

Query and Excel Report

4BzSoftware@gmail.com Service S-002

Released on 2014-06-28, last updated on 2014-06-28

4BZSoftware

Table of Contents

1. Introduction	4
2. How to install	5
2.1 Import Navision Objects	6
2.2 Check Service Status	9
3. How to use	11
3.1 Input General Group	12
3.2 Input Tables Part	13
3.3 Input Fields Part	14
3.4 Input Filters Part	15
3.5 Input Parameters Part	16
3.6 Input Excel Cells Part	17
3.7 Input Email Group	18
3.8 Input XML Group	19
3.9 Create new Excel Report	20
3.10 Create Excel Report using Uploaded Template	21
3.11 Email Excel Report	23
3.12 Export Report Data to XML File	24
3.13 Report Security and Share Reports Definition to other Users	25
3.14 Export and Import Reports Definition via XML File	26
4. Technical Point of View	27
4.1 Navision Objects	27
4.2 Merge Objects	28
4.3 Troubleshoot	32
4.4 Version Control	35
5. Pricing	36
6. Open Xml Excel Library	37
6.1 Navision Objects	38
6.2 Create new Workbook	39
6.3 Update existed Workbook	40
6.4 Read Workbook	41
6.5 Input data to Excel Buffer	43
6.6 Format Value	45
6.7 Format Cell	46

6.8	Format Range.....	49
6.9	Set Column Width	50
7.	SMTP Mail Setup.....	51
8.	Configure Job Queue to create or email reports automatically	52
8.1	Create Job Queue Category	53
8.2	Create and start Job Queue	54
8.3	Create and start recurring Job Queue Entry	55
9.	Configure NAS Service to start Job Queue automatically	56
9.1	Navision Service Account and Permission	56
9.2	Reconfigure Job Queue.....	58
9.3	Configure NAS Service	59

1. Introduction

As you know Microsoft Excel has tremendous capabilities such as Formula, Chart, Power Pivot, Slicer, and Condition Format ... help you build stunning dashboards and reports. Now with our solution, user without programming skill can push data to Excel and make real time reports directly from Microsoft Dynamics Navision. Below is "Query and Excel Report" functionality:

- User interaction or prepare reports silently.
- Capacity of using pre-built Excel template.
- Distribute reports through email automatically.
- Report built-in security by standard NAV Role and Permission, and report owner.
- Ability to share reports to other users in same company or using different NAV systems.
- Support aggregation functions such as Group, Summary, Count, Average, Max, and Min.
- Capacity to sort and keep top rows for reports such as Top 10 Customer, Top 20 Item.
- Support joins tables for linking information, Report Parameter for filtering.
- Multiple Excel Worksheets, Format Value, Format Cell, Column Width support.
- Support Web client, export report data to XML with or without Schema.

Display Order	Table Level	Table No.	Table Name	Table Alias	Number of Top Rows	Perform Aggregation	Excel Header Excluded	Excel Sheet Name	Excel Top Left Cell	Table Link Type	Table Key Index	Table Key Description	Page ID
10	0	18	Customer	C	10	<input type="checkbox"/>	<input type="checkbox"/>	Navision Data	A1	Parent Left Join	1	No.	22
20	1	13	Salesperson/Purchaser	S		<input type="checkbox"/>	<input type="checkbox"/>	Navision Data	A1	Parent Left Join	1	Code	14
30	1	9	Country/Region	C,2		<input type="checkbox"/>	<input type="checkbox"/>	Navision Data	A1	Parent Left Join	1	Code	10

Beside this service, 4BzSoftware also has other useful customizations. You can try them all at our OneDrive link <https://onedrive.live.com/?cid=1322D544FED91559&id=1322D544FED91559%21107>. All Services are available for Trial with first top 5 sessions and expired by License End Date.

We make every effort to ensure that there are no errors. However, no one is perfect, and mistakes do occur. If you find an error or have any idea, we would be very grateful for your feedback. Hope with our services, we can help you to improve business and contribute to success of your company.

Finally, thank you to share it with other companies or customers. We have good policy to grow with Partners and Customers. Your success is our success!

2. How to install

The customization includes below Navision Objects:

No.	Type	ID	Name	Note
1	Record	56201	Excel Report Header	
2	Record	56202	Excel Report Line	
3	Codeunit	44	NASManagement	Encrypted Object
4	Codeunit	5370	Excel Buffer Dialog Management	Encrypted Object
5	Codeunit	5618	Table Depr. Calculation	Encrypted Object
6	Codeunit	50041	Excel Report Management	Encrypted Object
7	Page	4	Payment Terms	
8	Page	358	Objects	
9	Page	9800	Users	
10	Page	9806	Fields Lookup	
11	Page	50041	Excel Report List	
12	Page	50042	Excel Report Card	
13	Page	50043	Excel Report Table Subpage	
14	Page	50044	Excel Report Field Subpage	
15	Page	50045	Excel Report Filter Subpage	
16	Page	50046	Excel Report Parameter Subpage	
17	Page	50047	Excel Report Cell Subpage	
18	Page	50048	Excel Report Table Key List	
19	Page	50049	Excel Report Table Alias List	

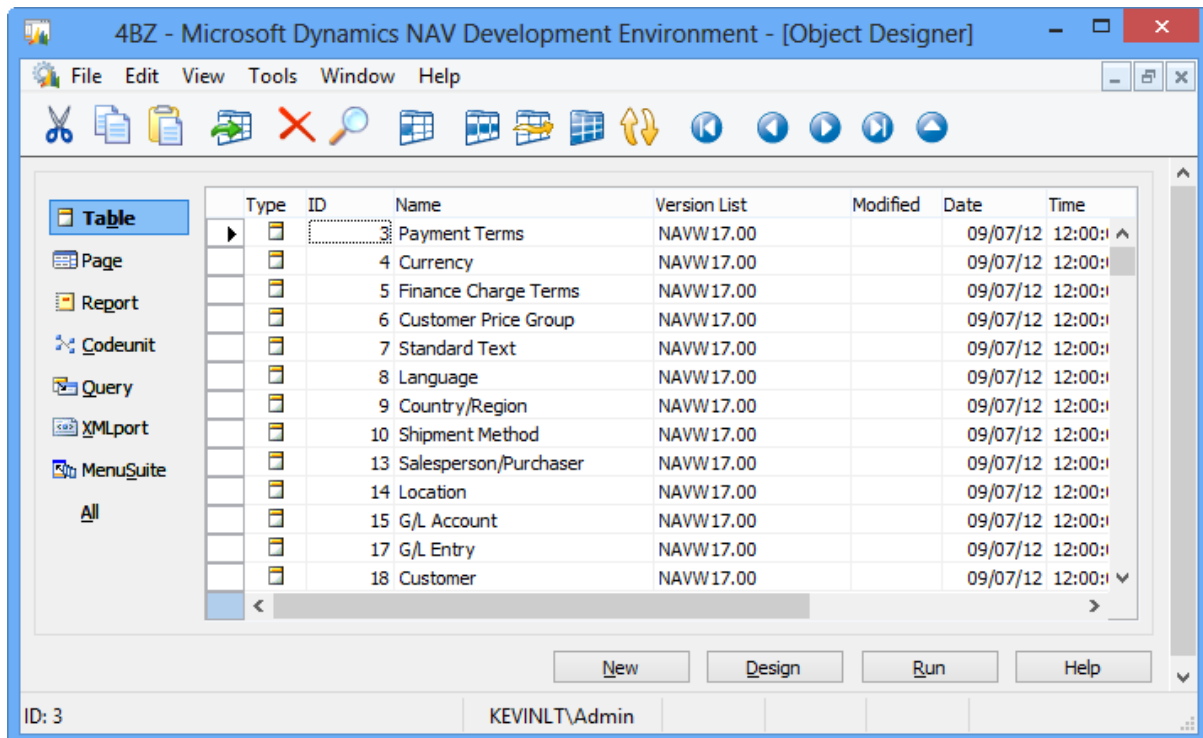
Customer has to buy Record 56201 and 56202 via Customer's Software Vendor.

Encrypted Objects (Codeunit from 44 to 50041) should be merged by 4BzSoftware. Other Objects are merged by Customer's Software Vendor (refer to [section 4 Technical Point of View](#) for merging).

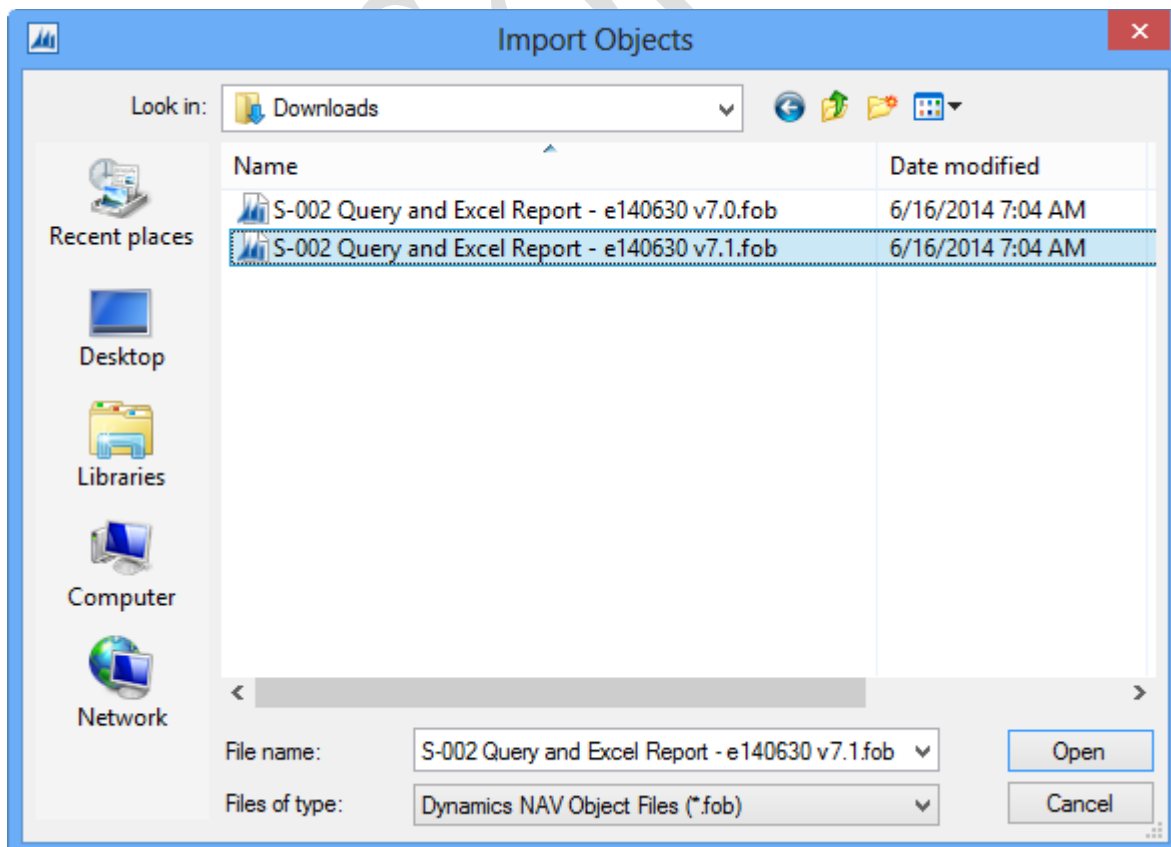
Note: do not edit or compile Encrypted Objects, they will be crashed (refer to section 4 to cover)!

2.1 Import Navision Objects

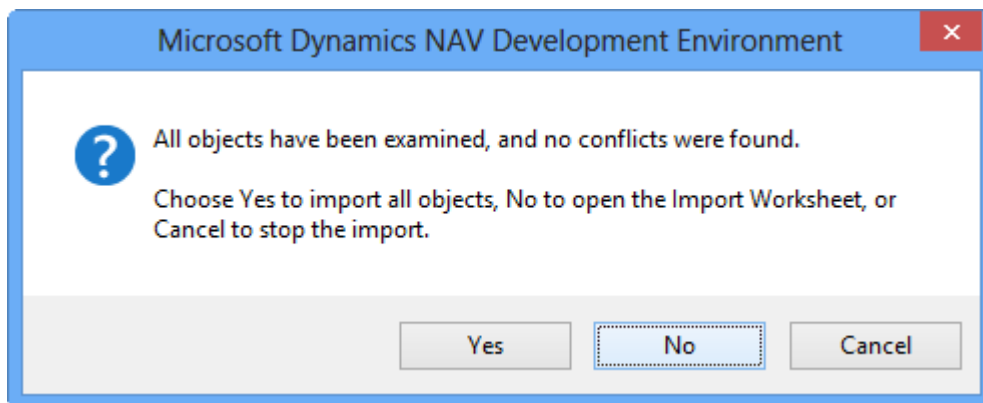
Open Object Designer in Development Environment (after login database, press Shift+F12):



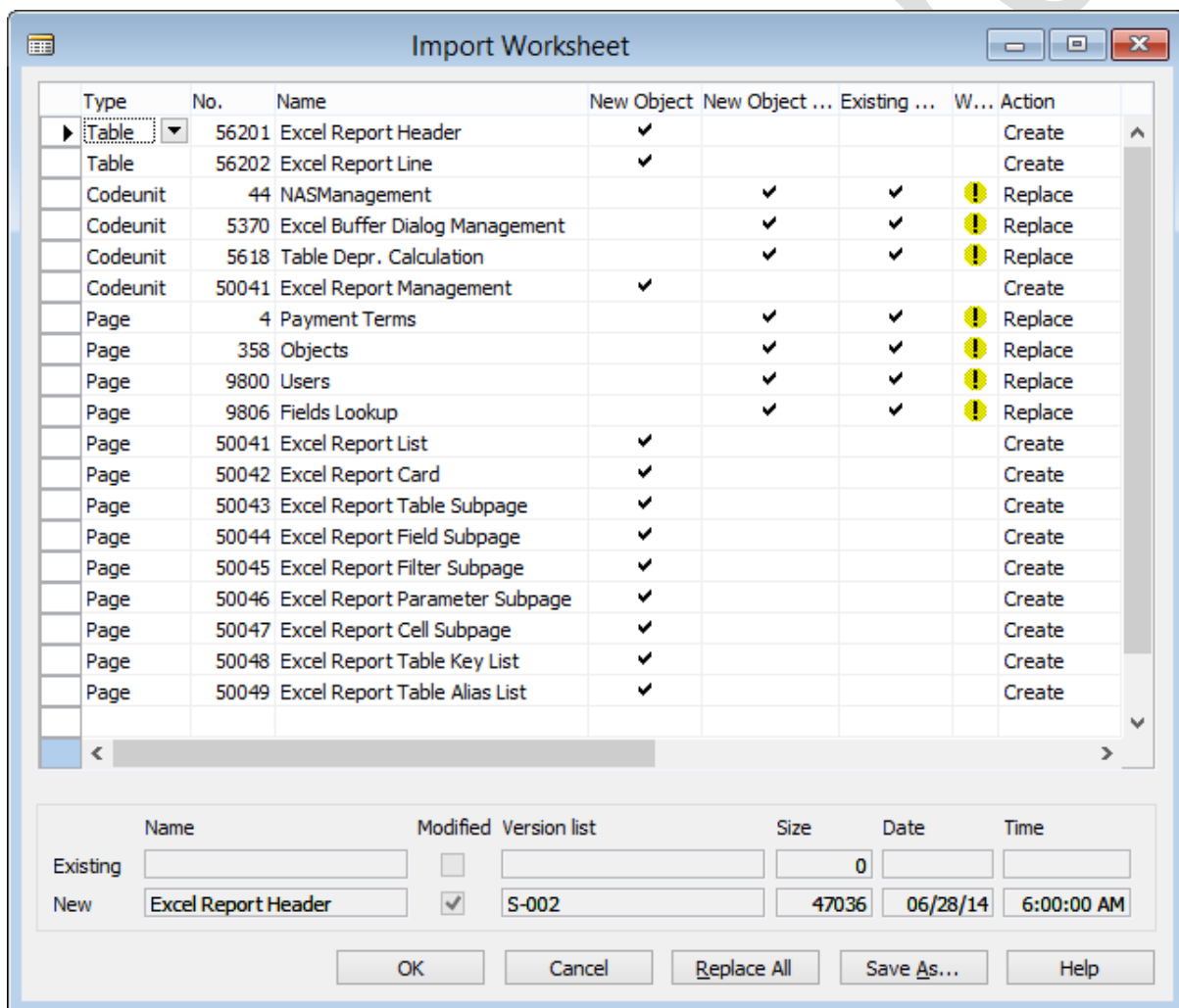
Click File → Import... → Browse Service Navision Objects in Import Objects dialog → Click Open:



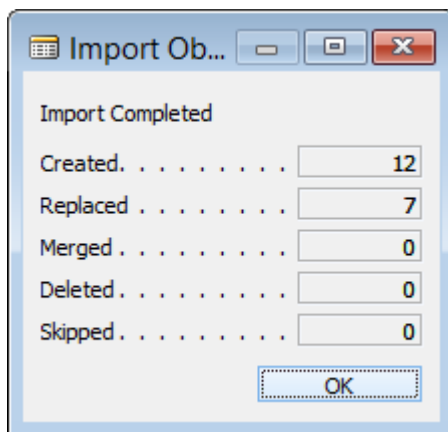
Select No to open Import Worksheet due to conflicted objects:



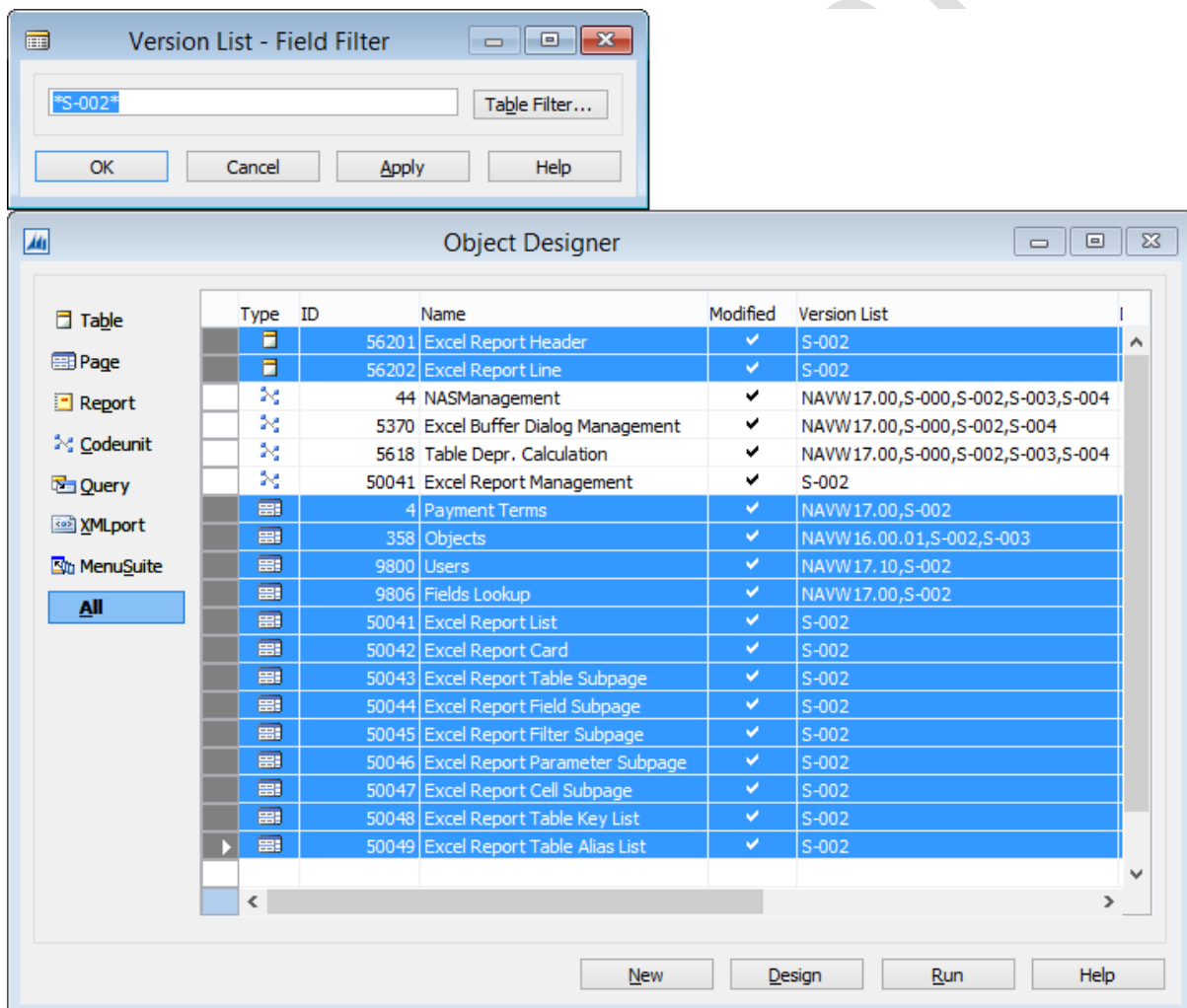
Click Replace All button and then click OK:



Import Objects dialog result:



You should filter and compile objects different from codeunit. Filter Version List with string *S-002*:

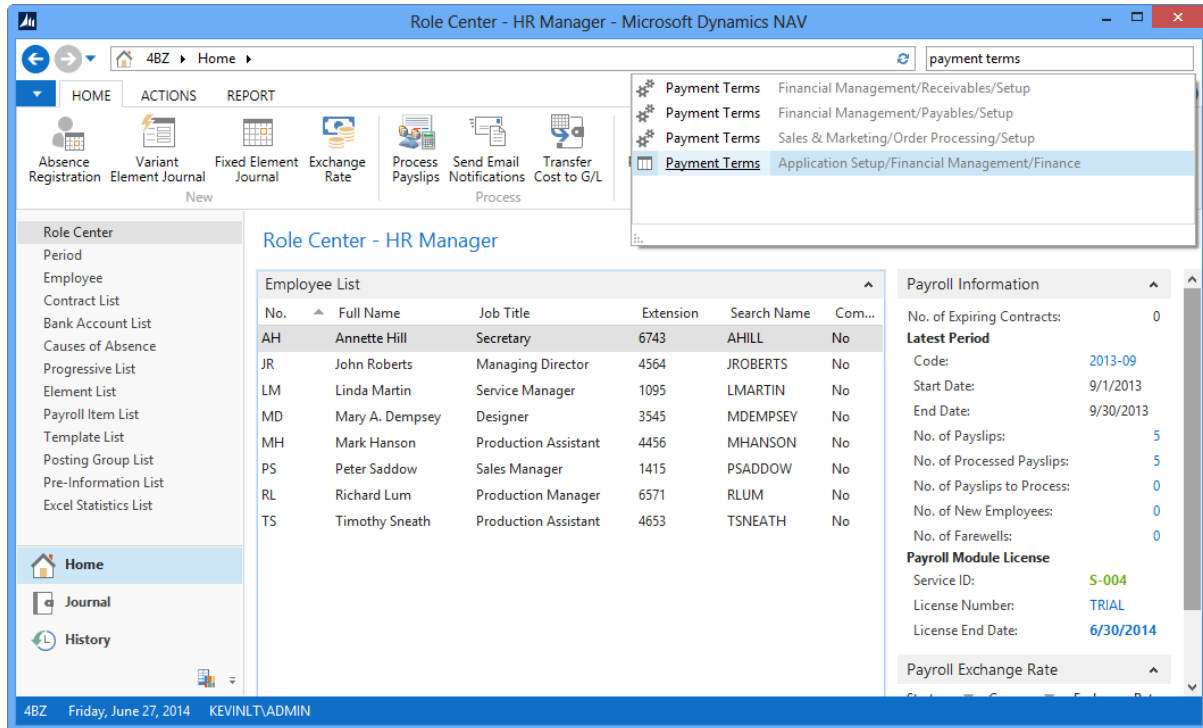


This is finish importing Navision Objects. To make sure, you should check Service Status in next step.

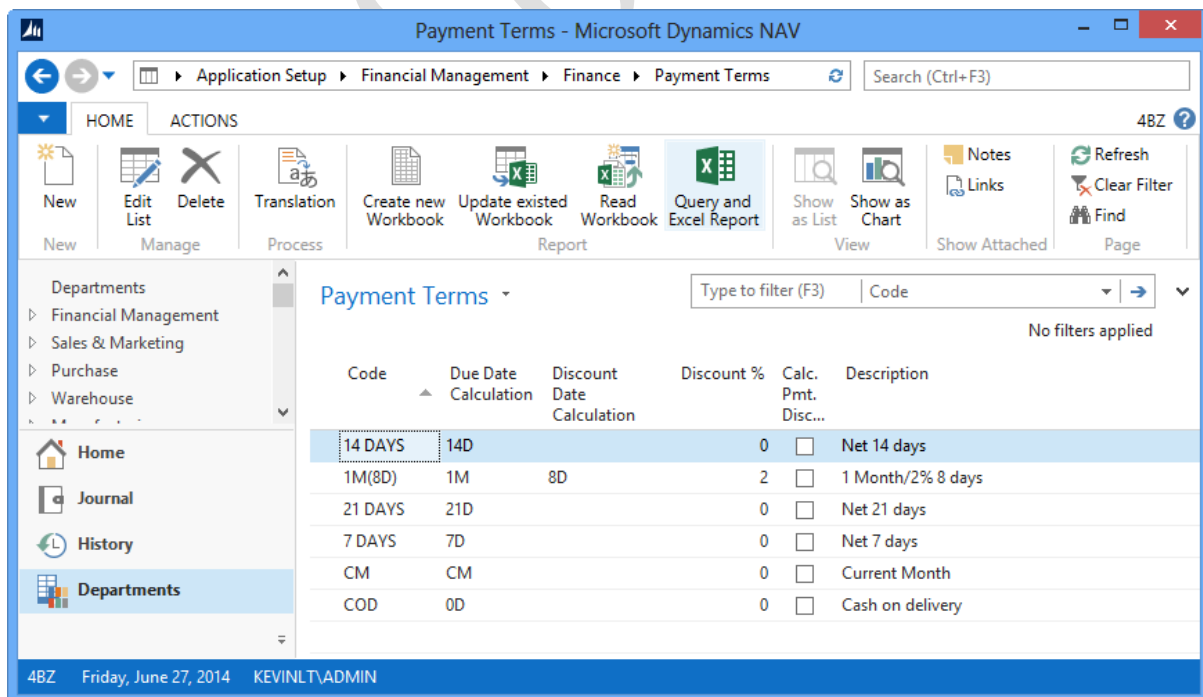
2.2 Check Service Status

After importing Navision Objects, you should check Service is valid or not.

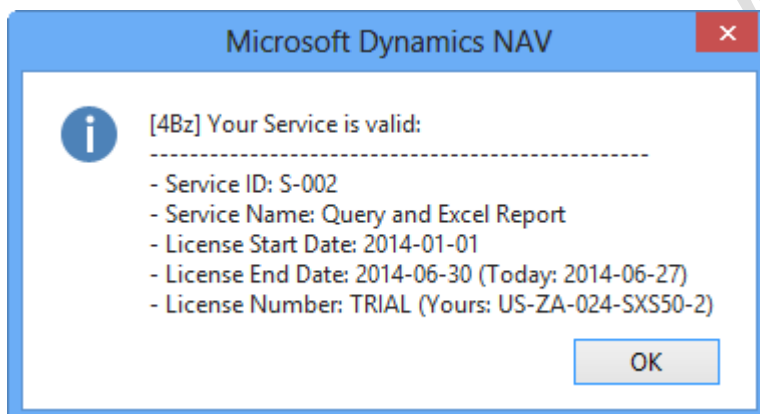
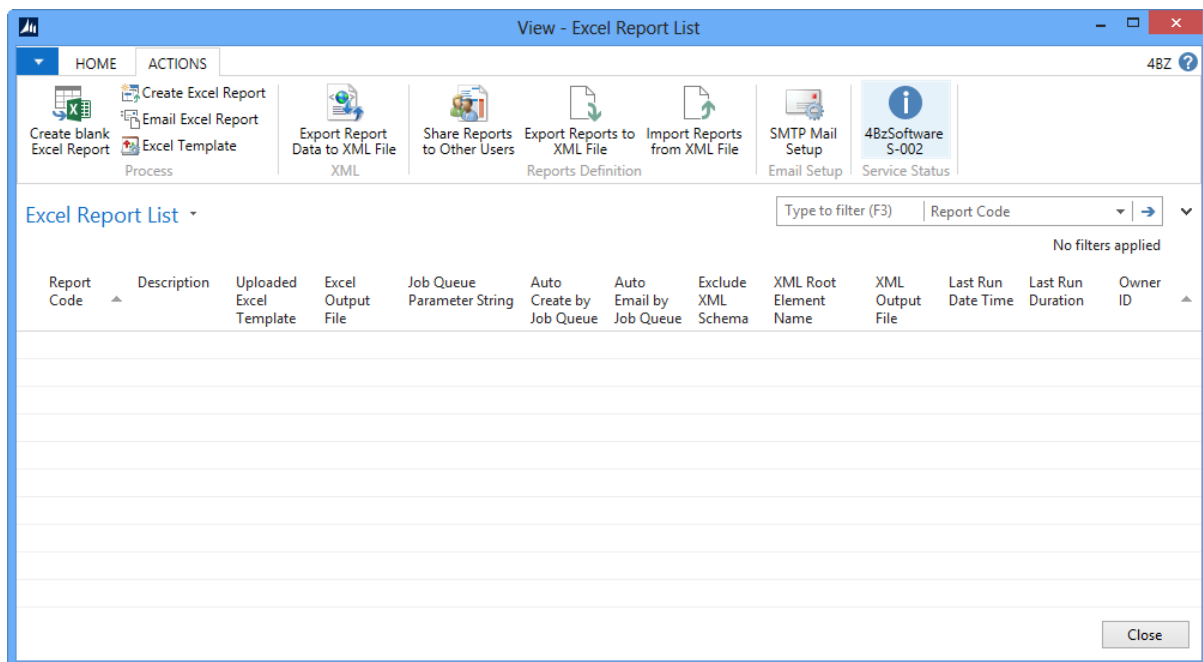
Open Payment Terms list page by using system search:



Click on Ribbon → Home → Report → Query and Excel Report:



Click on Ribbon → Actions → Service Status → 4BzSoftware S-002 as below picture:



Please note that Trial (License Number: TRIAL) is available for first top 5 sessions only!

No session limitation for Licensed Number.

3. How to use

Sections 3.1 to 3.8 explain meaning of fields.

After filling information, sections 3.9 to 3.12 show you how to operate Excel Report manually:

- Create new Excel Report (from blank Excel file).
- Create Excel Report using pre-built Excel Template (Upload/Download/Clear Template).
- Email Excel Report.
- Export Report Data to XML.
- Share Reports to other users.
- Export/Import Reports Definition via XML file (share reports across NAV systems).

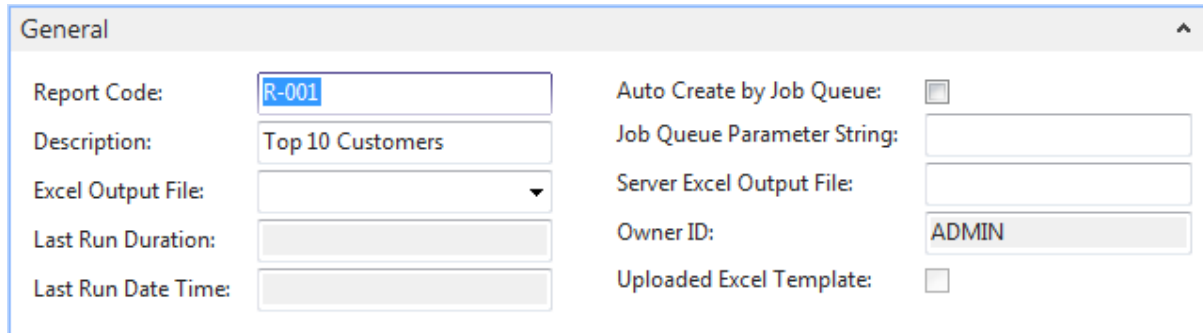
Section 7 talks about SMTP Mail setup in order to send report via email.

Section 8 and 9 discuss about Job Queue and NAS Service to:

- Auto creates reports with predefined names at Navision Server.
- Auto sends reports via email to desired recipients.

3.1 Input General Group

You input general information of report in this group:



The screenshot shows a 'General' tab in a software interface. It contains the following fields and values:

- Report Code: R-001
- Description: Top 10 Customers
- Excel Output File: (empty dropdown)
- Last Run Duration: (empty text box)
- Last Run Date Time: (empty text box)
- Auto Create by Job Queue: ☐
- Job Queue Parameter String: (empty text box)
- Server Excel Output File: (empty text box)
- Owner ID: ADMIN
- Uploaded Excel Template: ☐


Field Name	Description
Report Code	Code of report.
Description	Description of report.
Excel Output File	Output file name at client: <ul style="list-style-type: none"> - RTC: specify output Excel file. If value is blank, output file is downloaded to %temp% folder with file name format "Book1-YYMMDD_HH:mm:ss.xlsx". - Web Client: not apply. Output file is downloaded to web default download folder.
Last Run Duration	Last run duration, it is non-editable.
Last Run Date Time	Last run date time, it is non-editable.
Auto Create by Job Queue	Used for auto create report at Navision Server. Refer to section 8 Configure Job Queue to create report auto.
Job Queue Parameter String	Used for auto create or email report. This field and Parameter String of Job Queue Entry should be matched, they are case sensitive.
Server Excel Output File	Specify output Excel file at Navision Server when auto created.
Owner ID	Owner of report.
Uploaded Excel Template	Indicate Excel Template is uploaded.

3.2 Input Tables Part

You specify tables in hierarchy for query in this part:

Tables													
Display Order	Table Level	Table No.	Table Name	Table Alias	Number of Top Rows	Perform Aggregation	Excel Header Excluded	Excel Sheet Name	Excel Top Left Cell	Table Link Type	Table Key Index	Table Key Description	Page ID
10	0	18	Customer	C	10	<input type="checkbox"/>	<input type="checkbox"/>	Navision Data	A1	Parent Left Join	1 No.		22
20	1	13	Salesperson/Purchaser	S		<input type="checkbox"/>	<input type="checkbox"/>	Navision Data	A1	Parent Left Join	1 Code		14
30	1	9	Country/Region	C,2		<input type="checkbox"/>	<input type="checkbox"/>	Navision Data	A1	Parent Left Join	1 Code		10

When lookup Table No., you can select multiple tables using Ctrl key and mouse click.

Field Name	Description
Display Order	Display order of tables. It is increased automatically by 10. Number this field to rearrange tables display. You can keep current display and renumber Display Order by 10 (in Functions action).
Table Level	Specify tables' hierarchy. Top table has Table Level 0, all its children should be displayed below it and have Table Level from 1. You can specify multiple Top tables. Each top table and its children return a data table.
Table No.	No. of table to query data.
Table Name	Name of table, indent by Table Level and non-editable.
Table Alias	Alias of table. It is unique in report. Fields, Filters and Excel Cells parts use Table Alias for reference.
Number of Top Rows	Number of Top Rows that you want to keep. It is often combined with sort setup in Fields part when you are interested by top information only such as Top 10 Sales Customer.
Perform Aggregation	Indicate return query should perform aggregation. You specify detail aggregation function for each field in Field part.
Excel Header Excluded	Indicate return data table has header or not. You specify header in Field part, it is Display Name of each field.
Excel Sheet Name	Specify Excel Sheet Name that data table will be pushed.
Excel Top Left Cell	Specify Top Left Cell that data table will be pushed.
Table Link Type	Apply for child table only: <ul style="list-style-type: none"> - Parent Left Join: left join on parent table. - Outer Join: outer join between table and its parent.
Table Key Index	Specify key of table for joining and querying data.
Table Key Description	Description of key, it is non-editable.
Page ID	Page ID to view table's data. Click drill down button  to view data.

3.3 Input Fields Part

You specify fields of tables in this part:

Fields										
Display Order	Table Alias	Field No.	Field Name	Field Data Type	Display Name	Sort Order	Sort Descending	Aggregation	Excel Format Value	Excel Column Width
10	C	2	Name	Text	Customer Name		<input type="checkbox"/>	Group	@	40
20	C	62	Sales (LCY)	Decimal	Sales (LCY)	1	<input checked="" type="checkbox"/>	Summary	#,##0.00	20
30	S	2	Name	Text	Salesperson Name		<input type="checkbox"/>	Group	@	40
40	C_2	2	Name	Text	Country Name		<input type="checkbox"/>	Group	@	40

To insert multiple fields: on new line, fill Table Alias, lookup Field No., use Ctrl key and select fields.

Field Name	Description
Display Order	Display order of fields and also order of return data table. It is increased automatically by 10. Number this field to rearrange fields display. You can keep current display and renumber Display Order by 10 (in Functions action).
Table Alias	Table Alias of table that you want to enter its fields.
Field No.	No. of field, according to Table Alias.
Field Name	Name of field, it is non-editable.
Field Data Type	Data type of field, it is non-editable.
Display Name	Display name of return data table. It comes from field name and is adjusted to be unique.
Sort Order	Specify sort order of field in return data table: <ul style="list-style-type: none"> - 0: ignore sort. - 1: the most sort priority.
Sort Descending	When true, it is sorted in descending.
Aggregation	Specify aggregation function apply to field. Functions are Group, Summary, Count, Average, Maximum and Minimum. It is carried out only when Perform Aggregation in Tables part is true.
Excel Format Value	Specify Excel Format Value for field in return data table. Refer to section 6.6 Format Value for detail.
Excel Column Width	Specify Excel Column Width for field in return data table: <ul style="list-style-type: none"> - -1 : ignore width. - 0 : hide column. - 1 to 255 : set column width as value.

3.4 Input Filters Part

You specify filters in this part:

Filters										
⚡ Functions 🔍 Find Filter 🗑️ Clear Filter										
Filter Order	Table Alias	Field No.	Field Name	Field Data Type	Filter Type	Filter Expression	Link Table Alias	Link Field No.	Link Field Name	
10	S	1	Code	Code	Link Field		C	29	Salesperson Code	
20	C_2	1	Code	Code	Dynamic	[C#Country/Region Code]				

To insert multiple fields: on new line, fill Table Alias, lookup Field No., use Ctrl key and select fields.

Field Name	Description
Filter Order	Filter order. It is increased automatically by 10. Number this field to rearrange filter order. You can keep current order and renumber Filter Order by 10 (in Functions action).
Table Alias	Table Alias of table that you want to enter its fields.
Field No.	No. of field, according to Table Alias.
Field Name	Name of field, it is non-editable.
Field Data Type	Data type of field, it is non-editable.
Filter Type	Specify type of filter. It can be: <ul style="list-style-type: none"> - Fixed: apply to table before joining parent table. It is always used with fixed value. - Dynamic: apply to table while joining each parent row. Values in Filter Expression are parsed for filter. - Link Field: used when you know exactly relationship between table and its parent. It makes system faster while joining each parent row due to no parsing values.
Filter Expression	Filter Expression for Fixed and Dynamic filter types. It follows filter expression of Navision and can contain: <ul style="list-style-type: none"> - Field with format [Table Alias#Field Name]. - Parameter with format [#Parameter ID]. For example: <ul style="list-style-type: none"> - 1/1/14..12/31/14 - >=1&<=[#Month] - [C#Country/Region Code]
Link Table Alias	Specify Parent Table Alias. Used for Link Field filter type.
Link Field No.	Specify Parent Field No. Used for Link Field filter type.
Link Field Name	Name of Link Field. Used for Link Field filter type and non-editable.

3.5 Input Parameters Part

You specify parameters of report in this part:

Parameters						
⚡ Functions 🔍 Find Filter ✕ Clear Filter						
Display Order	Parameter ID	Parameter Type	Parameter Value	Parameter Formula	Use Parameter Formula	
10	#Country Code	Code	GB US		<input type="checkbox"/>	
20	#Report Date	Date	06/28/14	@TODAY	<input checked="" type="checkbox"/>	
30	#Report By	Text	KEVINLT\ADMIN - Admin	@USERID - @USERNAME	<input checked="" type="checkbox"/>	

Field Name	Description
Display Order	Display order of parameters. It is increased automatically by 10. Number this field to rearrange parameters display. You can keep current and renumber Display Order by 10 (in Functions action).
Parameter ID	ID of parameter. It is used in Filter and Excel Cells parts.
Parameter Type	Type of parameter. Supported types are Text, Code, Boolean, Integer, BigInteger, Decimal, Date, Time, DateTime, DateFormula, Duration, GUID.
Parameter Value	Value of parameter.
Parameter Formula	<p>Some special values such as current date, end date of month, user ... are common used when run report. Parameter Formula contains predefined values for those cases. They are case sensitive:</p> <ul style="list-style-type: none"> - @TODAY : today. - @TIME : current time. - @NOW : current date time. - @DAY : current day (of month). - @MONTH : current month. - @YEAR : current year. - @WEEK : current week (52 weeks per year). - @FOMONTH : first date of current month. - @EOMONTH : end date of current month. - @FOWEEK : first date of current week. - @EOWEEK : end date of current week. - @USERID : ID of user who run report. - @USERNAME : name of user who run report. - @COMPANYID : ID of company. - @COMPANYNAME : name of company. - @COMPANYADDRESS : address of company.
Use Parameter Formula	Indicate using Parameter Formula. When it is true, system converts Parameter Formula to Parameter Value before querying data.

3.6 Input Excel Cells Part

You input Excel value, format cells and set column width in this part. If possible, you should prepare those things in Excel Template rather than use this part in order to increase speed.

Excel Cells							
Functions	Find	Filter	Clear Filter				
Display Order	Excel Sheet Name	Excel Top Left Cell	Excel Bottom Right Cell	Excel Format Cell	Excel Cell Value as Text	Excel Format Value	Excel Column Width
10	Report	B3	B3	U;I	Reported by	@	15
20	Report	C3	C3		[#Report By]	@	30
30	Report	B4	B4	U;I	Total Sales	@	-1
40	Report	C4	C4		=SUM('Navision Data'!B2:B100)	#,##0.00	-1
50	Navision Data	[C#TL]	[C#BR]	BA;BAS,Thick;BH;BV			-1
60	Navision Data	[C#TL]	[C#TR]	B			-1

Field Name	Description
Display Order	Display order of cells. It is increased automatically by 10. Number this field to rearrange cells display. You can keep current display and renumber Display Order by 10 (in Functions action).
Excel Sheet Name	Sheet name to push.
Excel Top Left Cell	Top Left position of cell or range. You can input Table Alias Cell Reference as [Table Alias#Cell Reference], for example, return data table spans from cell B3 to E183, Cell Reference can be: <ul style="list-style-type: none"> - T: Top Row Number of Table. It returns 3 in example. - B: Bottom Row Number of Table. It returns 183 in example. - L: Left Column Name of Table. It returns B in example. - R: Right Column Name of Table. It returns E in example. - TL: Top Left Cell of Table. It returns B3 in example. - TR: Top Right Cell of Table. It returns E3 in example. - BL: Bottom Left Cell of Table. It returns B183 in example. - BR: Bottom Right Cell of Table. It returns E183 in example.
Excel Bottom Right Cell	Bottom Right position of cell or range. Like Excel Top Left Cell , you can input Table Alias Cell Reference as [Table Alias#Cell Reference].
Excel Format Cell	Format cell string. Refer to section 6.6 Format Cell for detail.
Excel Cell Value as Text	You can input: <ul style="list-style-type: none"> - Free value such as text, number, date, time ... - Excel formula start with "=", such as "=SUM(A1:A100)". - Parameter as [#Parameter ID]. - Table Alias Cell Reference as [Table Alias#Cell Reference].
Excel Format Value	Format value string. Refer to section 6.7 Format Value for detail.
Excel Column Width	Specify Excel Column Width: <ul style="list-style-type: none"> - -1 : ignore width. - 0 : hide column. - 1 to 255 : set column width as value.

3.7 Input Email Group

To be able to email report, you should first configure SMTP Mail as [section 7 Configure SMTP Mail](#). Then, you enter email information in this group:

Field Name	Description
Auto Email by Job Queue	Set true if you want to send report via email automatically. Refer to section 8 Configure Job Queue for the automation. Note that Job Queue Parameter String in General group or report and Parameter String of Job Queue Entry should be the same as they are case sensitive.
Alert If Send Email Fail	When there is error in sending mail, message pop-up if value is true.
Email Sender Name	Name of sender.
Email Sender Address	Email address of sender.
Email Recipients	Email addresses of recipients, separated by semi colon “;”
Email Subject	Subject of email.
Email Attachment Name	Name of excel report file as attachment.
Email Body	Body content of email, support multiple lines.

3.8 Input XML Group

Report supports export data to XML file. You define XML output information in this group:

XML

Exclude XML Schema:

☐

XML Output File:

XML Root Element Name:

Navision Data

Field Name	Description
Exclude XML Schema	Determine XML output include XML Schema or not.
XML Root Element Name	Root Element Name of XML output.
XML Output File	Output file name at client: <ul style="list-style-type: none">- RTC: specify output XML file. If value is blank, output file is downloaded to %temp% folder with file name format "ReportCode-YYMMDD_HH:mm:ss.xml".- Web Client: not apply. Output file is downloaded to web default download folder.

3.9 Create new Excel Report

After filling information, now you can create new excel report.

Click Ribbon → Home → Create new Excel Report (Process):

4BzSoftware

You can check your last run time and duration information in General group, and also specify Excel Output File for Role Tailored Client.

3.10 Create Excel Report using Uploaded Template

It is good way to do all format, pivot, chart, and slicer ... in Excel file and upload it to system. System consumes less time when it queries and pushes data into uploaded Excel file only.

To upload Excel Template file, click Ribbon → Actions → Excel Template (Process):

The screenshot shows the 'Edit - Excel Report Card - R-001' window. The 'ACTIONS' ribbon is active, and the 'Excel Template' button is highlighted. The 'General' tab is selected, showing the following fields:

- Report Code: R-001
- Description: Top 10 Customers
- Excel Output File: [Dropdown]
- Last Run Duration: [Text]
- Last Run Date Time: [Text]
- Auto Create by Job Queue: ☐
- Job Queue Parameter String: [Text]
- Server Excel Output File: [Text]
- Owner ID: KEVINLT\ADMIN
- Uploaded Excel Template: ☐

Below the 'General' tab, there are sections for 'Tables' and 'Fields', each with a dropdown arrow. An 'OK' button is located at the bottom right of the window.

Select Upload and browse pre-format Excel file:

The screenshot shows a dialog box titled 'Microsoft Dynamics NAV' with the message 'Please select option with Excel Template:'. It contains three radio buttons: 'Upload' (selected), 'Download', and 'Clear'. There are 'OK' and 'Cancel' buttons at the bottom.

Uploaded Excel Template field is true now, indicate Excel Template is used. You can also Download or Clear the file. When no template used, system pushes data into blank Excel file as section 3.9.

To create report with uploaded Template, click Ribbon → Actions → Create Excel Report (Process):

4BZ ?

HOME ACTIONS

Create blank Excel Report Email Excel Report Excel Template Process

Export Report Data to XML File XML

Share Report to Other Users Reports Definition

Export Report to XML File

4BzSoftware S-002 Service Status

R-001 · KEVINLT\ADMIN

General

Report Code: R-001

Description: Top 10 Customers

Excel Output File: [dropdown]

Last Run Duration: 1 second 484 milliseconds

Last Run Date Time: 6/29/2014 1:29:19.703 PM

Auto Create by Job Queue: ☐

Job Queue Parameter String: [text box]

Server Excel Output File: [text box]

Owner ID: KEVINLT\ADMIN

Uploaded Excel Template: ☒

Tables [dropdown]

Fields [dropdown]

OK

To create report at Navision Server automatically:

- Refer to [section 8 Configure Job Queue](#).
- Fill in Job Queue Parameter String same as Parameter String of Job Queue Entry.
- Specify Server Excel Output File.
- Set Auto Create by Job Queue to true.

3.11 Email Excel Report

Instead of create Excel output file, you can email report.

Remember to [configure SMTP Mail as section 7](#), and fill in information in Email Group, then email.

Click Ribbon → Home → Email Excel Report (Process):

4BzSoftware S-002 Service Status

R-001 · KEVINLT\ADMIN

General

Tables

Fields

Filters

Parameters

Excel Cells

Email

Auto Email by Job Queue: ☐

Alert If Send Email Fail: ☐

Email Sender Name: 4BzSoftware

Email Sender Address: 4Bz.Dev01@gmail.com

Email Recipients: 4Bz.Dev01@gmail.com

Email Subject: Top 10 Customers Report

Email Attachment Name: Top 10 Customers Report.xlsx

Email Body: Dear Sir/Madam,
Please find attached Excel for Top 10 Customers Report!
Thanks and best regards,
Automated email from Query and Excel Report Service.

XML

OK

To email report automatically:

- Refer to [section 8 Configure Job Queue](#).
- Fill in Job Queue Parameter String same as Parameter String of Job Queue Entry.
- Set Auto Email by Job Queue to true.

3.12 Export Report Data to XML File

You can export Report data to XML file.

Click Ribbon → Actions → Export Report Date to XML File (XML):

The screenshot shows the 'Edit - Excel Report Card - R-001 · KEVINLT\ADMIN' window. The 'ACTIONS' ribbon is active, and the 'Export Report Data to XML File' option is highlighted under the 'XML' group. The 'General' tab is selected, displaying the following fields:

- Report Code: R-001
- Description: Top 10 Customers
- Excel Output File: (dropdown menu)
- Last Run Duration: (text field)
- Last Run Date Time: (text field)
- Auto Create by Job Queue: ☐
- Job Queue Parameter String: (text field)
- Server Excel Output File: (text field)
- Owner ID: KEVINLT\ADMIN
- Uploaded Excel Template: ☐

Below the General tab are expandable sections for Tables, Fields, Filters, Parameters, Excel Cells, Email, and XML. The XML section is expanded, showing the following fields:

- Exclude XML Schema: ☐
- XML Root Element Name: Navision Data
- XML Output File: (dropdown menu)

An 'OK' button is located at the bottom right of the window.

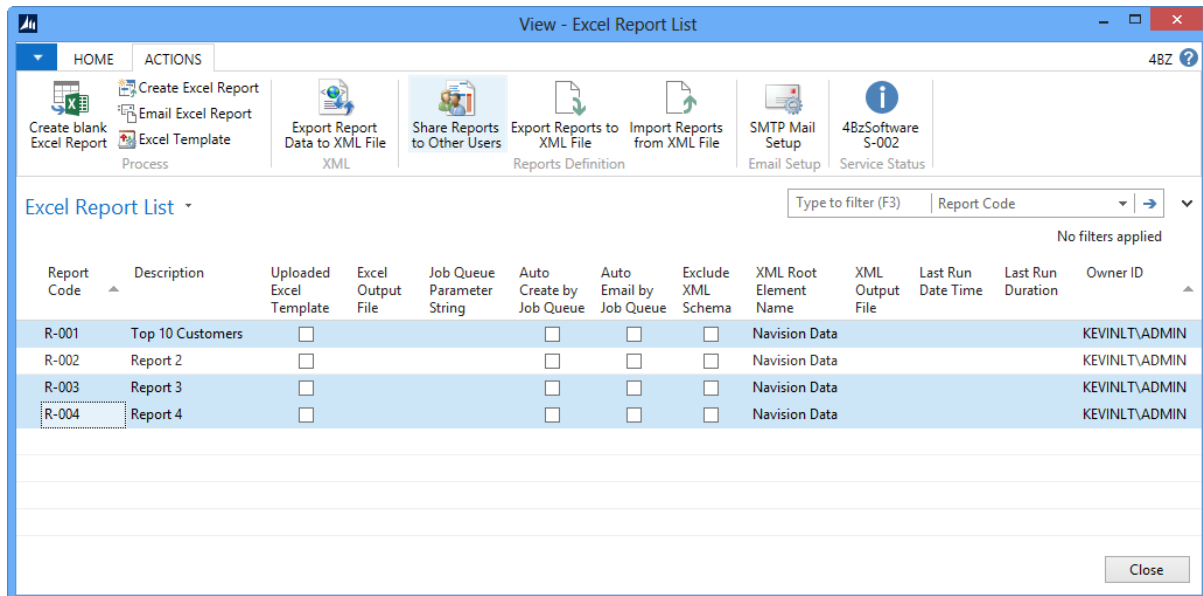
You can specify whether include XML schema or not, Root Element Name and output file.

3.13 Report Security and Share Reports Definition to other Users

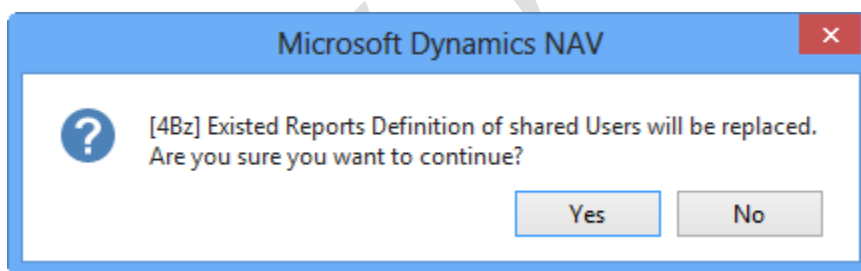
Reports are secured by standard Role and Permission of Navision for reading data. In addition, reports are only seen by owner.

You can share Reports Definition to other Users in the same company, on Excel Report List page:

- Select reports that you want to share.
- Click Ribbon → Actions → Share Reports to Other Users (Report Definition).



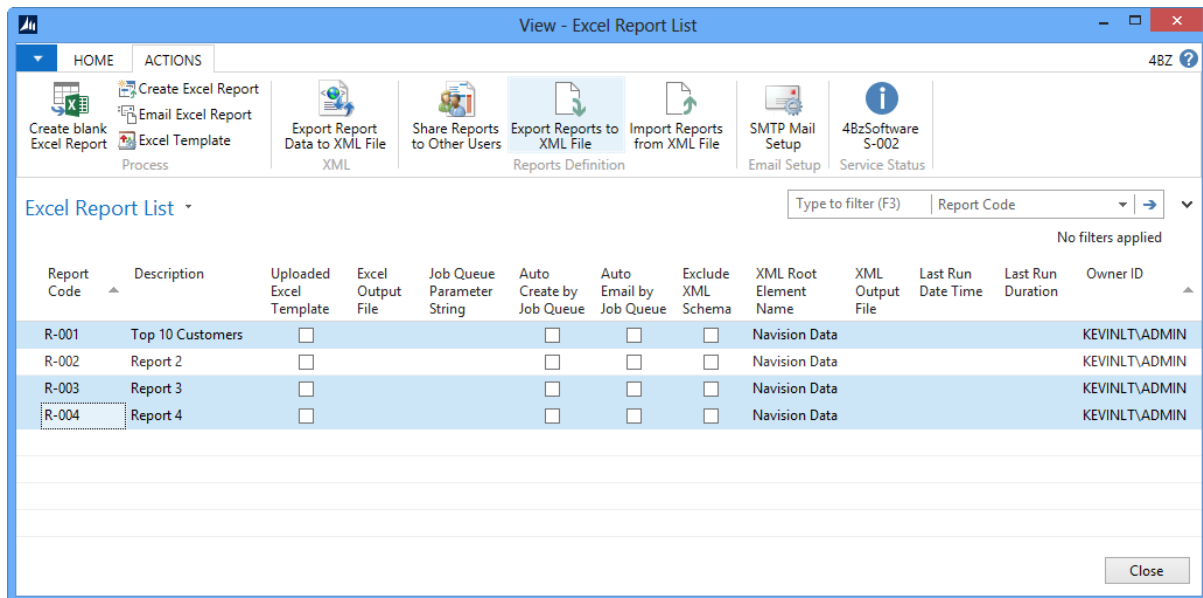
- Select users that you want to share to on Users list page, click OK.
- Click Yes to share:



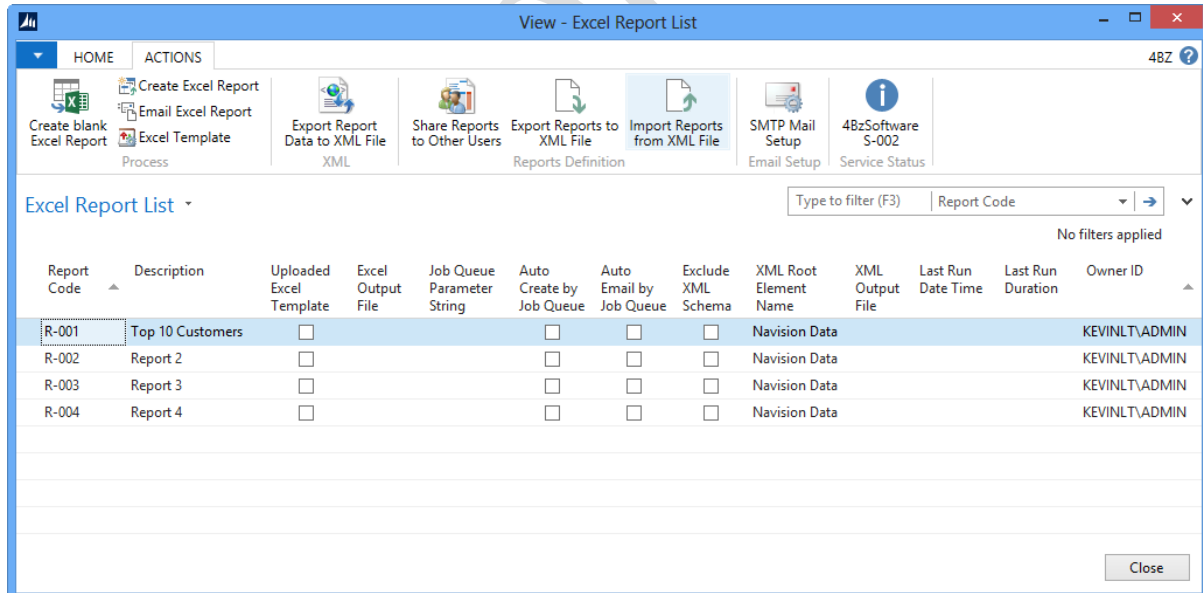
3.14 Export and Import Reports Definition via XML File

You can share reports to other users in different companies or systems by exporting and importing Reports Definition via XML file.

At source system, select needed reports, click on Export Reports to XML File action and save it:



At destination system, click on Import Reports from XML File and browse source XML file:



Source and destination systems may have different tables' fields so when system raises an error, you should recheck them.

4. Technical Point of View

4.1 Navision Objects

The customization includes below Navision Objects:

No.	Type	ID	Name	Note
1	Record	56201	Excel Report Header	
2	Record	56202	Excel Report Line	
3	Codeunit	44	NASManagement	Encrypted Object
4	Codeunit	5370	Excel Buffer Dialog Management	Encrypted Object
5	Codeunit	5618	Table Depr. Calculation	Encrypted Object
6	Codeunit	50041	Excel Report Management	Encrypted Object
7	Page	4	Payment Terms	
8	Page	358	Objects	
9	Page	9800	Users	
10	Page	9806	Fields Lookup	
11	Page	50041	Excel Report List	
12	Page	50042	Excel Report Card	
13	Page	50043	Excel Report Table Subpage	
14	Page	50044	Excel Report Field Subpage	
15	Page	50045	Excel Report Filter Subpage	
16	Page	50046	Excel Report Parameter Subpage	
17	Page	50047	Excel Report Cell Subpage	
18	Page	50048	Excel Report Table Key List	
19	Page	50049	Excel Report Table Alias List	

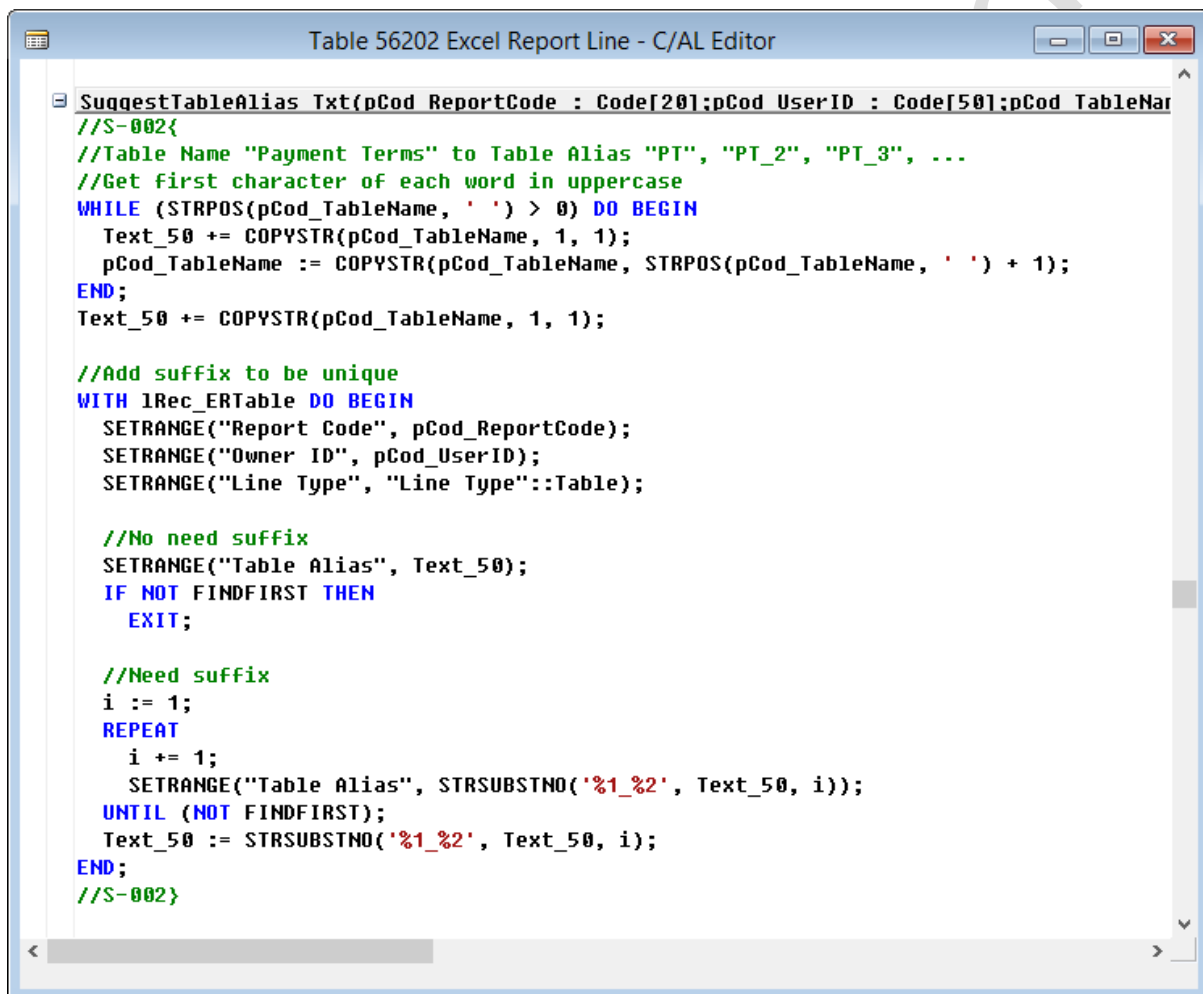
You can list them by filtering Version List column with string *S-002* in Object Designer of Development Environment.

4.2 Merge Objects

Encrypted Objects (Codeunit from 44 to 50041) must be merged by 4BzSoftware. First, you export these objects and send to 4BzSoftware. Second, we merge and encrypt them. Then, we send them back to you. Finally, you import with replace them in Development Environment. Please do not edit or compile Encrypted Objects, they will be crashed! In case it happens, reimport with replace them by encrypted objects from us.

For other objects, if there is no modification before, you simply import with replace them. Otherwise, you merge them by searching for S-002 string, where they were edited:

Code is bounded by “//S-002{” and “//S-002}”. Search for “S-002” you can see all:



```

SuggestTableAlias Txt(pCod_ReportCode : Code[20];pCod_UserID : Code[50];pCod_TableName : Code[100]) BEGIN
//S-002{
//Table Name "Payment Terms" to Table Alias "PT", "PT_2", "PT_3", ...
//Get first character of each word in uppercase
WHILE (STRPOS(pCod_TableName, ' ') > 0) DO BEGIN
    Text_50 += COPYSTR(pCod_TableName, 1, 1);
    pCod_TableName := COPYSTR(pCod_TableName, STRPOS(pCod_TableName, ' ') + 1);
END;
Text_50 += COPYSTR(pCod_TableName, 1, 1);

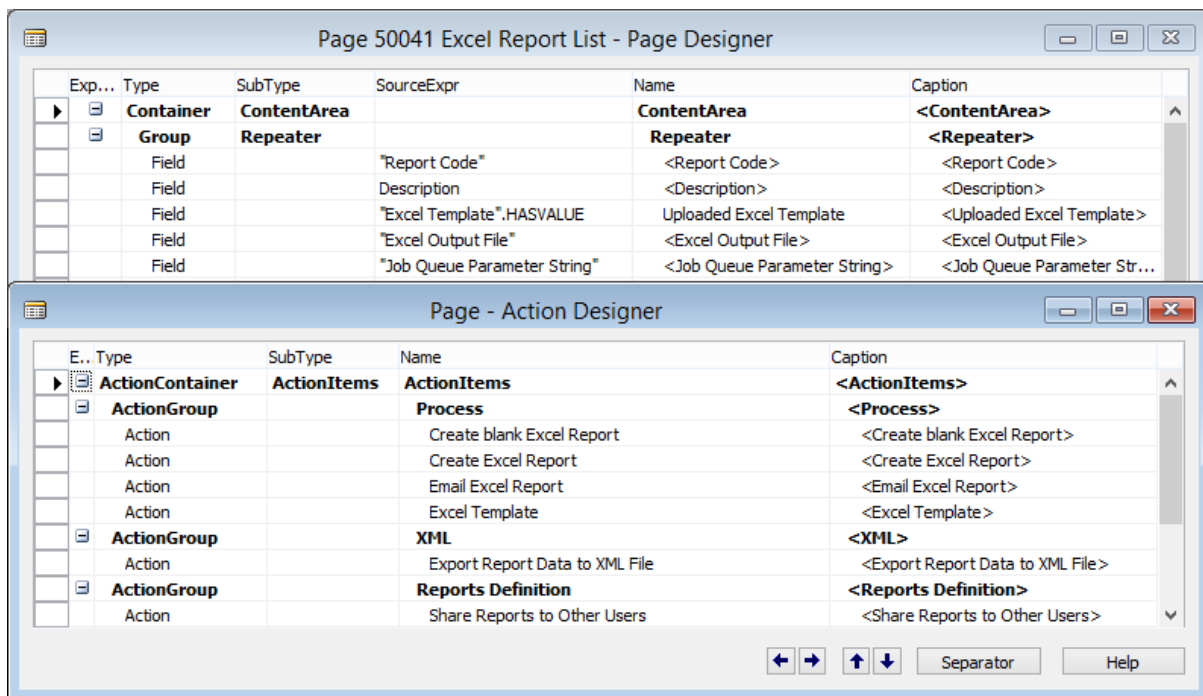
//Add suffix to be unique
WITH lRec_ERTable DO BEGIN
    SETRANGE("Report Code", pCod_ReportCode);
    SETRANGE("Owner ID", pCod_UserID);
    SETRANGE("Line Type", "Line Type"::Table);

    //No need suffix
    SETRANGE("Table Alias", Text_50);
    IF NOT FINDFIRST THEN
        EXIT;

    //Need suffix
    i := 1;
    REPEAT
        i += 1;
        SETRANGE("Table Alias", STRSUBSTNO('%1_%2', Text_50, i));
    UNTIL (NOT FINDFIRST);
    Text_50 := STRSUBSTNO('%1_%2', Text_50, i);
END;
//S-002}

```

Pages often have new fields and actions. They sometimes got code inside:



1. Add record 56201 – Excel Report Header:
 - Add global variable gCoU_NAVMgmt.
 - Add fields from 1 to 60.
 - Add functions from CheckAndSortLineNo to DefinitionsFromDataSet.
 - Modify function OnDelete.
 - Add key "Report Code,Owner ID".
2. Add record 56202 – Excel Report Line:
 - Add global variables from gCoU_NAVMgmt to gCoU_Excel.
 - Add fields from 1 to 121.
 - Add functions from FilterAsReport to ParseParamFormula_Txt.
 - Modify function OnDelete.
 - Add keys from "Report Code,Owner ID,Line Type,Line No." to "Filter Order".
3. Modify codeunit 44 – NASManagement:
 - Add global variables from gCod_ServiceID to gInt_StatusNextProcessed.
 - Add functions from ServicelsValid_Bol to Status_TotalToProcess_Int.
4. Modify codeunit 5370 – Excel Buffer Dialog Management:
 - Add global variables from gCod_ServiceID to CurrentCol.
 - Add functions from ServicelsValid_Bol to ReadCell_DateTime.
5. Modify codeunit 5618 – Table Depr. Calculation:
 - Add global variables from gCod_ServiceID to gInt_ViewTotalRows.
 - Add functions from ServicelsValid_Bol to View_Previous.
6. Add codeunit 50041 – Excel Report Management:
 - Add global variables from gCod_ServiceID to gDNe_DataSet.
 - Set Record to Job Queue Entry.
 - Add functions from ServicelsValid_Bol to ImportDefinitionsFromXML.

7. Modify page 4 – Payment Terms:
 - Add global variable gCoU_Excel.
 - Add functions from InputFormatValueSheet to InputFormatCellSheet.
 - Add actions from “Open Xml Excel Library” to “4BzSoftware S-000”.
8. Modify page 358 – Objects:
 - Add function GetSelection.
9. Modify page 9800 – Users:
 - Add function GetSelection.
10. Modify page 9806 – Fields Lookup:
 - Add function GetSelection.
11. Add page 50041 – Excel Report List:
 - Add global variable gCoU_ERMgmt.
 - Add controls from “ContentArea” to “<Owner ID>”.
 - Add actions from “ActionItems” to “4BzSoftware S-002”.
 - Modify functions OnOpenPage, OnNewRecord(BelowxRec : Boolean).
12. Add page 50042 – Excel Report Card:
 - Add global variables from gCoU_ERMgmt to gTxt_EmailBody.
 - Add controls from “ContentArea” to “<Excel Report Cell Subpage>”.
 - Add actions from “ActionItems” to “4BzSoftware S-002”.
 - Modify functions OnOpenPage, OnClosePage, OnAfterGetRecord, OnNewRecord(BelowxRec : Boolean).
13. Add page 50043 – Excel Report Table Subpage:
 - Add global variables from gBol_StyleExp_TableName to gInt_LastDisplayOrder.
 - Add controls from “ContentArea” to “<Page ID>”.
 - Add actions from “ActionItems” to “Renumber Display Order by 10”.
 - Modify functions OnAfterGetRecord, OnNewRecord(BelowxRec : Boolean), OnInsertRecord(BelowxRec : Boolean) : Boolean.
14. Add page 50044 – Excel Report Field Subpage:
 - Add controls from “ContentArea” to “<Excel Column Width>”.
 - Add actions from “ActionItems” to “Renumber Display Order by 10”.
 - Modify function OnNewRecord(BelowxRec : Boolean).
15. Add page 50045 – Excel Report Filter Subpage:
 - Add controls from “ContentArea” to “<Link Field Name>”.
 - Add actions from “ActionItems” to “Renumber Filter Order by 10”.
 - Modify function OnNewRecord(BelowxRec : Boolean).
16. Add page 50046 – Excel Report Parameter Subpage:
 - Add controls from “ContentArea” to “<Parameter Value>”.
 - Add actions from “ActionItems” to “Renumber Display Order by 10”.
 - Modify function OnNewRecord(BelowxRec : Boolean).
17. Add page 50047 – Excel Report Cell Subpage:
 - Add controls from “ContentArea” to “<Excel Column Width>”.
 - Add actions from “ActionItems” to “Renumber Display Order by 10”.
 - Modify function OnNewRecord(BelowxRec : Boolean).

18. Add page 50048 – Excel Report Table Key List:

- Add controls from “ContentArea” to “<Key>”.

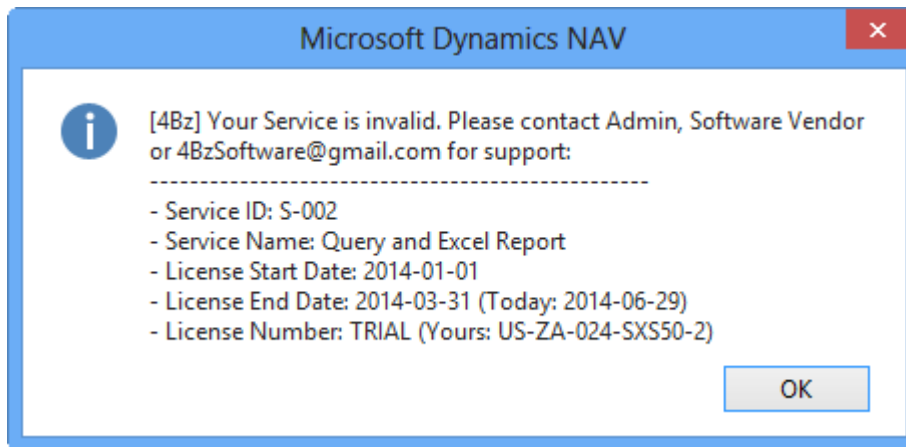
19. Add page 50049 – Excel Report Table Alias List:

- Add global variable gBol_StyleExp_TableName.
- Add controls from “ContentArea” to “<Excel Top Left Cell>”.
- Modify functions OnOpenPage, OnAfterGetRecord.

4BZSoftware

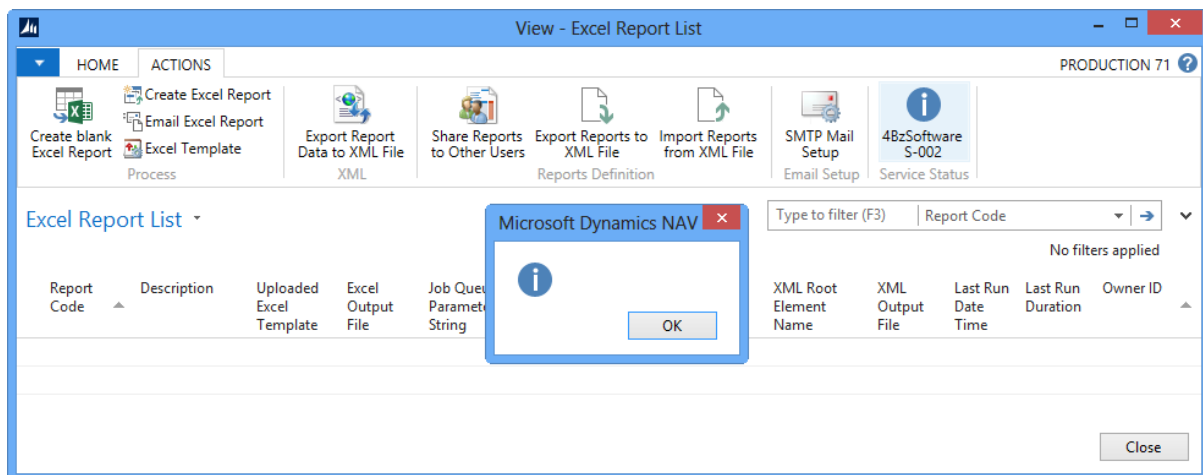
4.3 Troubleshoot

Symptom 1: Service does not run and Service Status is invalid:



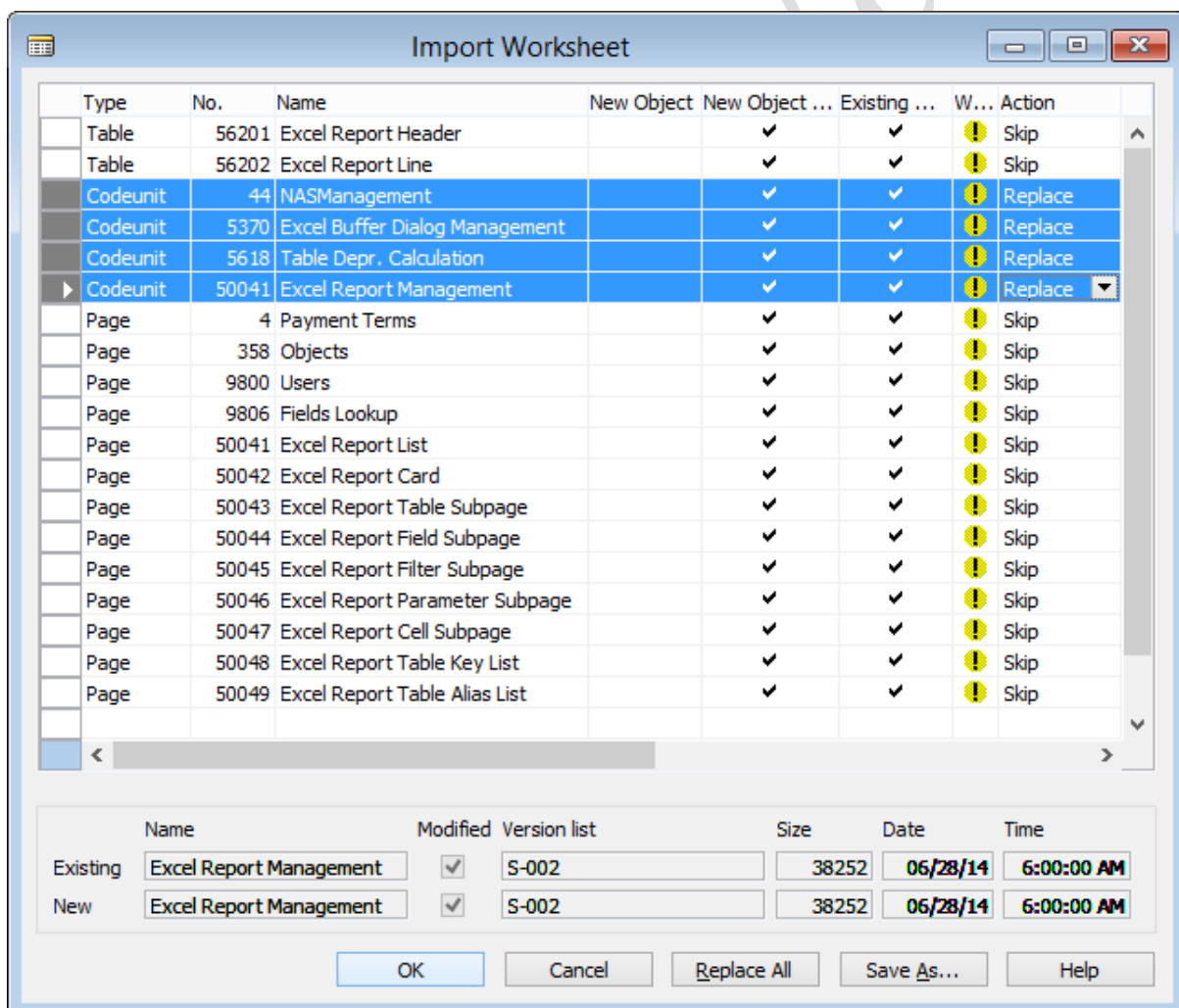
Reason: Service is expired by License End Date or License Number is incorrect.

Solution: Contact Admin for support. If cannot solve, Admin should contact Software Vendor.

Symptom 2: Service does not run and Service Status text file has no information:

Reason: Encrypted Objects were edited and compiled.

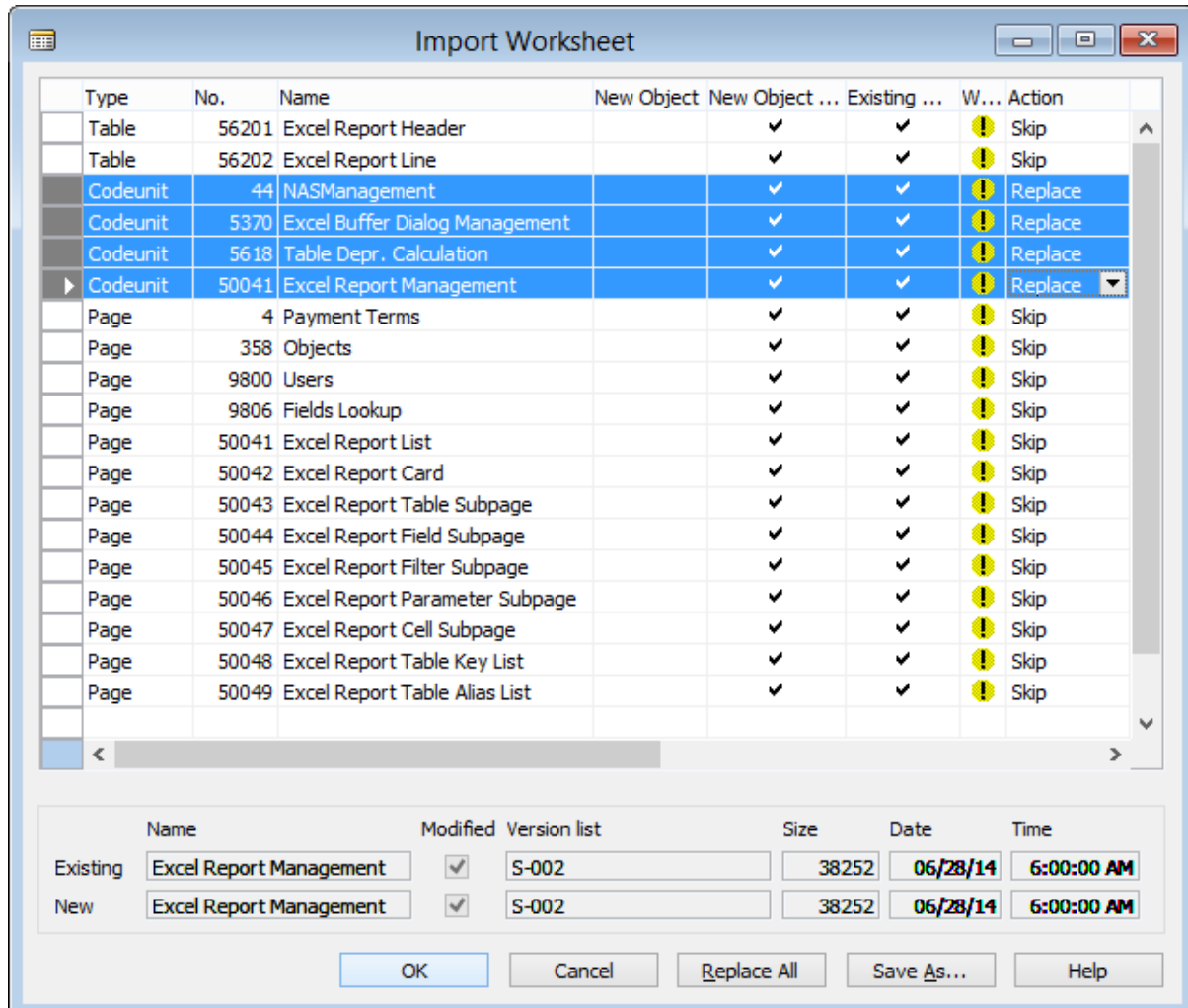
Solution: Reimport with replace them by encrypted objects from 4BzSoftware:



Symptom 3: Encrypted Objects were complied accidentally.

Reason: Encrypted Objects were complied accidentally.

Solution: Reimport with replace them by encrypted objects from 4BzSoftware:



4.4 Version Control

Version (YYMMDD)	Description
140628	Release - version 7.0 (2013 RTM) and 7.1 (2013 R2) 1. Navision objects for version 7.0 (2013 RTM) and 7.1 (2013 R2).

4BZSoftware

5. Pricing

Please refer to our OneDrive:

<https://onedrive.live.com/?cid=1322D544FED91559&id=1322D544FED91559%21107>

4BZSoftware

6. Open Xml Excel Library

Navision 2013 replaces Excel Automation by Open Xml Spreadsheet technique to increase performance and align with web environment. However, it is a challenge to master and enhance Open Xml Spreadsheet in C/SIDE. To make it easy, we would like to introduce our solution which is pure Open Xml:

- Support input Value, Formula, Format Value, and Format Cell more than 250 characters.
- Support Format Value for Text, Number, Date, Time.
- Support Format Cell:
 - o Font Bold, Italic, Underline, Double Underline.
 - o Font Name, Size, Color by Index, Theme and RGB.
 - o Back Color by Index, Theme and RGB.
 - o Border Around, Horizontal, Vertical, Top, Bottom, Left, Right, Diagonal Up Down.
 - o Border Color by Index, Theme and RGB.
 - o Border Styles are None, Thin, Medium, Dashed, Dotted, Thick, Double, Hair, MediumDashed, DashDot, MediumDashDot, DashDotDot, MediumDashDotDot, SlantDashDot.
- Support Web Client.
- Support SetColumnWidth.
- Refresh Formula Cells automatically.

To work well, you should update Platform Hotfix equal to or greater than:

Version	Hotfix ID	Build No.
2013	2923346	7.0.36116
2013 R2	2934572	7.1.36310

Platform Hotfix description: This message is for C/AL programmers: A call to Microsoft.Dynamics.Nav.OpenXml.Spreadsheet.WorkbookReader.Open failed with this message: The spreadsheet is corrupted. The following error occurred: Attribute 'name' should have unique value" error message when you import an Excel file.

Or simple way, use "Microsoft.Dynamics.Nav.OpenXml.dll" file of Platform Hotfix (*zip\NST) instead of Navision Service folder (C:\Program Files\Microsoft Dynamics NAV\71\Service):

- Download and unzip mentioned Platform Hotfix.
- Open Navision Service folder, rename Microsoft.Dynamics.Nav.OpenXml.dll to Microsoft.Dynamics.Nav.OpenXml_.dll.
- Copy Microsoft.Dynamics.Nav.OpenXml.dll from Platform Hotfix to Navision Service folder.

6.1 Navision Objects

Navision Objects of Open Xml Excel Library are 3 codeunit and Payment Terms list page for demo:

- Create new Workbook.
- Update existed Workbook with user interaction or silence.
- Read book with user interaction or silence.

No.	Type	ID	Name	Note
1	Codeunit	44	NASManagement	Encrypted Object
2	Codeunit	5370	Excel Buffer Dialog Management	Encrypted Object
3	Codeunit	5618	Table Depr. Calculation	Encrypted Object
4	Page	4	Payment Terms	Demo in Page Actions

6.2 Create new Workbook

After input data to Excel Buffer, you call CreateBook_Bol and FillAndDownloadBook_Txt functions:

```

Create new Workbook - OnAction()
//S-002{
gCoU_Excel.InputInit('Format Value');
InputFormatValueSheet();

gCoU_Excel.InputAddOrUseSheet('Format Cell');
InputFormatCellSheet();

IF NOT gCoU_Excel.CreateBook_Bol() THEN
EXIT;

//gCoU_Excel.FillAndDownloadBook_Txt('D:\Book1_Output.xlsx', TRUE); //Download to client as D:\Book1_Output.xlsx, and try to open it.
gCoU_Excel.FillAndDownloadBook_Txt('', TRUE); //1st parameter: client output file name (blank = save as an Excel file in %temp% folder)
//2nd parameter: try to open Excel file at client.
//Function returns final Client Output File Name.
//S-002}

```

CreateBook_Bol() Boolean : Boolean

- Function creates new Excel file at Server.

FillAndDownloadBook_Txt(pTxt_ClientFileNameOutput : Text;pBol_TryOpenExcel : Boolean)

Txt_ClientFileNameOutput : Text

- Function returns final Client Output File Name.
- pTxt_ClientFileNameOutputOrBlank:
 - o RTC: specify output Excel file. If value is blank text, output file is downloaded to %temp% folder with file name format "Book1-YYMMDD_HHmms.xlsx".
 - o Web Client: not apply. Output file is downloaded to web default download folder.
- pBol_TryOpenExcel:
 - o RTC: System will open output Excel file.
 - o Web Client: System only downloads output file to web default download folder.

6.3 Update existed Workbook

Procedure to update a Workbook:

- Specify client Workbook, call UpdateClientBook_Bol function.
- Input data to Excel Buffer, discuss detail in next section.
- Update Workbook and get output Excel file, call FillAndDownloadBook_Txt function.

```

Update existed Workbook - OnAction()
//S-002{
//IF NOT gCoU_Excel.UpdateBook_Bol('D:\Book1.xlsx') THEN //Update client source file D:\Book1.xlsx
IF NOT gCoU_Excel.UpdateClientBook_Bol('') THEN //Browse client file source file.
EXIT;

gCoU_Excel.InputInit('Format Value');
InputFormatValueSheet();

gCoU_Excel.InputAddOrUseSheet('Format Cell');
InputFormatCellSheet();

//gCoU_Excel.FillAndDownloadBook_Txt('D:\Book1_Output.xlsx', TRUE); //Download to client as D:\Book1_Output.xlsx, and try to open it.
gCoU_Excel.FillAndDownloadBook_Txt('', TRUE); //1st parameter: client output file name (blank = save as an Excel file in %temp% folder)
//2nd parameter: try to open Excel file at client.
//Function returns final Client Output File Name.

//S-002}

```

UpdateClientBook_Bol(pTxt_ClientFileNameSouceOrBlank : Text) Boolean : Boolean

- pTxt_ClientFileNameSouceOrBlank:
 - o RTC: specify Excel source file to update. If value is blank text, open file dialog is displayed for your browsing file. Otherwise, system will get Excel source file silently.
 - o Web Client: not apply. You have to browse Excel source file every time.

FillAndDownloadBook_Txt(pTxt_ClientFileNameOutput : Text;pBol_TryOpenExcel : Boolean)

Txt_ClientFileNameOutput : Text

- Function returns final Client Output File Name.
- pTxt_ClientFileNameOutputOrBlank:
 - o RTC: specify output Excel file. If value is blank text, output file is downloaded to %temp% folder with file name format "Book1-YYMMDD_HHmms.xlsx".
 - o Web Client: not apply. Output file is downloaded to web default download folder.
- pBol_TryOpenExcel:
 - o RTC: System will open output Excel file.
 - o Web Client: System only downloads output file to web default download folder.

6.4 Read Workbook

Procedure to Read a Workbook:

- Specify Workbook, call ReadBook_Bol function.
- Read needed Worksheet, call ReadSheet_Bol function.
- Read desired Cells, call ReadCell_[NavDataType] functions.
- Close Workbook, call CloseBook function.

```

Read_Workbook - OnAction()
//S-002{
//IF gCoU_Excel.ReadBook_Bol('D:\Book1.xlsx') THEN BEGIN //Browse file: no
//IF gCoU_Excel.ReadSheet_Bol('Format Value') THEN BEGIN //Select Worksheet: no

IF gCoU_Excel.ReadBook_Bol('') THEN BEGIN //Browse file: yes
IF gCoU_Excel.ReadSheet_Bol('') THEN BEGIN //Select Worksheet: yes
MESSAGE('[4Bz] End Value Cell of Worksheet "%1" is "%2%3"', gCoU_Excel.GetActiveSheetName_Txt,
gCoU_Excel.GetColumnName_Cod(gCoU_Excel.ReadSheet_MaxColumnNo_Int), gCoU_Excel.ReadSheet_MaxRowNo_Int);
MESSAGE('[4Bz] Value of Cell B2 is "%1"', gCoU_Excel.ReadCell_Text(2, 'B', 0));
MESSAGE('[4Bz] Value of Cell C2 is "%1"', gCoU_Excel.ReadCell_Text(2, 3, 0));
{
//Select Format Value sheet of sample book
MESSAGE('[4Bz] Integer of Cell C7 is "%1"', gCoU_Excel.ReadCell_Integer(7, 3));
MESSAGE('[4Bz] BigInteger of Cell C7 is "%1"', gCoU_Excel.ReadCell_BigInteger(7, 'C'));
MESSAGE('[4Bz] Decimal of Cell C5 is "%1"', gCoU_Excel.ReadCell_Decimal(5, 'C'));
MESSAGE('[4Bz] Time of Cell C8 is "%1"', gCoU_Excel.ReadCell_Time(8, 'C'));
MESSAGE('[4Bz] Date of Cell C8 is "%1"', gCoU_Excel.ReadCell_Date(8, 'C'));
MESSAGE('[4Bz] DateTime of Cell C9 is "%1"', gCoU_Excel.ReadCell_DateTime(9, 'C'));
}
END;
gCoU_Excel.CloseBook;
END;
//S-002}

```

ReadBook_Bol(pTxt_ClientFileNameSouceOrBlank : Text) Boolean : Boolean

- pTxt_ClientFileNameSouceOrBlank:
 - o RTC: specify Excel source file to read. If value is blank text, open file dialog is displayed for your browsing file. Otherwise, system will get Excel source file silently.
 - o Web Client: not apply. You have to browse Excel source file every time.

ReadSheet_Bol(pTxt_SheetNameOrBlank : Text) Boolean : Boolean

- pTxt_SheetNameOrBlank: specify Sheet Name. If value is blank text, a menu windows is displayed for your Sheets selection.

ReadSheet_MaxRowNo_Int() Integer : Integer

- Return the Maximum Row Number of read Worksheet.

ReadSheet_MaxColumnNo_Int() Integer : Integer

- Return the Maximum Column Number of read Worksheet.

GetActiveSheetName_Txt() Text_250 : Text[250]

- Return Name of current read Worksheet

ReadCell_Text(pInt_RowNo : Integer;pVar_ColumnNoOrName : Variant;pInt_Length : Integer) Text : Text

- pInt_RowNo: specify Row Number of Cell to read, start from 1.
- pVar_ColumnNoOrName: specify Column Nbr or Name of Cell to read, start from 1 or 'A'.
- pInt_Length: specify length of text to read. 0 means read all.

ReadCell_Integer(pInt_RowNo : Integer;pVar_ColumnNoOrName : Variant) Integer : Integer

- pInt_RowNo: specify Row Number of Cell to read, start from 1.
- pVar_ColumnNoOrName: specify Column Nbr or Name of Cell to read, start from 1 or 'A'.

ReadCell_BigInteger(pInt_RowNo : Integer;pVar_ColumnNoOrName : Variant) BigInteger : BigInteger

- pInt_RowNo: specify Row Number of Cell to read, start from 1.
- pVar_ColumnNoOrName: specify Column Nbr or Name of Cell to read, start from 1 or 'A'.

ReadCell_Decimal(pInt_RowNo : Integer;pVar_ColumnNoOrName : Variant) Decimal : Decimal

- pInt_RowNo: specify Row Number of Cell to read, start from 1.
- pVar_ColumnNoOrName: specify Column Nbr or Name of Cell to read, start from 1 or 'A'.

ReadCell_Time(pInt_RowNo : Integer;pVar_ColumnNoOrName : Variant) Time : Time

- pInt_RowNo: specify Row Number of Cell to read, start from 1.
- pVar_ColumnNoOrName: specify Column Nbr or Name of Cell to read, start from 1 or 'A'.

ReadCell_Date(pInt_RowNo : Integer;pVar_ColumnNoOrName : Variant) Date : Date

- pInt_RowNo: specify Row Number of Cell to read, start from 1.
- pVar_ColumnNoOrName: specify Column Nbr or Name of Cell to read, start from 1 or 'A'.

ReadCell_DateTime(pInt_RowNo : Integer;pVar_ColumnNoOrName : Variant) DateTime : DateTime

- pInt_RowNo: specify Row Number of Cell to read, start from 1.
- pVar_ColumnNoOrName: specify Column Nbr or Name of Cell to read, start from 1 or 'A'.

CloseBook()

- Close Workbook and release resources.

6.5 Input data to Excel Buffer

Procedure to Input data to Excel Buffer:

- Initialize input, call InputInit function.
- Add or Use Worksheet, call InputAddOrUseSheet function.
- Input Cells, call InputCell or InputCellAndTab and InputCellAndEnter functions.

```

InputFormatCellSheet()
//S-000
WITH gCol_Excel DO BEGIN
  lInt_RowNo := 2;
  InputCell(lInt_RowNo, 2, 'Format Cell', '@', 'B'); //1st parameter pInt_RowNo is Row No
  InputCell(lInt_RowNo, 'C', 'Description', '@', 'B'); //2nd parameter pVar_ColumnNoOrName is Column No or Column Name
  InputCell(lInt_RowNo, 4, 'Sample Value', '@', 'B'); //3rd parameter pVar_Value can be Text, Code, Decimal, Date, ...
  InputCell(lInt_RowNo, 'F', 'Border', '@', 'B'); //4th parameter pTxt_FormatValue for Text, Number, Date, ...
  //5th parameter pTxt_FormatCell for Bold, Italic, Underline, Font, Color, Border, ...

  lInt_RowNo += 1;
  InputCell(lInt_RowNo, 2, 'B', '@', '');
  InputCell(lInt_RowNo, 3, 'Bold', '@', '');
  InputCell(lInt_RowNo, 4, 'Bold Cell', '@', 'B');

```

```

InputFormatValueSheet()
//S-000
WITH gCol_Excel DO BEGIN
  SetCurrentCell(2, 'B'); //Set Current Cell as B2
  InputCellAndTab('Format Value', '@', 'B'); //Input value then move to next right cell, Cell B2 -> C2.
  InputCellAndTab('Sample Value', '@', 'B'); //Cell C2 -> D2.
  InputCellAndEnter('Description', '@', 'B'); //Input value then move to first below cell, Cell D2 -> A3.

  SetCurrentCell(3, 2); //Set Current Cell as B3
  InputCellAndTab('Blank', '@', '');
  InputCellAndTab('General Value', '@', ''); //2nd parameter pTxt_FormatValue = '' means General.
  InputCellAndEnter('General', '@', '');

  MoveCellBy(0, 1); //Move current cell by number of Rows and Columns, Cell A4 -> B4.
  InputCellAndTab('A', '@', '');
  InputCellAndTab('Text Value', '@', ''); //2nd parameter pTxt_FormatValue = '@' means Text.
  InputCellAndEnter('Text', '@', '');

  MoveCellBy(0, 1);
  InputCellAndTab('###0.00', '@', ''); //1st parameter pVar_Value can be Text, Code, Decimal, Date, ...
  InputCellAndTab('12345.6789', '@', ''); //2nd parameter pTxt_FormatValue = '###0.00' means Number with Thousand Separator and 2 Decimal.
  InputCellAndEnter('Number with Thousand Separator and 2 Decimal', '@', ''); //3rd parameter pTxt_FormatCell for Bold, Italic, Underline, Font, Color, Border, ...

```

InputInit(pTxt_InitSheetNameOrBlank : Text[250])

- pTxt_InitSheetNameOrBlank: specify initialized Sheet Name. Value can be blank text.

InputAddOrUseSheet(pTxt_SheetName : Text[250])

- pTxt_SheetName: specify Sheet Name to add or re-input existed Sheet Name.

InputCell(pInt_RowNo : Integer;pVar_ColumnNoOrName : Variant;pVar_Value : Variant;pTxt_FormatValue : Text;pTxt_FormatCell : Text)

- pInt_RowNo: specify Row Number of Cell to input, start from 1.
- pVar_ColumnNoOrName: specify Column No. or Name of Cell to input, start from 1 or 'A'.
- pVar_Value: Value that you want to input to Cell.
- pTxt_FormatValue: refer to [section 6.6 Format Value](#).
- pTxt_FormatCell: refer to [section 6.7 Format Cell](#).

InputCellAndTab(pVar_Value : Variant;pTxt_FormatValue : Text;pTxt_FormatCell : Text)

- Using SetCurrentCell and MoveCellBy functions to control Current Cell Position, InputCellAndTab function inputs Value then moves to next right Cell, e.g. B2 → C2.
- pVar_Value: Value that you want to input to Cell.
- pTxt_FormatValue: refer to [section 6.6 Format Value](#).
- pTxt_FormatCell: refer to [section 6.7 Format Cell](#).

InputCellAndEnter(pVar_Value : Variant;pTxt_FormatValue : Text;pTxt_FormatCell : Text)

- Using SetCurrentCell and MoveCellBy functions to control Current Cell Position, InputCellAndEnter function inputs Value then moves to first below Cell, e.g. D2 → A3.
- pVar_Value: Value that you want to input to Cell.
- pTxt_FormatValue: refer to [section 6.6 Format Value](#).
- pTxt_FormatCell: refer to [section 6.7 Format Cell](#).

SetCurrentCell(plnt_RowNo : Integer;pVar_ColumnNoOrName : Variant)

- plnt_RowNo: set Row Number of Current Cell to specified Row Number.
- pVar_ColumnNoOrName: set Column Number of Current Cell to specified Column Number.

MoveCellBy(plnt_NumberOfRows : Integer;plnt_NumberOfColumns : Integer)

- plnt_NumberOfRows: move Current Cell by Number of Rows.
- plnt_NumberOfColumns: move Current Cell by Number of Columns.

6.6 Format Value

Format Value is a string that helps you display Value of Cell in desired format such as Text, Number with decimal places and thousand separator, Percentage, Date, Time, Date Time, or General.

Some common Format Value:

Format Value	Sample Value	Description
(blank)	General Value	General
@	Text Value	Text
#,##0.00	12,345.68	Number with Thousand Separator and 2 Decimal
0%	8100%	Percentage
#,##0	1,000,000	Formula must start with =
yyyy-mm-dd hh:mm:ss	2014-06-07 16:47:00	Date Time 24H
yyyy-mmm-dd hh:mm AM/PM	2014-Jun-07 04:47 PM	Date Time AM/PM

Please refer following link for full picture:

<http://office.microsoft.com/en-001/excel-help/number-format-codes-HP005198679.aspx>

6.7 Format Cell

Format Cell is a string that helps you to decorate a Cell. It is combined from Properties separated by semicolon. Each Property has a Key and Value, separated by comma. Property's Value can be empty.

[Format Cell] = [Property 1]; [Property 2]; [Property 3] ...

[Format Cell] = [Key 1, Value 1]; [Key 2]; [Key 3, Value 3] ...

Format Cell	Description	Sample Value	Border
B	Bold	Bold Cell	
I	Italic	<i>Italic Cell</i>	
U	Underline	<u>Underline Cell</u>	
UD	Double Underline	<u><u>Double Underline Cell</u></u>	
FN, Segoe Print; FCI, 10	Font Name, Font Color by Index (0 to 65)	Font Name is Segoe Print, Font Color by Index is 10	
FS, 12; FCRGB, 000000FF	Font Size (1 to 409), Font Color by RGB	Font Size is 12, Font Color by RGB 000000FF	
BCT, 0	Back Color by Theme is same as Font Color by Theme (0 to 9)		
BCT, 1	Back Color by Theme is same as Font Color by Theme (0 to 9)		
BCT, 2	Back Color by Theme is same as Font Color by Theme (0 to 9)		
BCT, 3	Back Color by Theme is same as Font Color by Theme (0 to 9)		
BCT, 4	Back Color by Theme is same as Font Color by Theme (0 to 9)		
BCT, 5	Back Color by Theme is same as Font Color by Theme (0 to 9)		
BCT, 6	Back Color by Theme is same as Font Color by Theme (0 to 9)		
BCT, 7	Back Color by Theme is same as Font Color by Theme (0 to 9)		
BCT, 8	Back Color by Theme is same as Font Color by Theme (0 to 9)		
BCT, 9	Back Color by Theme is same as Font Color by Theme (0 to 9)		
BCRGB, 00FF0000	Back Color by RGB is same as Font Color by RGB		
BCRGB, 0000FF00	Back Color by RGB is same as Font Color by RGB		
BCRGB, 000000FF	Back Color by RGB is same as Font Color by RGB		
BA	Border Around		
BH; BV	Border Horizontal, Border Vertical		

Support Properties:

No.	Key	Sample	Description
1	B	B	Make Cell Bold.
2	I	I	Make Cell Italic.
3	U	U	Make Cell Underline.
4	UD	UD	Make Cell Double Underline.
5	FN	FN, Segoe Print	Set Cell Font Name, case sensitive.
6	FS	FS, 12	Set Cell Font Size, value from 1 to 409.
7	FCI	FCI, 10	Set Cell Font Color by Index, value from 0 to 65. Reference link http://msdn.microsoft.com/en-us/library/cc296089(v=office.12).aspx
8	FCT	FCT, 5	Set Cell Font Color by Theme, value from 0 to 9.
9	FCRGB	FCRGB, 000000FF	Set Cell Font Color by RGBA (Red Green Blue Alpha). Reference links http://en.wikipedia.org/wiki/RGBA_color_space http://msdn.microsoft.com/en-us/library/system.windows.media.color(v=vs.95).aspx
10	BCI	BCI, 10	Set Cell Back Color by Index, value from 0 to 65.
11	BCT	BCT, 5	Set Cell Back Color by Theme, value from 0 to 9.
12	BCRGB	BCRGB, 000000FF	Set Cell Back Color by RGBA (Red Green Blue Alpha).
13	BA	BA	Border Around Cell.
14	BAS	BA; BAS, thin	Border Around Line Style, used with BA. Value are None, Thin, Medium, Dashed, Dotted, Thick, Double, Hair, MediumDashed, DashDot,

No.	Key	Sample	Description
			MediumDashDot, DashDotDot, MediumDashDotDot, SlantDashDot.
15	BACI	BA; BACI,10	Border Around Line Color by Index, used with BA. Value from 0 to 65.
16	BACT	BA; BACT,5	Border Around Line Color by Theme, used with BA. Value from 0 to 9.
17	BACRGB	BA; BACRGB, 000000FF	Border Around Line Color by RGBA, used with BA.
18	BT	BT	Border Top Cell.
19	BTS	BT; BTS,thin	Border Top Line Style, used with BT. Value are None, Thin, Medium, Dashed, Dotted, Thick, Double, Hair, MediumDashed, DashDot, MediumDashDot, DashDotDot, MediumDashDotDot, SlantDashDot.
20	BTCL	BT; BTCL,10	Border Top Line Color by Index, used with BT. Value from 0 to 65.
21	BTCT	BT; BTCT,5	Border Top Line Color by Theme, used with BT. Value from 0 to 9.
22	BTCRGA	BT; BTCRGA,000000FF	Border Top Line Color by RGBA, used with BT.
23	BB	BB	Border Bottom Cell.
24	BBS	BB; BBS,thin	Border Bottom Line Style, used with BB. Value are None, Thin, Medium, Dashed, Dotted, Thick, Double, Hair, MediumDashed, DashDot, MediumDashDot, DashDotDot, MediumDashDotDot, SlantDashDot.
25	BBCI	BB; BBCI,10	Border Bottom Line Color by Index, used with BB. Value from 0 to 65.
26	BBCT	BB; BBCT,5	Border Bottom Line Color by Theme, used with BB. Value from 0 to 9.
27	BBCRGA	BB; BBCRGA,000000FF	Border Bottom Line Color by RGBA, used with BB.
28	BL	BL	Border Left Cell.
29	BLS	BL; BLS,thin	Border Left Line Style, used with BL. Value are None, Thin, Medium, Dashed, Dotted, Thick, Double, Hair, MediumDashed, DashDot, MediumDashDot, DashDotDot, MediumDashDotDot, SlantDashDot.
30	BLCL	BL; BLCL,10	Border Left Line Color by Index, used with BL. Value from 0 to 65.
31	BLCT	BL; BLCT,5	Border Left Line Color by Theme, used with BL. Value from 0 to 9.
32	BLCRGA	BL; BLCRGA,000000FF	Border Left Line Color by RGBA, used with BL.
33	BR	BR	Border Right Cell.
34	BRS	BR; BRS,thin	Border Right Line Style, used with BR. Value are None, Thin, Medium, Dashed, Dotted, Thick, Double, Hair, MediumDashed, DashDot, MediumDashDot, DashDotDot, MediumDashDotDot, SlantDashDot.
35	BRCL	BR; BRCL,10	Border Right Line Color by Index, used with BR. Value from 0 to 65.
36	BRCT	BR; BRCT,5	Border Right Line Color by Theme, used with BR. Value from 0 to 9.

No.	Key	Sample	Description
37	BRCRGB	BR; BRCRGB,000000FF	Border Right Line Color by RGBA, used with BR.
38	BD	BD	Border Diagonal Cell.
39	BDU	BD; BDU	Border Diagonal Up Cell, used with BD.
40	BDD	BD; BDD	Border Diagonal Down Cell, used with BD.
41	BDS	BD; BDS,thin	Border Diagonal Line Style, used with BD. Value are None, Thin, Medium, Dashed, Dotted, Thick, Double, Hair, MediumDashed, DashDot, MediumDashDot, DashDotDot, MediumDashDotDot, SlantDashDot.
42	BDCI	BD; BDCI,10	Border Diagonal Line Color by Index, used with BD. Value from 0 to 65.
43	BDCT	BD; BDCT,5	Border Diagonal Line Color by Theme, used with BD. Value from 0 to 9.
44	BDCRGB	BD; BDCRGB,000000FF	Border Diagonal Line Color by RGBA, used with BD.

6.8 Format Range

You can call FormatRange function to format a range.

FormatRange(plnt_TopRowNo : Integer;pVar_LeftColumnNoOrName : Variant;plnt_BottomRowNo : Integer;pVar_RightColumnNoOrName : Variant;pTxt_FormatCell : Text)

- plnt_TopRowNo: Top Row Number of Range, start from 1.
- pVar_LeftColumnNoOrName: Left Column Nbr or Name of Range, start from 1 or 'A'.
- plnt_BottomRowNo: Bottom Row Number of Range, start from 1.
- pVar_RightColumnNoOrName: Right Column Nbr or Name of Range, start from 1 or 'A'.
- pTxt_FormatCell: Format Cell string for Range. For Border Around, Horizontal and Vertical, system will format related Cells to Border Top, Bottom, Left and Right. Addition Properties supported by FormatRange function:

No.	Key	Sample	Description
1	BA	BA	Border Around Cell.
2	BAS	BA; BAS,thin	Border Around Line Style, used with BA. Value are None, Thin, Medium, Dashed, Dotted, Thick, Double, Hair, MediumDashed, DashDot, MediumDashDot, DashDotDot, MediumDashDotDot, SlantDashDot.
3	BACI	BA; BACI,10	Border Around Line Color by Index, used with BA. Value from 0 to 65.
4	BACT	BA; BACT,5	Border Around Line Color by Theme, used with BA. Value from 0 to 9.
5	BACRGB	BA; BACRGB,000000FF	Border Around Line Color by RGBA, used with BA.
6	BH	BH	Border Horizontal Cell.
7	BHS	BH; BHS,thin	Border Horizontal Line Style, used with BH. Value are None, Thin, Medium, Dashed, Dotted, Thick, Double, Hair, MediumDashed, DashDot, MediumDashDot, DashDotDot, MediumDashDotDot, SlantDashDot.
8	BHCI	BH; BHCI,10	Border Horizontal Line Color by Index, used with BH. Value from 0 to 65.
9	BHCT	BH; BHCT,5	Border Horizontal Line Color by Theme, used with BH. Value from 0 to 9.
10	BHCRGB	BH; BHCRGB,000000FF	Border Horizontal Line Color by RGBA, used with BH.
11	BV	BV	Border Vertical Cell.
12	BVS	BV; BVS,thin	Border Vertical Line Style, used with BV. Value are None, Thin, Medium, Dashed, Dotted, Thick, Double, Hair, MediumDashed, DashDot, MediumDashDot, DashDotDot, MediumDashDotDot, SlantDashDot.
13	BVCI	BV; BVCI,10	Border Vertical Line Color by Index, used with BV. Value from 0 to 65.
14	BVCT	BV; BVCT,5	Border Vertical Line Color by Theme, used with BV. Value from 0 to 9.
15	BVCRGB	BV; BVCRGB,000000FF	Border Vertical Line Color by RGBA, used with BV.

6.9 Set Column Width

Open Xml does not support auto fit columns width. You have to set columns width manually.

```
SetColumnWidth('B', 30); //Set Column Width by Column Name  
SetColumnWidth( 3 , 22); //Set Column Width by Column Index from 1  
SetColumnWidth('D', 45); //Column Width is Integer number from 0 (hide column) to 255  
END;  
//S-000}
```

SetColumnWidth(pVar_ColumnNoOrName : Variant;plnt_WidthOrZeroHide : Integer)

- pVar_ColumnNoOrName: specify Column Nbr or Name of column, start from 1 or 'A'.
- plnt_WidthOrZeroHide: specify column width, value is from 1 to 255. Set 0 to hide column.

7. SMTP Mail Setup

In order to send Excel report via email, you should setup SMTP Mail.

On Excel Report List, click Ribbon → Actions → SMTP Mail Setup (Email Setup)

The screenshot shows the 'Edit - SMTP Mail Setup' window. The ribbon at the top has a 'HOME' tab with icons for View, Edit, Notes, Links, Refresh, Clear Filter, Go to, Previous, and Next. The main content area is titled 'SMTP Mail Setup' and contains a 'General' tab. The 'General' tab has the following fields:

- SMTP Server: smtp.gmail.com
- SMTP Server Port: 587
- Authentication: Basic (dropdown menu)
- User ID: 4bz.dev01@gmail.com
- Password: (masked with dots)
- Secure Connection: ☒

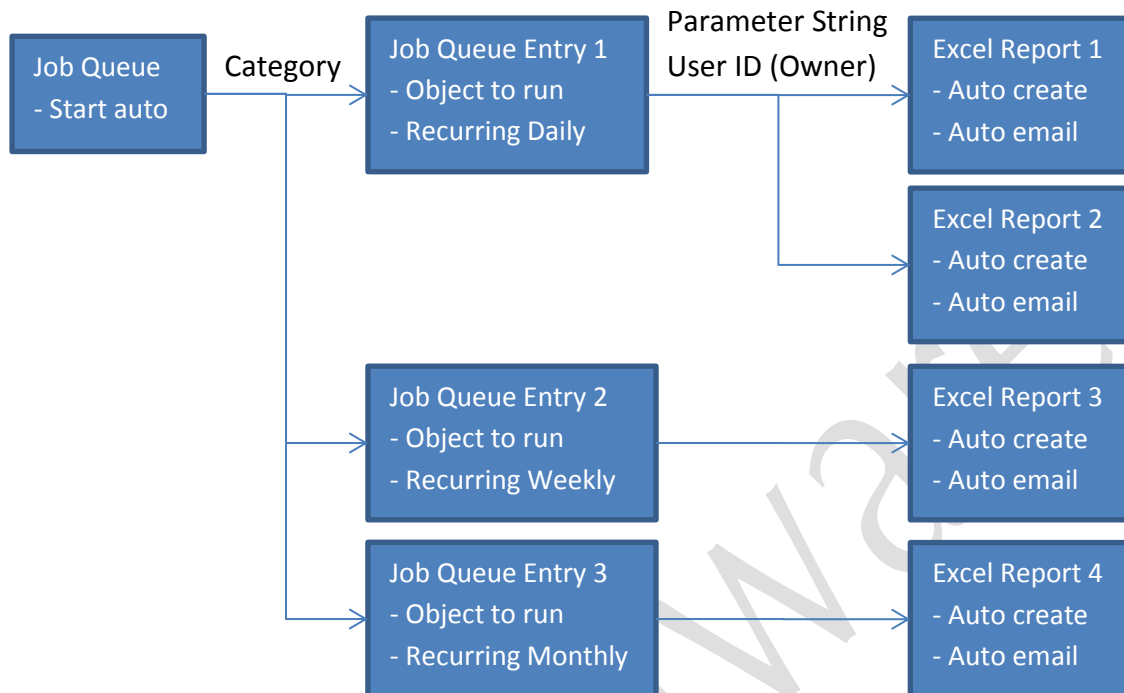
An 'OK' button is located at the bottom right of the dialog.

Below is common SMTP Mail setup:

- Mail profile already existed with your windows account:
 - o SMTP Server: SMTP Server Address, for example, smtp.company.com.
 - o SMTP Server Port: SMTP Server Port, for example, 25.
 - o Authentication: Authentication Type, for example, Anonymous.
 - o Secure Connection: Use Secure Connection or not, for example, No.
- Gmail profile:
 - o SMTP Server: smtp.gmail.com.
 - o SMTP Server Port: 587.
 - o Authentication: Basic.
 - o User ID: {Gmail Account}@gmail.com.
 - o Password: {Gmail Password}.
 - o Secure Connection: Yes.

8. Configure Job Queue to create or email reports automatically

To create or email reports automatically, you can use system Job Queue. Below is working process:



A Job Queue is running in a background session and carries out its Job Queue Entries which are the same Job Queue Category. You can manually start Job Queue, or automatically with Navision Service by setting "Start Automatically From NAS" true and [configuring NAS Service described in section 9](#).

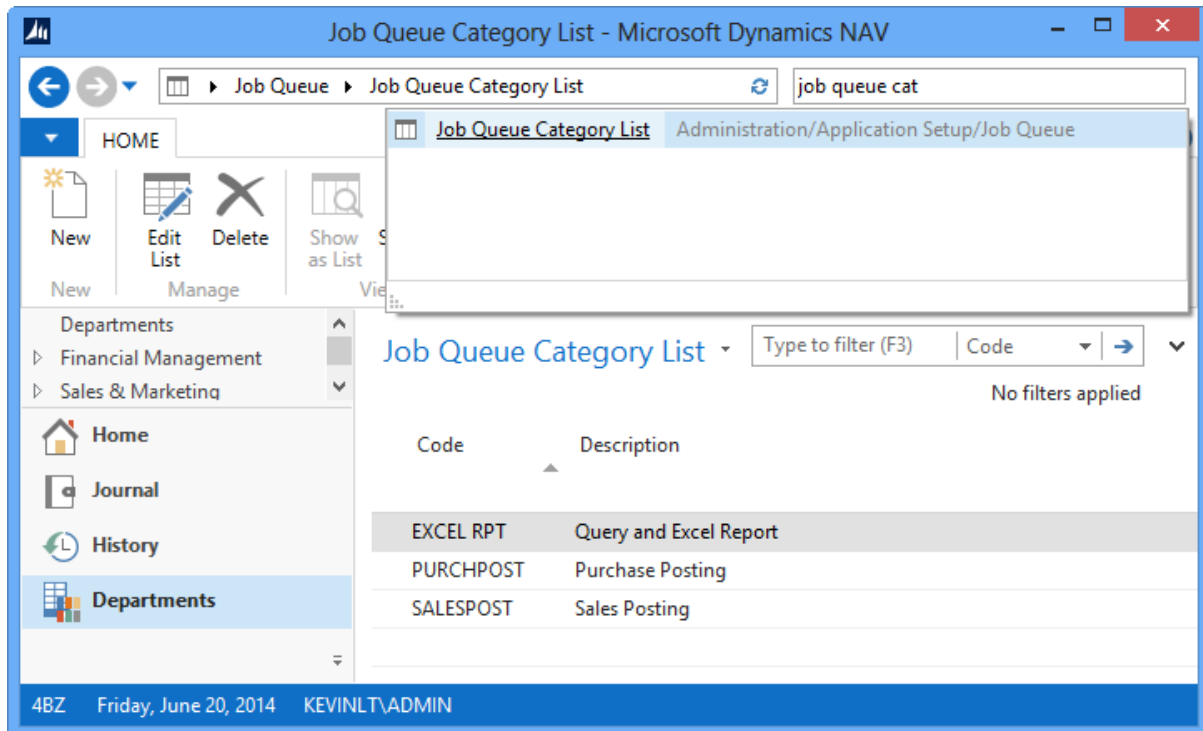
Each Job Queue Entry should be defined recurring time to create or email reports as hourly, daily, weekly, monthly ... as business requirement. Job Queue Entry carries out its reports based on Parameter String (case sensitive) and User ID (User creates Job Queue Entry and Excel Report).

Each Excel Report can auto create or email report separately.

8.1 Create Job Queue Category

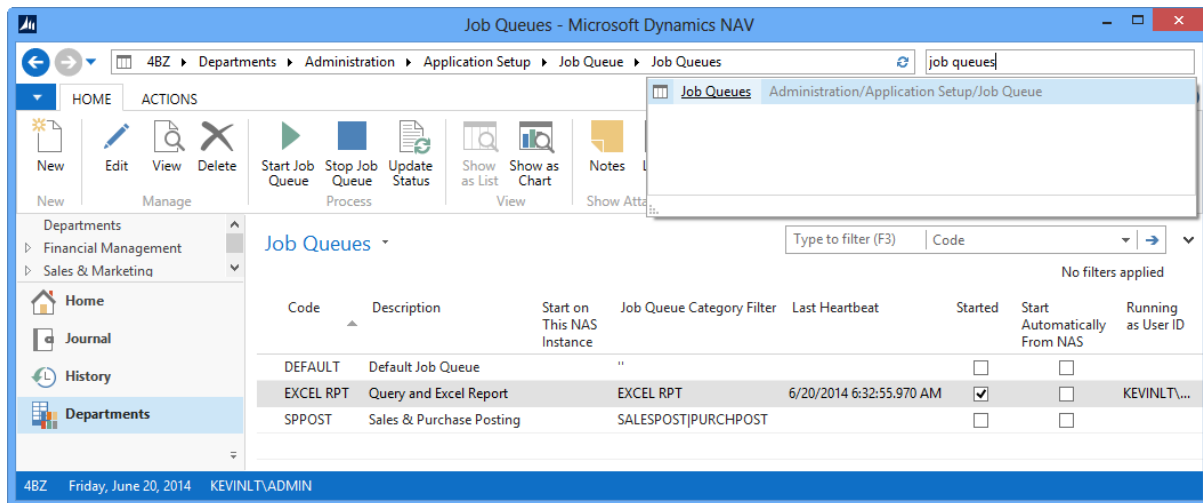
It is good to use Job Queue Category to carry out needed Job Queue Entries. However, each Job Queue, when started, consumes a background session. Otherwise, you can ignore Job Queue Category and use one Job Queue to invoke all Job Queue Entries.

In this guideline, we will create a Job Queue Category “EXCEL RPT – Query and Excel Report”:

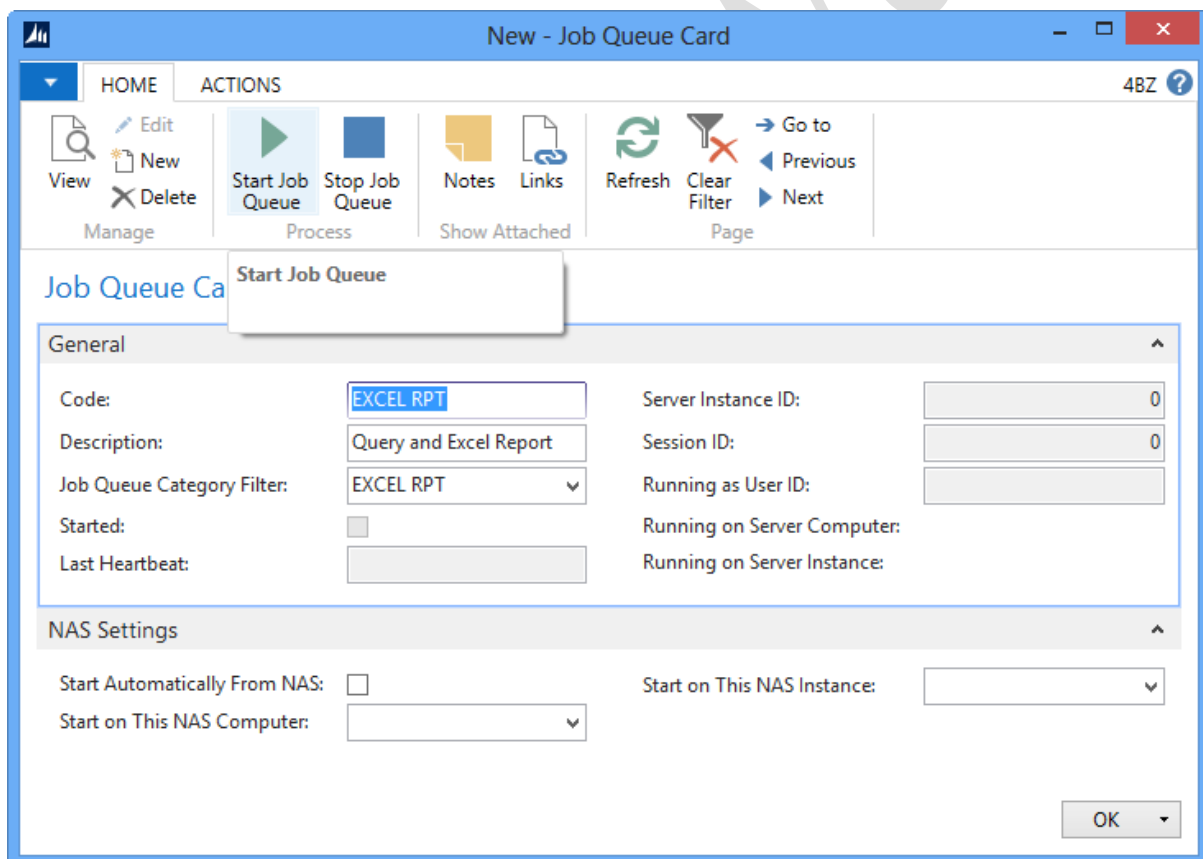


8.2 Create and start Job Queue

Use search function to open Job Queues list page, click “New” action on Ribbon as below:



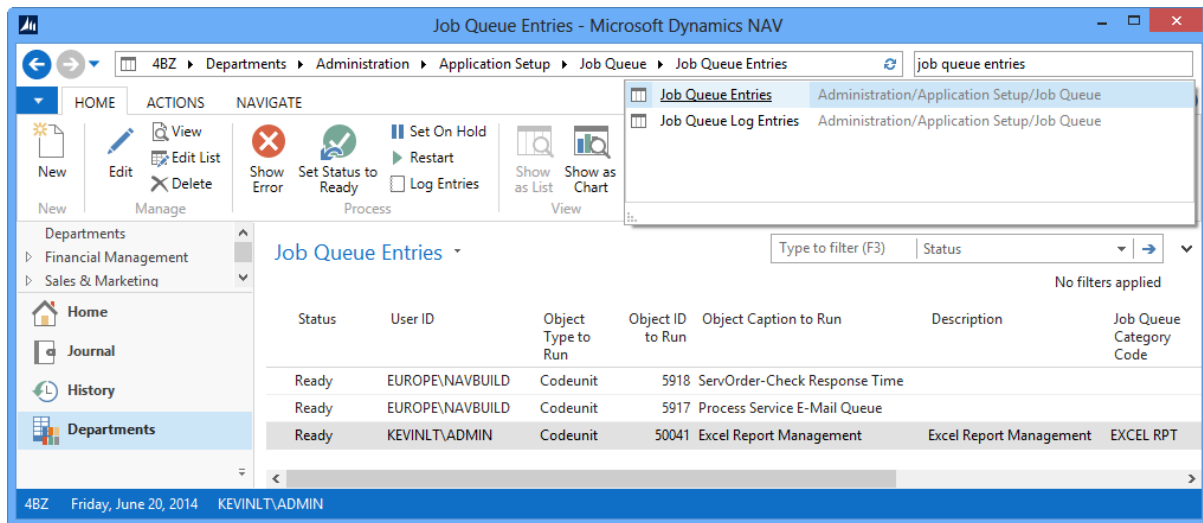
Fill in Code, Description and select created Job Queue Category “EXCEL RPT”. Then, Start Job Queue:



To start Job Queue with Navision Service automatically, set “Start Automatically from NAS” and refer to [section 9 Configure NAS Service](#).

8.3 Create and start recurring Job Queue Entry

Use search function to open Job Queue Entries list page, click “New” action on Ribbon as below



Create entry as below picture. For testing, set No. of Minutes between Runs 5. Then click Restart:

General

Object Type to Run:	Codeunit	Maximum No. of Attempts to Run:	0
Object ID to Run:	50041	Last Ready State:	6/20/2014 6:56:16.397 AM
Object Caption to Run:	Excel Report Management	Earliest Start Date/Time:	
Description:	Excel Report Management	Expiration Date/Time:	
Parameter String:	Daily	Priority:	1000
Job Queue Category Code:	EXCEL RPT	Run in User Session:	<input type="checkbox"/>
User ID:	KEVINLT\ADMIN	Status:	On Hold
Timeout (sec.):	0		

Recurrence

Recurring Job:	<input checked="" type="checkbox"/>	Run on Saturdays:	<input type="checkbox"/>
Run on Mondays:	<input checked="" type="checkbox"/>	Run on Sundays:	<input type="checkbox"/>
Run on Tuesdays:	<input checked="" type="checkbox"/>	Starting Time:	
Run on Wednesdays:	<input checked="" type="checkbox"/>	Ending Time:	
Run on Thursdays:	<input checked="" type="checkbox"/>	No. of Minutes between Runs:	5
Run on Fridays:	<input checked="" type="checkbox"/>		

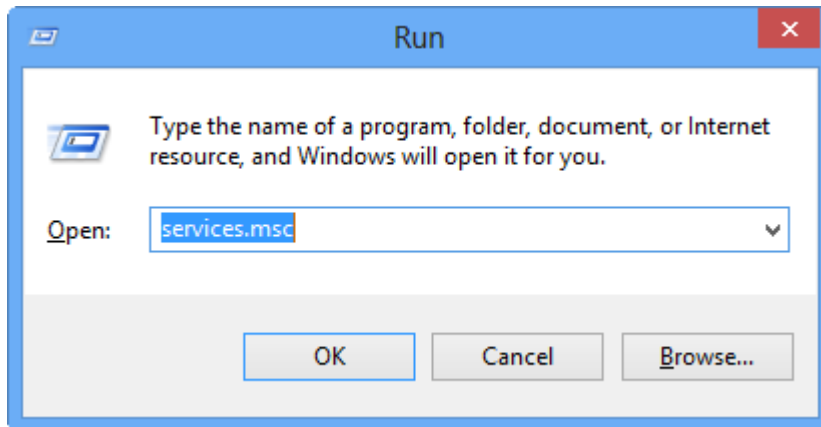
OK

9. Configure NAS Service to start Job Queue automatically

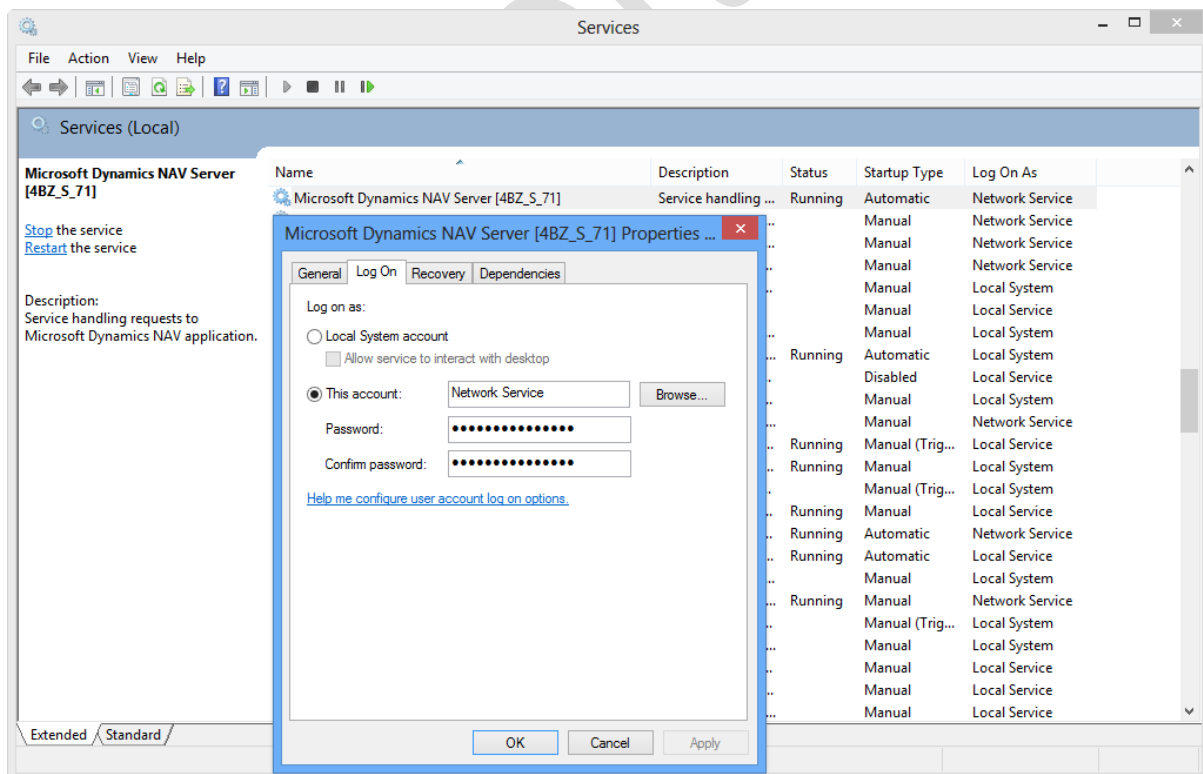
9.1 Navision Service Account and Permission

You can start Job Queue automatically when Navision Service is started. Job Queue will run as Navision Service Account so you need to assign correct permission to Navision Service Account (<http://blogs.msdn.com/b/nav/archive/2012/09/20/microsoft-dynamics-nav-2013-nas-services-user-credentials.aspx>)

First, you should check the account used to start Navision Service by running below command:

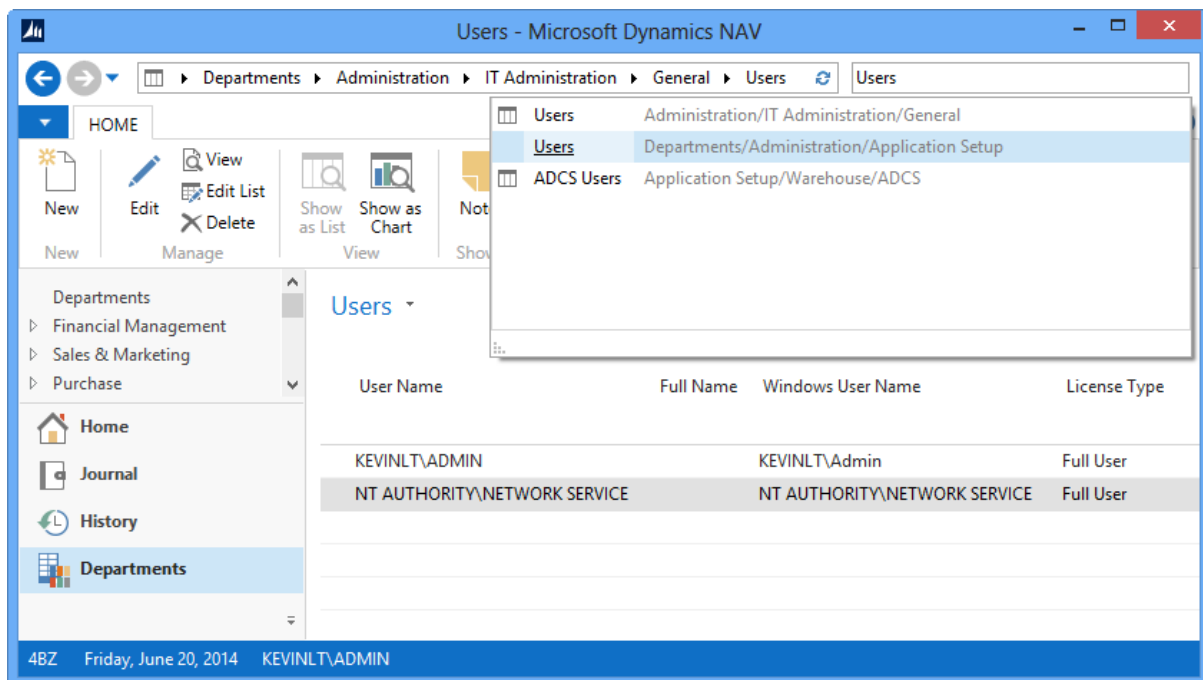


Services window opens:

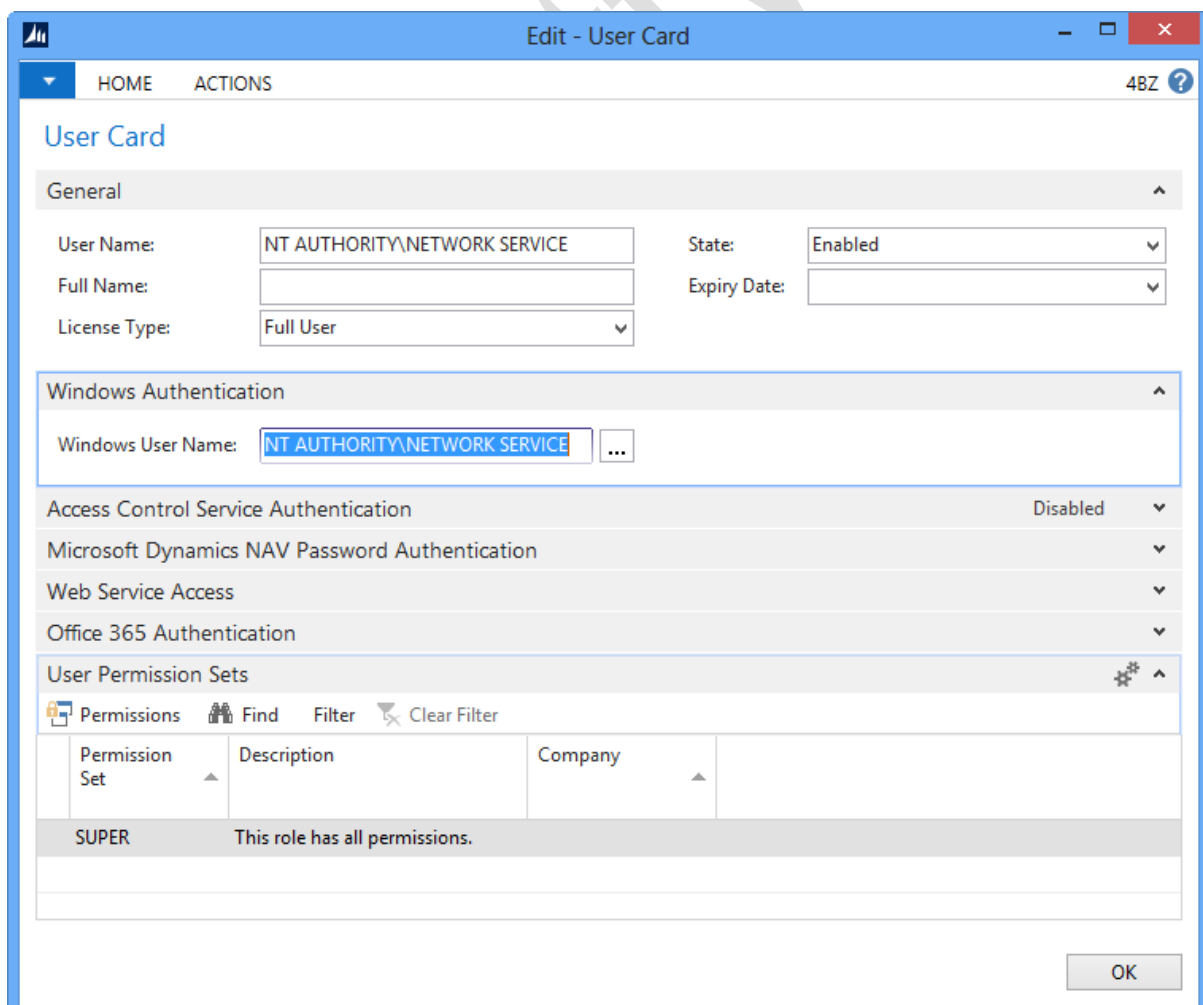


Above picture shows Navision Service started by Network Service account (default installation).

Second, create and assign permission to Navision Service Account by opening Users list page:



Click on “New” action, key in Windows User Name and assign Permission Set as below:



9.2 Reconfigure Job Queue

Open Job Queue and set "Start Automatically From NAS" to true:

Edit - Job Queue Card - EXCEL RPT

HOME ACTIONS 4BZ ?

View Edit New Delete Manage Start Job Queue Stop Job Queue Process Notes Links Show Attached Refresh Clear Filter Page Go to Previous Next

EXCEL RPT

General

Code:	EXCEL RPT	Server Instance ID:	117
Description:	Query and Excel Report	Session ID:	41
Job Queue Category Filter:	EXCEL RPT	Running as User ID:	KEVINLT\ADMIN
Started:	<input checked="" type="checkbox"/>	Running on Server Computer:	kevinlt
Last Heartbeat:	6/20/2014 7:04:27.710 AM	Running on Server Instance:	4bz_s_71

NAS Settings

Start Automatically From NAS:	<input checked="" type="checkbox"/>	Start on This NAS Instance:	
Start on This NAS Computer:			

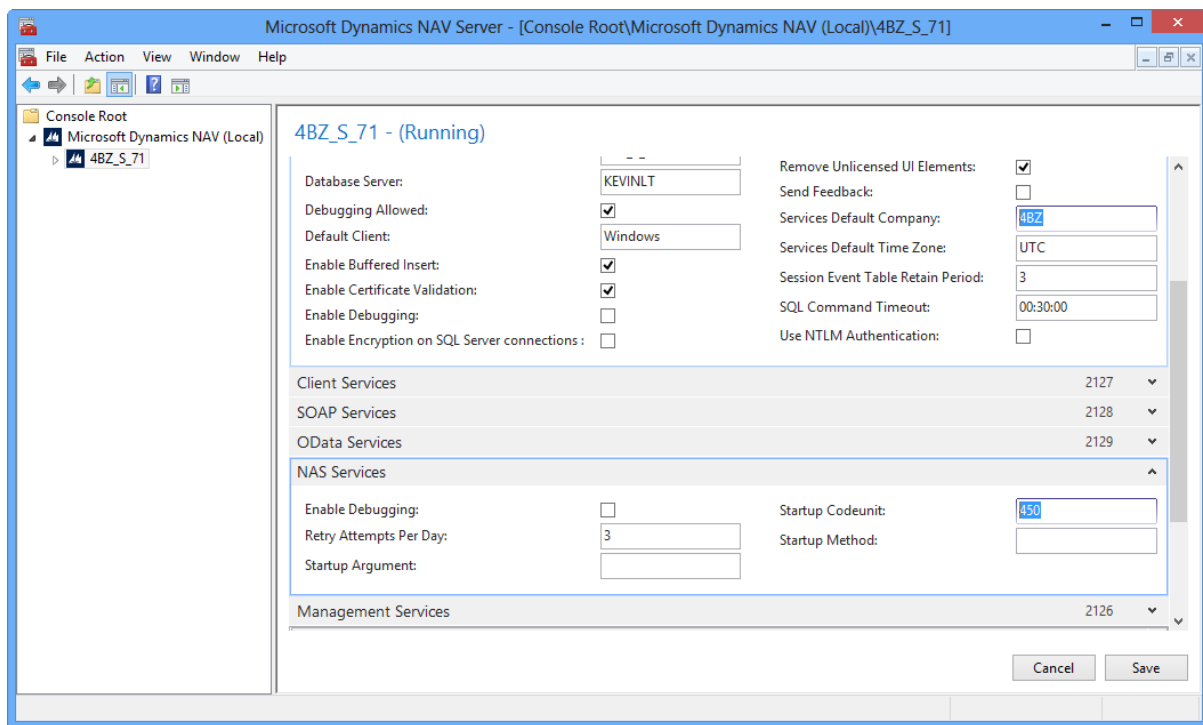
OK

9.3 Configure NAS Service

For full picture, you can refer to <http://blogs.msdn.com/b/nav/archive/2012/08/31/background-posting-and-job-queue-in-microsoft-dynamics-nav-2013.aspx>

To enable NAS Service:

- Fill in Service Default Company in General group.
- Fill in 450 as Startup Codeunit in NAS Services group.



Click Save and restart the service. Then check:

- Job Queue is started
- Job Queue Entry is started (links with Job Queue via Job Queue Category)
- Excel Report is activated Auto Create or Auto Email (links via Job Queue Parameter String).
- Email received or created Excel file in folder of Navision Server.

Hope you enjoy!

This is last page.

Thank you!