts and concepts in Experience Designer.

- Data services
- Operations
- Interactions
- UI Components
- Templates



How do I learn how to use Experience Designer?

- Education videos on Infor U
- User and administration guides on docs.infor.com ([M3 Core](#))
- KB 2295809
- Other areas you need to know:
 - API:s (Meta Data Publisher)
 - M3 Functional Search
 - CMS010/005



DEMO

Demo Archiving Workbench

Example of Tool Choice

Situation and Tools

"I have a legacy application that queries replicated data to show me aggregated information from MITTRA. The data replication is costly and I want to explore how I can do this more efficiently"

Standard M3-program

Toolbox-activated M3-programs can be customized on selections, filters, columns and search. This can often be enough to solve the requirement.

M3 Custom list

M3 Custom lists offers possibility to build M3-functions where data can be joined from different tables and exposed both via UI and API. Here is also a possibility to inherit functionality from the master program.

App Builder

A limited no-code version of Mongoose where applications can be built and published via AppHub or as part of a workspace, and also offers possibility to run applications in Infor Go.

Mongoose

Offers a more complex application design with more functions available. Has its own print function that can print documents to any printer connected to the network without using the normal M3 print functions.

Applications can be run either as a widget, an app via Infor OS (native or in-context) or via Infor GO.

Solution possibilities

Standard M3-program

Toolbox-activated M3-programs can be customized on selections, filters, columns and search. This can often be enough to solve the requirement.

The screenshot displays the Infor M3 MWS301 Req/Distr Order. Open Line Toolbox interface. The top navigation bar includes the Infor M3 logo, a search bar with the text "Start Typing", and the user name "Mathias Andersson". Below the navigation bar, there are tabs for "ACTIONS", "OPTIONS", "RELATED", and "TOOLS". The main content area shows a form with "Warehouse" set to "001" and "Trans date" set to "230907". Below the form is a table with the following data:

	Twh	Tr dt	Gross wt	
+	901	461814		
	143	230907	100,000	
+	*		820,000	
+	002	461814	200,000	

At the bottom right of the interface, there is a "CHANGE" button and a status bar showing "MWS301/B | Infor F&B 780 Infor M3 Food & Beverage (780/BBB)".

Solution possibilities

M3 Custom list

M3 Custom lists offers possibility to build M3-functions where data can be joined from different tables and exposed both via UI and API. Here is also a possibility to inherit functionality from the master program.

The screenshot displays the Infor M3 Custom list interface. At the top, there is a navigation bar with the Infor M3 logo, a search bar labeled 'Start Typing', and the user name 'Mathias Andersson'. Below this is a 'Menu' bar and a 'Custom list' title bar. The main area contains a filter section with 'Ref text' input fields, 'Order category' set to '511-Distribution order', 'Warehouse' set to '001', and 'Planning date' set to '230907'. The 'Sorting order' is '91-ORCA-PLDT-WHLO-TWHL' and the 'View' is 'SPEND_V1-Spendrups Demo 1'. Below the filters is a table with the following data:

	Mottagande Lage	Pl dt	Bruttovikt	Trans qty bU/M	
+	002	230907	300	30,00-	
+	101	230907	520	520,00-	
	143	230907	100	100,00-	
+	901	230907		20-	

At the bottom right of the interface, there is a 'CHANGE' button and a status bar showing 'Infor F&B 780 Infor M3 Food & Beverage (780/BBB)'.

Solution possibilities

App Builder

A limited no-code version of Mongoose where applications can be built and published via AppHub or as part of a workspace, and also offers possibility to run applications in Infor Go.

Selection

App Builder Published App

Lev.Dag DO Från Lagerställe

09/07/2023 001 **Search** Sök

Mottagande Lager	Leveransdag DO	Bruttovikt
002	20230907	300
101	20230907	520
143	20230907	100
901	20230907	0

Data from custom list api

Ord nr	Linje	SI	Varusnummer	Varusnamn	Trans qty (MTR)	Location	Lot number
100000002	10		V10031	Product 500 gr from Premis 1	100	VFF001	1003040002
100000002	20		V10031	Product 500 gr from Premis 1	100	VFF001	1003200002
100000003	10		V21001	Purchased Cheese for sale 1	1	VCC0101	1003050006
100000003	20		V21002	Purchased Corned for sale	1	VFF001	1003050007
100000004	10		V21002	Purchased Corned for sale	72		
100000005	10		V22001	Fresh Turkey-Catchweight 500	1	VCC0101	1003060002
100000006	20		FF-F0001	Fabrikat test	11	ACRPNCK	
100000006	10		V50011	Ingredient 1	65.00		
100000007	20		V10032	Product 1000 gr from Premis 1	10	VFF001	1003020003

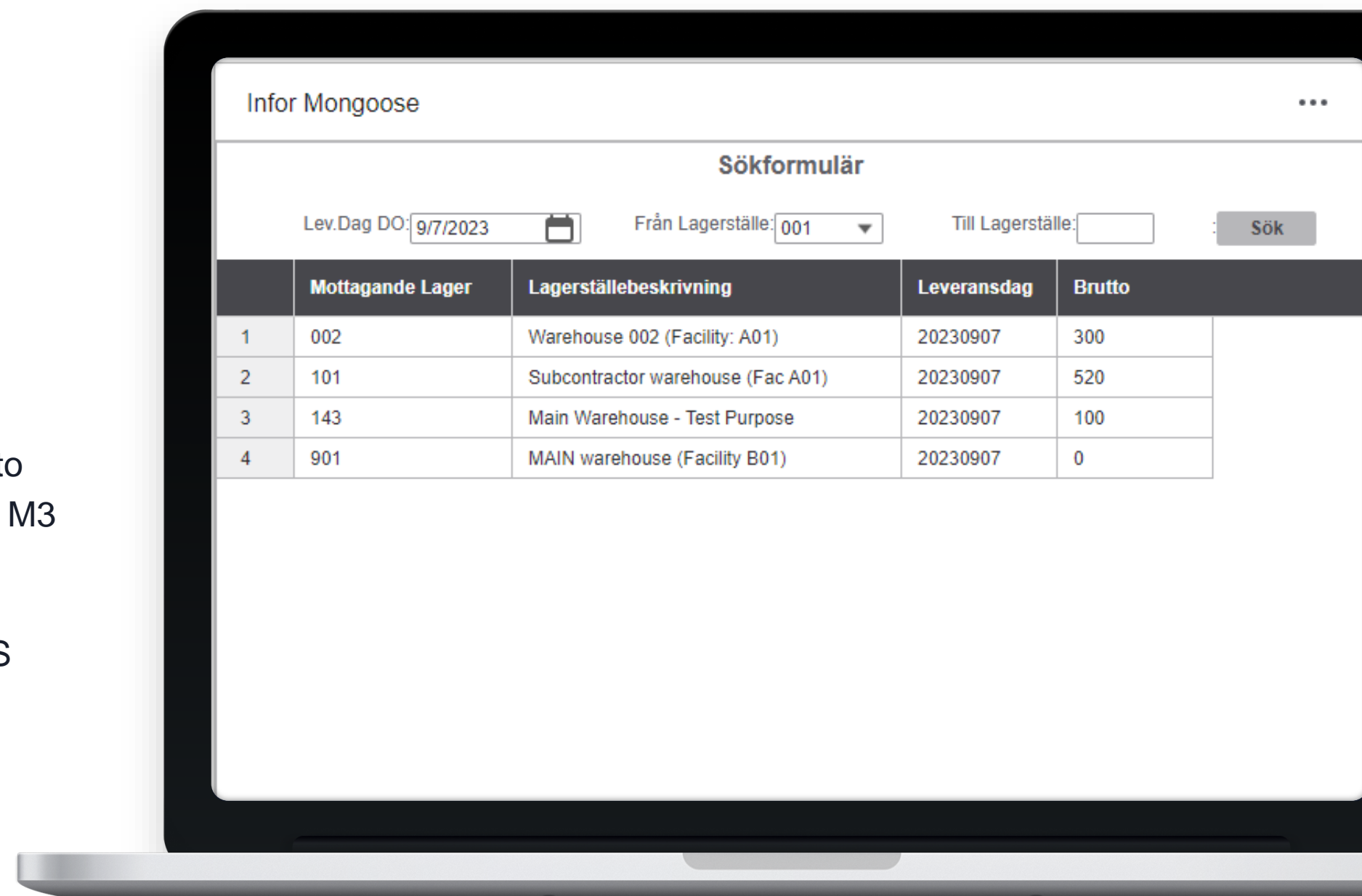
Bakomliggande transaktioner

Solution possibilities

Mongoose

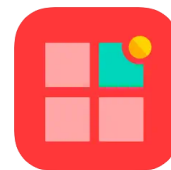
Offers a more complex application design with more functions available. Has its own print function that can print documents to any printer connected to the network without using the normal M3 print functions.

Applications can be run either as a widget, an app via Infor OS (native or in-context) or via Infor GO.



Solution possibilities

Mongoose + Infor Go



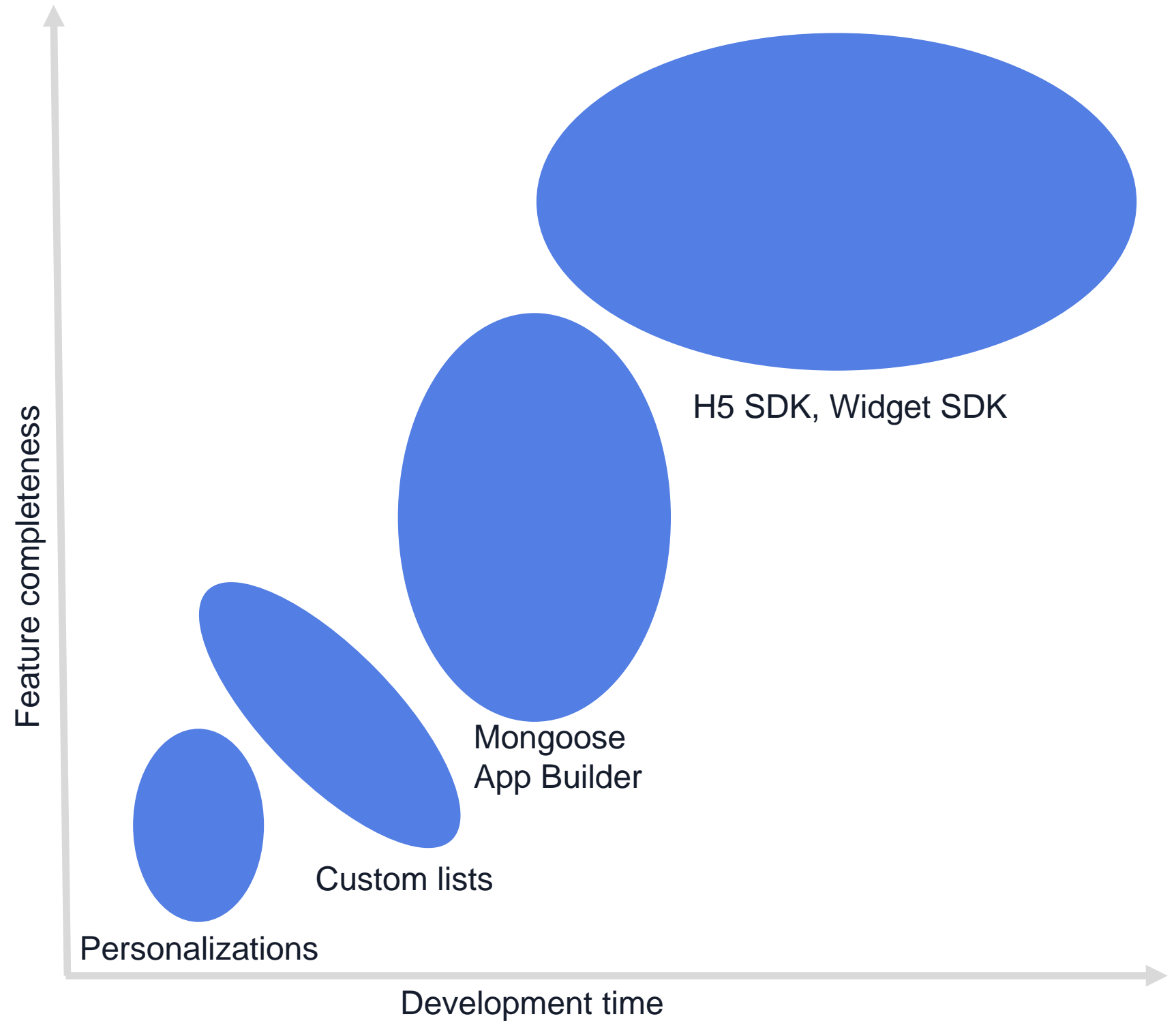
Infor Go is a mobile application (Apple and Android) where you can let your users access homepages, applications and widgets.

The Mongoose-framework has extensive features for building response applications that can adopt to many screen sizes in one app.



Tool Comparison

Different tools are good at different things



Closing slide

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