# Version Manager



User Guide

VM1.09

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http://versionmanager.dk

Problem
Version Manager
Versions 5
Warning 6
Dynamics NAV 2013 R2 8
Installation
Prerequisites
Installation12
Backup/Restore of Version Manager
User Guide
Version Manager
Testing Version Manager
Build Management
Object Management
Versions per Database
Reports

# Problem

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How is it possible to register changes made to the business logic or table structure in a Dynamics NAV installation?

The simple truth is that it is not.

During an installation phase, many different parties are involved in implementing a new Dynamics NAV solution:

- The NAV Partner, who will often have the main responsibility
  - ISV's delivering solutions for:
    - o EDI
    - o Payment Management
    - o Shop Floor Control
    - Capacity planning
    - Barcode scanners at the Warehouse
  - Super Users making simple changes to pages and RoleCenters
- Hosting partners maintaining the solution

A backup made every night will solve the problem of recreating the original source code if an implemented build proves to be faulty and needs to be rolled back, but this will only work if there are no structural changed made to the database structure (new or changed fields or new tables). And furthermore, it does not give the answer to: who-did-what-when.

# Version Manager

Version Manager is the solution to monitor changes in the objects on a Dynamics NAV database.



**Version Manager** records all changes made to any object in a Microsoft Dynamics NAV database. It provides functionality for:

- Object history
- Object backup
- Object restore
- Object compare
- Export earlier versions of objects to a text file
- Managing builds and making object roll-out and roll-back packages

This means that Version Manager can be used to monitor changes made to Dynamics NAV databases and alert the IT manager or the auditors if changes have been made.

Version Manager can be installed, either in each database or in a central database monitoring many databases.

Version Manager can also be used as a repository for changes in a development database which then can be used to deploy builds to one or more testing and live databases.

After installing Version Manager, it will monitor:

- Objects that have been inserted
- Objects that have been modified
- Objects that have been deleted
- Objects that have been overwritten

Not only that, Version Manager will save a copy of the modified object along with information about:

- Version No
- Blob Size
- Date
- Time
- Version List
- The User who performed the change
- A user defined text to explain the change

#### Later it is possible to:

- 1) Export previous versions of the object to a text file
- 2) Compare two selected versions
- 3) Restore the old version of the object in the database
- 4) Include the object in a build
- 5) Compare objects in different databases
- 6) Compare versions in different databases

Version Manager comes in four versions:

- 1) Freeware that will give opportunity to test Version Manager for 3 months. The Freeware version only supports one installed object database.
- 2) Object Backup edition for end user companies
- Customer edition provides the full Version Manager functionality for up to five databases for End-User companies
   Demands an Application builder or Solution Developer license
- 4) Partner Edition provides full Version Manager functionality for partners and ISV's Demands Developers license for unlimited amount of databases

Version Manager can be installed in different configurations:

- All in one database
- Version Manager in one database and the object database in another. All databases must reside on the same SQL server.
- Version Manager in one database on a separate server and the object database in other servers.

## Versions

Object Backup:	Makes backup of ALL changes to any business logic or database structure
Version Manager	Object backup for 5 databases
for customers:	Object restore
	Object Compare
NAV Partners:	Same as above but with unlimited number of databases plus
	Build management

# Warning

Restoring objects in a database can seriously damage the database and leave the system inoperable. It is therefore recommended that the users performing the object roll-back or the build roll-out and roll-back are trained in handling objects.

The biggest danger in rolling out or rolling back objects is if the new objects contain structural changes to the database. Structural changes can be added or removed tables or fields in existing tables. But also removed functions can provide a problem to the future operation of the database.

Rolling out and rolling back objects are handled differently in the versions before and after 2013 R2. An object that is rolled back in e.g. Dynamics NAV 2013 will normally be added to the database as an uncompiled object. However, in previous this could also cause the database to loose the synchronization with the SQL database.

An	example could	be the Rental	Header table	consisting o	of two fields:

🏄 Edit - R	tental Hea	der	
- <u>/1</u> -	Home	Actions	CRONU 🔞
Rental H	Header 🝷		
Type to filt	er (F3)	Code	• > 📀
Code	De	scription	
TEST	Te	st Descriptior	1
TEST2	Те	st2 Descriptio	n

Restoring a table without the Description field will result in the following warning and subsequently an inconsistent database.

The Rental Header table will appear ok:

🏄 Edit - F	रental H	eader	_ 🗆 🗙		
	Home	Actions	C 🔞		
Rental Header $\bullet$ Type to filt Code $\bullet \rightarrow \bigcirc$					
Type to fil	t Cod	le 🔹 🗦	$\odot$		
Code					
TEST					
TEST2	2				



However, the underlying data will not change and the data will remain in the deleted field in the database invisible to Dynamics NAV.

Therefore, this functionality has been disabled and instead an error message will appear:



In any way, it is imperative that no roll-backs or roll-outs are performed in any versions before or after Dynamics NAV 2013 R2 without knowing the exact consequences of the actions.

In the versions later than 2013 R2 these situations are handled. However, the consequences with the data loss are the same. The same example in a Dynamics NAV 2016 database:



The difference is that compiling the object the following options appear:



Continuing with the "Now – with validation" option will give the following error message:



The Synchronize Schema options are:

"Now – with validation":	The compilation will check for incompatible structural changes and if it is not possible to implement the object, an error message appear
Later:	Will leave the objects "as is" but uncompiled and therefore inoperable. To be used, the object must first be compiled successfully with either the "Now – with validation" or with the Force option.
Force:	The new structure will be implemented and any data that are not in the new table structure will be lost.

In any case the synchronization between the Dynamics NAV database and the SQL server remain intact.

#### Dynamics NAV 2013 R2

Dynamics NAV 2013 R2 can perform the same synchronization as described above, but it must be performed manually in PowerShell.

First Start the Microsoft Dynamics NAV 2013 R2 Administration Shell as administrator:

📙 Adobe Reader X	A
👩 Default Programs	
<i> [[</i> ] Internet Explorer (	64-bit)
<i>e</i> Internet Explorer	
🎁 Microsoft Dynami	ics NAV 2013 R2 Admi adm
Microsoft Dynami	ics NAV 2013 R2
Microsoft Dy	Oner Dec
Microsoft Dy	Open
Microsoft D	Run as administrator
Microsoft O	Open file location
🔜 Report Playe	Pin to Taskbar
Vindows M	Pin to Start Menu
🖉 Windows Up	
XPS Viewer	Restore previous versions
	Sunday
Administrati	Sena to
let Express 2	Cut
Maintenanci	Copy
Microsoft Iv	p,
Microsoft Of	Delete
in increased of	Rename
4 Back	
	Properties
Search programs a	nd files 🔎 Log

#### Then run the following command in the administration shell:

This example synchronizes a tenant, '*Tenant1*', with the application that is mounted against the specified Microsoft Dynamics NAV Server instance.

# Windows PowerShell

PS C:\> Sync-NAVTenant -ServerInstance DynamicsNAV71 -Tenant 'Tenant1'

#### The parameters are almost like described above, but not quite:

#### -Force

Forces the command to run without asking for user confirmation.

Aliases	none
Required?	false
Position?	named
Default Value	none
Accept Pipeline Input?	false

#### -ServerInstance<String>

Specifies the Microsoft Dynamics NAV Server instance that the application database and the tenant database are mounted against, such as DynamicsNAV71. You can specify either the fully qualified name, such as 'MyServer\$DynamicsNAV71', or the short name, such as 'DynamicsNAV71'.

Aliases	none
Required?	true
Position?	1
Default Value	none
Accept Pipeline Input?	True (ByValue, ByPropertyName)
Accept Wildcard Characters?	false

#### -Tenant<TenantId>

Specifies the ID of the tenant that you want to synchronize with the application, such as Tenant1. The tenant will be synchronized with the Microsoft Dynamics NAV application that is mounted against the same Microsoft Dynamics NAV Server instance.

This parameter is required unless the specified service instance is not configured to run multiple tenants.

Aliases	Id
Required?	false
Position?	named
Default Value	none
Accept Pipeline Input?	True (ByPropertyName)
Accept Wildcard Characters?	false

#### <CommonParameters>

This cmdlet supports the common parameters: -Verbose, -Debug, -ErrorAction, -ErrorVariable, -OutBuffer, and -OutVariable. For more information, see about\_CommonParameters.

💷 Administrator	r: Microsoft Dynamics NAV 2013 R2 Administration Shell	
Cmdlet Cmdlet	New-NAUServerUser New-NAUServerUserPermissionSet New-NAUWebServerInstance New-NAUWebService Remove-NAUApplication Remove-NAUServerInstance Remove-NAUServerInstance Remove-NAUServerPermission Remove-NAUServerPermissionSet Remove-NAUServerUser Remove-NAUServerUser Remove-NAUServerUserPermissionSet Remove-NAUServerUser Remove-NAUServerUserPermissionSet Remove-NAUServerUserPermissionSet Set-NAUServerInstance Set-NAUServerInstance Set-NAUServerPermissionSet Set-NAUServerPermissionSet Set-NAUServerPermissionSet Set-NAUServerPermissionSet Set-NAUServerUser Sync-NAUTenant	Microsoft Microsoft
PS C:∖Windou PS C:∖Windou	ws\system32> Sync-NAUTenant -ServerInstance ws\system32> _	DynamicsNAU71

The Synchronization must be run for each tenant.

#### Installation

Please refer to the Installation guide for more detailed instructions.

#### Prerequisites

Version Manager can work with versions from Dynamics NAV 2015 and forward.

SQL server 2008 and forward.

The User running the Dynamics NAV service must be Local Administrator on the NAV server and Setup Admin on the SQL Server during installation.

If the full functionality is implemented, a compare program must be installed on all clients that need to access the objects.

Dynamics NAV Development Environment must be installed

User must have access to the Development Environment. The user running the Version Manager must be a domain user and all servers must be on the same domain or must be a local user created with same credentials on each server. It is not possible to mix domain and local users.

#### Installation

# **Option 1**

Version Manager objects in the same database as the live / testing environment

Dynamics NAV/ Version Manager Dynamics NAV/ Version Manager Dynamics NAV/ Version Manager

# **Option 2**

Version Manager objects in a separate database All databases in the same server





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Backup

# **Option 3**

Version Manager objects in a separate database Object databases can be in the same server or in different servers



Dynamics NAV Dynamics NAV Dynamics NAV Dynamics NAV

#### **Object Installation**

Version Manager consists of one object package that must be imported:

		Import Wor	ksheet					X
Туре	No.	Name	New Object	New Obje	Existing	w	Action	
Table	86000	VM Object					Replace	~
Table	86001	VM Object Metadata					Replace	
Table	86002	VM Setup					Replace	
Table	86009	Version Manager					Replace	
Report	86009	Version Manager					Replace	
Codeunit	86000	VM Management					Replace	
Codeunit	86001	VM Installation					Replace	
Codeunit	86002	VM TestFileHandling					Replace	
XMLport	86009	Version Manager					Replace	
MenuSuite	1090	Dept - Company		×	~	•	Replace	
Page	86000	VM Objects					Replace	
Page	86001	VM Version History					Replace	
Page	86002	VM Setup					Replace	
Page	86009	Version Manager					Replace	
Query	86009	Version Manager					Replace	~

If the MenuSuite 1090 object is already modified then this must be skipped in the import, and the Version Manager Menu items must be manually installed:

		Dept - Company: Versi
		E- D Setup
		······ ··· ···························
		VM Objects
		The WM Builds
•	Version Manager Setup	= Page 6185473
•	Version Manager Objects	= Page 6185471
•	Version Manager Builds	= Page 6185475

When the objects have been installed, the RoleTailored Client must be restarted. The Version Manager functionality resides in the Departments menu:

Version Manager - Microsoft Dy			_		×	
G 🕞 🔻 🔚 🕨 Departments	▶ Version Manager ▶	Ø	Search (Ctrl+F3)			
-			CRON	NUS Inte	rnational	Ltd. 🕜
Departments Financial Management	Version Manager					
<ul> <li>Sales &amp; Marketing</li> <li>Purchase</li> </ul>	Choose by department					
Varehouse	Setup		Objects			
Manufacturing	or choose by category					
🚹 Home	Lists					
Job Queue	Tasks					
Intrastat						
Finance						
Analysis View						
Departments						

#### IT Manager Role Center

If desired, the IT Manager Role Center can be altered with an extra activities page:

- Page 6185477 VM Activities

This way the IT Manager will be able to monitor object changes in all databases constantly.

#### IT Manager Activities ~ Administration Edit Job Queue Entry Card 0 0 0 Edit User Setup Edit Migration Overview Job Queue Entries User Posting Today No. Series Period Period Version Manager Activities 8<sup>#</sup> ^ VM Setup 57 0 0 VM Builds Objects per Database Object Changes This Week Object Changes Object Changes This Month Versions per Database

#### Installing Version Manager

The setup page for Version Manager is the place to start. First time the Setup page is opened, the following message appears:



This is an image used by Version Manager and the Setup will try to download it from the homepage. If there are no access to Internet, it is possible to install the image manually later. The downloaded image is situated in the bottom of the Setup page and looks like this:



Besides that, all scripts necessary to run Version Manager are downloaded and installed in the database. This is to ensure that Version Manager run on the latest versions.

#### The Setup Page

The Setup page is divided into two parts: The Version Manager installation and the object databases.

The Version Manager installation consists of these fields:

🚮 Edit - VM Setup				- 🗆	×
HOME ACTIONS					?
View Cedit New New Celete Manage	ersion Uninstall Version ger Manager All Objects Process	Version Manager Support	neNote otes ks → Go to Attached Pag	<ul> <li>Previous</li> <li>Next</li> </ul>	
VM Setup					
General					^
Path to Compare program: Program Parameters: Path for Development Env: Expiry Date: SQL Server VM	C:\Program Files\Beyond Compare 4\BC %1 %2 C:\Program Files (x86)\Microsoft Dynami 31-12-2017	License Type: License No: VM Version: VM Script Version: Installation Verified:	Partner Edition 6417497 1.08 1.03		~
SQL Server User ID:		SQL Server Password: Windows Authentication:			
Version Manager Databas	e				^
SQL Server Name: SQL Instance Name: VM Database Name:	DESKTOP-IBG0PQH Demo Database NAV (9-0) W1 ~	VM Database Collation: VM Database Version:	Latin1_General_100_CS_A	S	

On initialization, the field: **Program Parameters** will be automatically filled. It will also try to find the Development Environment automatically. The field Path to Compare program must be filled manually.

Version Manager have been tested with the compare tools: **Beyond Compare, Ultra Compare** and WinMerge, but any compare tool will do as long as they accept the comparing files as parameters. If the parameters differ from the format **Beyond Compare** and **Ultra Compare** uses, the parameters can be altered manually in the field **Program Parameters**.

If that fails, the path to the Development Environment must be manually entered.

Demo Expiry Date:	If the License type has been identified as Freeware, a Demo Expiry Date will be
	calculated.

**License Type:** There are four different license types:

- o Freeware
- o Object Backup
- $\circ \quad \text{Customer Edition} \quad$
- o Partner Edition

The License type will be recalculated every time the setup page is started.

VM Version:	The current version of the objects will appear here. It is recalculated every time the setup page is started.
VM Script Version:	The current version of the SQL scripts downloaded.
License No.	The Dynamics NAV License No registered with the database.
Installation Verified:	Indicates that the functionality has been installed and is ready to use for the Version Manager database.
SQL Server User ID:	The user id used for accessing the SQL server, if not using Windows Authentication.
SQL Server Password:	The password to access the SQL server
Windows Authentication:	If this field is marked, the user installing Version Manager must have access to the SQL server.
Server Name:	SQL server name
Instance:	SQL server instance

Version Manager Database: The database where the object backups will be stored.

The **Database Collation** and **Database Version** fields are filled automatically, and will ensure that if the databases have different collations, it will still be possible to install.

#### Object Databases:

Object Databases										* *
🗍 Insert Server Name 🏼 🐤 Install Object	t Database	🍾 Uninstall Object Datab	ase 🛛 😋 Sync	hronize All O	bjects	× Delete	e Old Ver	sion Hist	ory	»
Server Name Server Instance	🔔 Dat	abase Name	Database Version	Install	Versi Man	Inst Verif	Obj Are	Dev Data	Loc for	
DESKTOP-IBG0PQH	Den	no Database NAV (9-0) W1	2016		$\checkmark$	$\checkmark$	$\square$			
DESKTOP-IBG0PQH	Den	no Database NAV (9-0) W1 D	EV 2016	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$			
DESKTOP-IBG0PQH	Den	no Database NAV (9-0) W1 TI	E 2016	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$			
Server Name:	SQL se	erver name								
Server Instance:	SQL server instance									
Object Database Name:	The database containing the objects that must be backed up.									
Install:	On/Off switch for installing the database									
Version Manager Active:	Indicates that Version manager is installed and active for this database.									
Installation Verified:	Indicates that the functionality has been installed and is ready to use for the Object database: It is only running if the field: <b>Version Manager Active</b> is marked.							or the is		
Object are Synchronized:	The objects in the Version Manager database are in Sync with the object database.								ct	

Development Database:	If the field is marked, changes to the object will only be stored if the object is
	NOT locked. This is to prevent cascades of object changes during the
	development phase. The object will be stored as soon as it is unlocked.
Locked for Changes:	If the field is marked it is not possible to apply any changes to any objects in the database.

🚮 Edit - VM Setup	– 🗆 X
- HOME ACTIONS	CRONUS Danmark A/S 🕜
View View New View New Manage Manager Manager Process New	<ul> <li>Refresh</li> <li>Previous</li> <li>Clear Filter</li> <li>Next</li> <li>→ Go to</li> <li>Page</li> </ul>
VM Setup	
General	^ ^
Path to Compare program:       Files\Beyond Compare 4\BCompare.exel       License Type:       Custome         Program Parameters:       %1 %2       License No:       Image: Compare 4\BCompare.exel       Image: Custome         Path for Development Env:       C:\Program Files (x86)\Microsoft Dyna       VM Version:       1.00         Expiry Date:       02-01-2017       Installation Verified:       Image: Custome	Edition ~
SQL Server VM	^
SQL Server User ID: SQL Server Password: Windows Authentication:	
Version Manager Database	~
SQL Server Name:     DESKTOP-2AFPBLN     VM Database Collation:     Danish_C       SQL Instance Name:     VM Database Version:     2016       VM Database Name:     Demo Database NAV (9-0) VM Dev     ~	reenlandic_100_CS_AS
Object Databases	~
📙 Insert Server Name 🏼 🍤 Install Object Database 🏾 🇞 Uninstall Object Database 🛛 🥵 Synchronize All Objects 🗙 De	lete Old Version History »
Server Name 🔔 Server Instance 🔔 Database Name 🚔 Database Install Versi Inst Version Man Ver	Obj Dev ^
DESKTOP-2AFPBLN Demo Database NAV (9-0)	
DESKTOP-2AFPBLN Demo Database NAV (9-0) DEV 2016	
DESKTUP-ZAFPBLN Demo Database NAV (9-0) TEST 2016 M M M	ОК

#### This is an example of a setup:

#### The Ribbon

HOME       ACTIONS       CRONUS Danmark A/S         CRONUS Danmark A/S       CRONUS Danmark A/S         Install Version       Uninstall Version       Synchronize       Delete Old       Version         Manager       Manager       All Objects       Version History       Manager       Clear Filter       Next	🚮 Edit - VM Setup								- 0	×
View       View	- HOME	ACTIONS						CRC	NUS Danma	rk A/S 🕜
	View Cedit	S Install Version Manager	Uninstall Version Manager	Synchronize All Objects	Delete Old Version History	Version Manager Support	影!: OneNote <mark></mark> Notes []] Links	Clear Filter → Go to	<ul><li>Previous</li><li>Next</li></ul>	

In the ribbon, there are a number of actions:

Install Version Manager:	Installs the functionality necessary to run Version Manager.
Uninstall Version Manager:	Uninstalls the functionality necessary to run Version Manager, but leaves the data untouched.
Synchronize All Objects:	Creates a new base version of all objects in the database.
Delete History:	Deletes the history, but leaves the base versions untouched.
Enable Object Backup:	Start making backup of the changes made to the objects all the Object Databases. The object backup can only be started if the installation has been verified. The Action is hidden by default but can be retrieved by customizing the page.
Disable Object Backup:	Stop making backup of the changes made to the objects all the Object Databases. This can be turned on and off as often as necessary, it will just pick up where it left when restarted. However, changes made objects to objects in the disabled period will not be made. The Action is hidden by default but can be retrieved by customizing the page.
Version Manager Support:	Opens a new window with the Version Manager support system. If any issues occur, it will be possible to raise a ticket here. For users of the Freeware version it is possible to login with user id: Freeware and password Freeware123. Registered users will get a login with the confirmation mail.

To install Version Manager, Click the Install Version Manager action and wait until the completion message:



Verify that the Installation Verified is marked:

VM Setup			
General			^
Path to Compare program: Program Parameters:	C:\Program Files\Beyond Compare 4\BCompare.exe	Path for Development Env: Demo Expiry Date: Installation Verified:	C:\Program Files (x86)\Microsoft Dynamics NAV\90\RoleTailored Cli

Next the objects must be synchronized. The object backup will be automatically activated.



There will be no indication of the Object Backup is running, other than the check mark in the setup page:

Object Databases	^
🗄 Insert Server Name 💙 Install Object Database 🏾 🍾 Uninstall Object Database 🦉 S	yncronize All Objects 🗙 Delete Old Version History 🛛 🔹
Server Name 🔔 Server Instance 🔔 Database Name Database Version	ase Install Versi Inst Obj Dev n Man Verif Are Data
DESKTOP-2AFPBLN Demo Database NAV (9-0)	
DESKTOP-2AFPBLN Demo Database NAV (9-0) DEV 2016	
DESKTOP-2AFPBLN Demo Database NAV (9-0) TEST 2016	

#### Install Version Manager Activities



The Version Manager Activities page (page 86006) can be added to the IT-Manager Role Center to create an instant overview of the changes made to the database in the recent period.

#### Backup/Restore of Version Manager

Version manager can be backed up and restore with the same procedure as recommended with the standard Dynamics NAV solution, since the solution is stored inside the Microsoft Dynamics NAV SQL database. When backup is performed on the Microsoft Dynamics NAV database, there is also made backup of the Version Manager add-on.

#### How Do I: Backup and Restore in a Multitenant Environment in Microsoft Dynamics NAV 2013 R2

On restoring the Version Manager database or any of the involved databases Version Manager must be uninstalled and installed and all databases must be synchronized again to ensure that all the Version Manager functionality is functioning and consistent. On uninstalling Version Manager, it is important to answer **No** when asked to **delete all data** as well.

# User Guide

#### Version Manager

When the object backup has been installed and activated there are no other actions regarding the objects. All handling of the objects and the object versions are performed in the **Version Manager Objects** page:



This page will always show the **active** version of the object including all the information from the object table in the object database at the time of the backup:

- Modified or not
- Compiled or not
- Blob Size
- Date and time
- Version list
- Locked and by who

It is possible to filter on all information in the page to determine, which changed have been made today and by who.

The fields on the Version Manager Object page are:

Туре:	Object Type
ID:	Object ID
Name:	Objects Name of the active object

Modified:	Shows if the active version is marked as modified
Compiled:	Shows if the active version is compiled
Blob Size (Hidden):	The size of the active object
Date:	The date registered on the active object
Time:	The time registered on the active object
Version List:	The version list of the active object
Handle Date:	Shows the date the active version was handled
Handle Time:	Shows the time the active version was handled

#### Testing Version Manager

Whenever a change is made to an object, the change is transferred to the Version Manager database and the active version is switched to the new version.

Let us delete a field in the customer card:

le Edit View Tools Winds	Iow Help	Object E Modifie	Designer Version List NAVW 18.00 NAVW 18.00.00.39368 NAVW 16.00.039368 NAVW 16.00.039368 NAVW 15.00.039368 NAVW 18.00.00.39368 NAVW 18.00.039368 NAVW 18.00.01	Date 09-09-14 8 07-01-15 8 07-01-15 8 07-01-15 8 07-01-15 8 07-01-15 8 07-01-15	Time 12:00:00 12:00:00 12:00:00 12:00:00 12:00:00 12:00:00	Compiled Loc	ked Locked By		
A Table Type II Page Manual And	ID     Name     Customer Card     Customer Card     Customer Ledger Entries     Customer Ledger Entries     Customer Ledger Entries     Customer Ledger Entries     So Vendor Card     Z7 Vendor Ledger Entries     S0 Vendor Ledger Entries     S0 Vendor Ledger Entries     S0 Item Card     S1 Item Ledge     S1 Item Ledge     S1 Item Translations     S6 Assembly BOM     S7 Where-Used List	Object E Modifie	Designer           Id         Version List           NAWV 18.00         NAWV 18.00.00.39368           NAWV 18.00.00.39368         NAWV 18.00.00.39368	Date 09-09-14 8 07-01-15 8 07-01-15 14-08-09 09-09-14 8 07-01-15 8 07-01-15	Time 12:00:00 12:00:00 12:00:00 12:00:00 12:00:00 12:00:00	Compiled Loc v v v v	ked Locked By		
A Table Type II Table Type II Page A Contact South Contact Menugute Contact A Contact South Contact Sout	Name     20 General Ledger Entries     21 Customer Ledger Entries     21 Customer Ledger Entries     22 Customer Ledger Entries     25 Customer Ledger Entries     26 Vendor Card     27 Vendor List     28 Vendor Ledger Entries     30 Item Card     31 Item List     35 Item Translations     36 Assembly DOM     37 Where-Used List	Object E Modifie	Designer           ed         Version List           NAWV18.00,00.39366           NAWV18.00,00.39366           NAWV18.00,00.39366           NAWV16.00,01           NAWV18.00,00.39366           NAWV18.00,00.39366           NAWV18.00,00.39366           NAWV18.00,00.39366           NAWV18.00,00.39366	Date 09-09-14 8 07-01-15 8 07-01-15 14-08-09 09-09-14 8 07-01-15 8 07-01-15	Time 12:00:00 12:00:00 12:00:00 12:00:00 12:00:00 12:00:00	Compiled Loc V V V V	ked Locked By		
a) Type II Page > 00 Page > 00	ID Name 20 General Ledger Entries 21 Customer Card 22 Customer List 23 Cust. Invoice Discounts 25 Customer Ledger Entries 26 Vendor Card 27 Vendor List 28 Vend. Invoice Discounts 29 Vendor Ledger Entries 30 Item Card 31 Item List 35 Item Translations 36 Assembly DOM 37 Where-Used List	Object E Modifie	Version List           NAVW18.00           NAWW18.00.00.39368           NAWW18.00.00.39368           NAWW18.00.00.39368           NAWW18.00.00.39368           NAWW18.00.00.39368           NAWW18.00.00.39368           NAWW18.00.00.39368           NAWW18.00.00.39368           NAWW18.00.00.39368	Date 09-09-14 8 07-01-15 14-08-09 09-09-14 8 07-01-15 9 02-01-15	Time 12:00:00 12:00:00 12:00:00 12:00:00 12:00:00 12:00:00	Compiled Loc	ked Locked By		
Table Type II Type II Page Report So Query Merugute Al Type II Type III Type II Type III Ty	D Name 20 General Ledger Entries 21 Customer Card 22 Customer List 23 Customer Ledger Entries 26 Vendor Card 27 Vendor Ledger Entries 28 Vend. Trwoice Discounts 29 Vendor Ledger Entries 30 Item Card 31 Item List 35 Item Translations 36 Assembly DOM 37 Where-Used List	Modifie	ed Version List NAVW 18.00 NAWW 18.00.00.39368 NAVW 18.00.00.39368 NAVW 18.00 NAWW 18.00 NAWW 18.00 NAWW 18.00.00.39368 NAWW 18.00.01	Date 09-09-14 8 07-01-15 8 07-01-15 14-08-09 09-09-14 8 07-01-15 8 07-01-15	Time 12:00:00 12:00:00 12:00:00 12:00:00 12:00:00 12:00:00	Compiled Loc v v v v v v v	ked Locked By		
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Page         ▶         □           IP Report         □         □           IP Codeunit         □         □           IP Query         □         □           IP MenuSuite         □         □           Al         □         □           □         □         □           □         □         □           □         □         □           □         □         □           □         □         □           □         □         □           □         □         □           □         □         □           □         □         □           □         □         □           □         □         □           □         □         □           □         □         □           □         □         □           □         □         □           □         □         □           □         □         □	21 Customer Card 22 Customer List 23 Customer List 25 Customer Ledger Entries 26 Vendor Card 27 Vendor List 28 Vend. Trwoice Discounts 29 Vendor Ledger Entries 30 Item Card 31 Item List 35 Item Translations 36 Assembly DOM 37 Where-Used List		NAVW 18.00.00.39368 NAVW 18.00.00.39368 NAVW 16.00.01 NAVW 18.00 NAVW 18.00.00.39368 NAVW 18.00.00.39368 NAVW 18.00.00.39368	8 07-01-15 8 07-01-15 14-08-09 09-09-14 8 07-01-15 9 07-01-15	12:00:00 12:00:00 12:00:00 12:00:00 12:00:00	> > > >			
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Source         III           Muport         III           Sh. MenuSuite         III           Al         III           III         III           IIII         IIII           IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	26 Vendor Card 27 Vendor List 28 Vend. Invoice Discounts 29 Vendor Ledger Entries 30 Item Card 31 Item Jart 35 Item Translations 36 Assembly BOM 37 Where-Used List		NAVW 18.00.00.39368 NAVW 18.00.00.39368 NAVW 16.00.01	8 07-01-15	12:00:00				
Al Control Con	27 Vendor List 28 Vend. Invoice Discounts 29 Vendor Ledger Entries 30 Item Card 31 Item List 35 Item Translations 36 Assembly DOM 37 Where-Used List		NAVW 18.00.00.39368 NAVW 16.00.01	9 07-01-15		~			
	28 Vend. Invoice Discounts 29 Vendor Ledger Entries 30 Item Card 31 Item List 35 Item Translations 36 Assembly BOM 37 Where-Used List		NAVW16.00.01	07-01-15	12:00:00	~			
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	35 Item Translations 36 Assembly BOM 37 Where-Used List		NAVW 18.00.00.39368	8 07-01-15	12:00:00	•			
	36 Assembly BOM 37 Where-Used List		Pa	age 21 Customer (	Card - Pag	je Designe	r		
	37 Where-Used List		-		-	_			
	57 Milere Obed Elot	EType	Su	ublype	Sour	ceExpr	Name	Caption	
	38 Item Ledger Entries		er C	LontentArea			<control190000< td=""><td><control1900< td=""><td>&gt; &gt; &gt;</td></control1900<></td></control190000<>	<control1900< td=""><td>&gt; &gt; &gt;</td></control1900<>	> > > > > > > > > > > > > > > > > > > >
	39 General Journal	Group	6	aroup	No		<control1></control1>	General	
	40 Item Journal	Field			Nam	-	<name></name>	<name></name>	
	41 Sales Quote	Field			Add	necc		<address></address>	
	42 Sales Order	Ciold			"Add	tress 2"	<address 2=""></address>	<address 2<="" td=""><td>&gt;</td></address>	>
	43 Sales Invoice	Сору			"Pos	t Code"	<post code=""></post>	<post code<="" td=""><td>&gt;</td></post>	>
	44 Sales Credit Memo	Paste			City		<city></city>	<city></city>	
	45 Sales List	Class			"Cou	untry/Region	<country regi<="" td=""><td><country r<="" td=""><td>egion Code&gt;</td></country></td></country>	<country r<="" td=""><td>egion Code&gt;</td></country>	egion Code>
		Clear			"Pho	ne No."	<phone no.=""></phone>	<phone no.<="" td=""><td>&gt; ~</td></phone>	> ~
		Copy Pr	revious						>
		New						Dan dan	
		Delete					<b>+ + +</b>	Preview	Help
		Hide Co	lumn						
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		Go T- D	ofinition						
		00101	ennuon						
		Control	Actions						
		C/AL Co	ode						
		Properti	es						

Save the object. The object is now registered as modified in the Object table of the Object Database:

 ]					Objec	t Des	igner					
E Table		Туре	ID	Name	Мо	dified	Version List	Date	Time	Compiled	Locked	Locked By
		==	20	) General Ledger Entries			NAVW 18.00	09-09-14	12:00:00	~		
📰 Page 👘 👘	•	=	21	L Customer Card		¥	NAVW18.00.00.39368	18-10-15	13:54:02	~		
- Report		=	22	2 Customer List			NAVW 18.00.00.39368	07-01-15	12:00:00	~		
- Report		=	23	3 Cust. Invoice Discounts			NAVW16.00.01	14-08-09	12:00:00	~		
😽 <u>C</u> odeunit		=	25	5 Customer Ledger Entries			NAVW 18.00	09-09-14	12:00:00	~		
		- m		in a second								

Oh Dear I forgot to add documentation to the object:

```
    Page 21 Customer Card - C/AL Editor

    Documentation()
    D.E.Veloper Biold.1.00 01-10-2015
    Removed "Address 2" Field
    OnInit()
```

Save and Exit.

Now I go to Version Manager and filter for all changes made today:

	HOME NAVIG	ATE													CRO	NUS Internati	ional
,	Version VH History Setup Process	Show as st Chart View	Notes Show A	Links	<b>C</b> Refresh	Clear Filter Page	9										
Þ	Departments Financial Management		Versio	n Man	ager O	bjects 🔹								18-10-15	Date	2	-   T
	<ul> <li>Sales &amp; Marketing</li> <li>Purchase</li> <li>Warehouse</li> </ul>		Туре		ID 🔺	Name		Mo	Со	BLOB Size	DBM Table No.	Date	Time	Version List	Loc	Locked By	
Þ	Manufacturing		Page		21	1 Customer C	ard	✓	-	51384	(	18-10-2015	13:56:45	NAVW18.00.00.39368			
	Jobs																
	Resource Planning																
Þ	Service																
	Human Resources																

This gives me one object, and if I click on the Version History, I get this:

VM Version History •								Type to filte	er (F3) Date		• •	~
										Filter: Pag	ge•"•21	
Version Change Type No	Date	Time	Version List	Developer Comment	Loc	Locked By	Changed By		Name	Mo	Co	
1 Base Version	07-01-2015	12:00:00	NAVW18.00.00.39368				NT AUTHORITY\NET\	/ÆRKSTJ	Customer Card		•	
3 Modify	18-10-2015	13:54:02	NAVW18.00.00.39368				HS2\Admin		Customer Card	-	•	
4 Modify	18-10-2015	13:56:45	NAVW18.00.00.39368	Build1.00			HS2\Admin		Customer Card	✓	•	

I can see my base version and all the versions after that. I have added a little comment showing why I made the change, and if I want to see the change, I have these possibilities:

Viewing	g the obj	ect vers	sion							
HOME	ACTIONS	2								
View Edit List List Manag	Delete Delete	pare Restore ects Object Proces	Export Object as Text	Show Show as as List Chart View	Notes Links	Refresh Clear Filter Page	Find			
VM Versio	on History 🔹									Type to filter (F3)
Version No	🔔 Change Type	Date	Time	Version List		Developer Co	omment	Loc	Locked By	Changed By
	1 Base Version	07-01-2015	12:00:00	NAVW18.00.00.3936	58					NT AUTHORITY\NE
	3 Modify	18-10-2015	13:54:02	NAVW18.00.00.3936	58					HS2\Admin
	4 Modify	18-10-2015	13:56:45	NAVW18.00.00.3936	58	Build1.00				HS2\Admin

Select only one version and click Compare Objects:

0	Page-21-4.txt - Text Compare - Beyond Compare	
Session File	Edit Search View Tools Help	
Home Sessi	ions ↓ ★ ≠ = Context Minor Rules Format Copy Edit Next Section Prev Section Swap Reload	
C:\ter	mp\Page-21-4.txt 🗸 🗸 🗸 🗸 🗸 🗸 🗸 🗸 🗸	<b>&gt;</b> - 🗌
18-10	0-2015 14:09:57 32.327 bytes Everything Else 👻 ANSI 👻 PC	
¢	DBJECT Page 21 Customer Card-4 { OBJECT-PROPERTIES { Date=18-10-15; Time=13:56:45; Modified=Yes; Version List=NAVW18.00.00.39368; } PROPERTIES { CaptionML=ENU=Customer Card; SourceTable=Table18; PageType=Card; RefreshOnActivate=Yes; OnInit=BEGIM ContactEditable := TRUE; MapPointVisible := TRUE; EUD:	~
	OnOpenPage=VAR MapMgt@1000 : Codeunit 802; BEGIN ActivateFields; IF NOT MapMgt.TestSetup THEN MapPointVisible := FALSE; END;	
	OnAfterGetRecord=BEGIN ActivateFields; StyleTxt := SetStyle; END;	
	OnAfterGetCurrRecord=BEGIN ActivateFields; StyleTxt := SetStyle; END;	
-	Artionistrations	~
1:1	Udault text Carlot Carl	>

### Comparing object versions

•	HOME	ACTION	5														C
		$\mathbf{X}$	.0	7	a	Q				Ð	$\mathbb{Y}_{\mathbf{x}}$						
View List	Edit List	Delete	Compare Objects	Restore Object	Export Object as Text	Show as List	Show as Chart	Notes	Links	Refresh	Clear Filter	Find					
	Manage		_	Proce	SS	Vie	ew	Show A	ttached		Page						
VM V	/ersion	Histor	y -												Type to file	ter (F3)	Date
Ve	ersion 🔒	Change	Type Da	te	Time	Version	List	Deve	loper Co	mment		Loc	Locked By	Changed By		Name	
		D 1/		01.0015	12.00.00	ALAN DAVED									IFTU EDVCTI	<b>~</b> ·	C 1

No							
	1 Base Version	07-01-2015	12:00:00	NAVW18.00.00.39368		NT AUTHORITY\NETVÆRKSTJ	Customer Card
	3 Modify	18-10-2015	13:54:02	NAVW18.00.00.39368		HS2\Admin	Customer Card
$\rightarrow$	4 Modify	18-10-2015	13:56:45	NAVW18.00.00.39368	Build1.00	HS2\Admin	Customer Card

...and here are my changes:

0	Page-21-1.txt <> Page-21-4.txt	- Text Compare - Beyond Compare 📃 🗖 🗙
Session	File Edit Search View Tools Help	
🙆 Home	essions → ★ ≠ = All Diffs Same Context Minor Rules Format Copy Edit Next Section Prev Section Swap	C Reload
- C	\temp\Page-21-1.txt 🗸 📎 🗁 🔻	📃 C:\temp\Page-21-4.bxt 🗸 🖓 🍃 🖛 📃
1	8-10-2015 14:05:29 32:291 bytes Everything Else V ANSI V PC	18-10-2015 14:05:30 32.327 bytes Everything Else 💌 ANSI 💌 PC
-	DBJECT Page 21 Customer Card-1	A COBJECT Page 21 Customer Card-4
	OBJECT-PROPERTIES {	OBJECT-PROPERTIES
	<pre>Date=07-01-15; Time=12:00:00;</pre>	<pre>     Date=18-10-15;     Time=13:56:45;     Nodfied=Ves; </pre>
	Version List=NAVW18.00.00.39368;	Version List=NAVW18.00.00.39368;
	} PROPERTIES {	} PROPERTIES
	CaptionML=ENU=Customer Card; SourceTable=Table18;	CaptionML=ENU=Customer Card; SourceTable=Table18;
	Importance=Promoted; ShowMandatory=TRUE }	Importance=Promoted; ShowMandatory=TRUE }
	<pre>{ 6 ;2 ;Field ;     SourceExpr=Address }</pre>	{ 6 ;2 ;Field ; SourceExpr=Address }
	<pre>\$ { 8 ; 2 ;Field ;     SourceExpr="Address 2" } </pre>	
	{ 90 ;2 ;Field ; SourceExpr="Post Code"; Importance=Promoted }	<pre>{ 99 ;2 ;field ;; Fost Code"; Sourcespr="Post Code"; Importance=Promoted }</pre>
	{ 10 ;2 ;Field ;	{ 10 ;2 ;Field ;
Œ	SocialListeningMgt@1000 : Codeunit 871;	E SocialListeningMgt@1000 : Codeunit 871;
	BEGIN SocialListening%gt.GetCustFactboxVisibility(Rec,SocialListeningSetupVisible,SocialListeningVisi END;	BEGIN SocialListening%gt.GetCustFactboxVisibility(Rec,SocialListeningSetupVisible,SocialListeningVisib END;
	BEGIN	BEGIN
	•	<pre>     {         C.E.Veloper Biold.1.00 01-10-2015         Removed "Address 2" Field     } }</pre>
1:	1 Default text <	1:1 Default text <
4	DBJECT-Page-21-Customer-Card-1	
4	OBJECT-Page-21-Customer-Card-4	
- A -100	annes section (s) Investort Difference	· · · · · · · · · · · · · · · · · · ·
≠ 4 diff	erence section(s) important binerence insert Load time: 0,04 seconds	

This is Beyond Compare and I have asked it to show all differences – with context.

Export Object Versior
-----------------------

11		Edit - VM Version	History - Page · 21	
HOME     ACTIONS       Image     Image       View     Edit       Manage     Delete       View     Compare       Objects	Restore Object object as Text Process	was hart Notes Links Show Attached Refresh Clear Filter Page Save Object	ind	×
Version No Change Type Da Da 1 Base Version 07- 3 Modify 18- 4 Modify 18-	te Tir Organiser ▼ N 01-2015 12: 10-2015 13: 10-2015 13: C Dropbox C Dr	y mappe Navn Brackers Readme	Ændringsdato         Type           16-10-2015 22:09         Filmaj           24-09-2015 11:59         Teksto	ppe Jokur
	Filnavn: Filtype: Skjul mapper	v < <u>Page-21-4</u> Text Files (*.bxt)	Gem Annuller	× ×

Save it on the Desktop, and now it is ready to import in the customer database or other databases.

**Restore Object** 

<b>A</b> 11				Edit - VM Version History - Page · 21
HOME ACTIONS	$\frown$			
View Edit Delete List List Manage	ere Restore cts Object O Process	Export bject as Text	Show Show as as List Chart View	Notes Links Refresh Clear Find Filter Page
VM Version History	$\sim$			Microsoft Dynamics NAV
,				This will overwrite the object in the database:
Version Change Type No	Date	Time	Version List	Page 21 Customer Card y
1 Base Version	07-01-2015	12:00:00	NAVW18.00.00.393	Version No: 1
3 Modify	18-10-2015	13:54:02	NAVW18.00.00.393	Time: 12:00:00
4 Modify	18-10-2015	13:56:45	NAVW18.00.00.393	Changed By: NETVÆRKSTJENESTE
				The object will be replaced with:
				Version No: 3 Date: 18-10-15 Time: 13:54:02 Changed By: Admin
				Any changes made to the object between version 1 and version 3 will be rolled back.
				The object will be restored UNCOMPILED.
				Are you sure you want to continue?
				Yes No

This will replace the object in the Object database with the selected version. The active version in the Version Handler will be set to Version 3 in this case. All versions will be kept intact. If there are structural changes to the database, which will make it impossible to import the object, the restore process will fail. Structural changes could be fields or function that have been removed.

#### **Build Management**

The build management section gives the possibility to assemble objects in specific versions to a build.

The build can be Rolled-Out to different databases e.g. from the development database to one or more test servers or even to the live database.

A copy of the original object on the destination database will be saved for roll-back purposes.

The Build Management module is available for Customer Edition and partner editions.

The Build Management page consists of three sections:

- The Build list
- The Build Objects
- The Build Roll-Back objects

## The Build List FastTab:

🚮 Edit -	VM Buil	ds																					— C		×
- н	OME	ACTIONS																							?
New New	View List	Edit List Manage	Roll-Out Build	Roll-Back Objects	Lock Build	Re Open Build Process	Build Server	App rs Date	ly Vers and Ti	ion List, me to A	Shov as Lis	v Sh st C View	iow as Chart	One	Note N	Notes Attach	Links	Refrest	Clear Filter Page	Find					
Build	No	Comment Text			New	/ersion List		Replace ' List	Version	- A	New Objec Date	t !	New Obj Time	ect	Blank Mo	Resp	ponsible	Person		Ар	olying U	lser ID	Statu	15	^
B00122	2	Build to impleme	nt CR0002, (	CR0023 an	RN1.0	)	R	:N		C	01-01-2016	1	2:00:00			D.E.	Veloper						Open	n	
																									- 1
VM Build	d Objec	ts																							^
😓 Select	t Objects	🗋 New 🏙	Find Filt	er 🏾 🍢 Cle	ar Filter																				
Server	r Name	Server Inst	ance 🔺	Database N	lame		<b>^</b>	Object Type	*	Compa Name	any	*	Object No	<b>1</b>	Object	t Name	2	Version N	lo Old	Version	List	New Version List			

The FastTab consists of the following fields:

Build No:	Build No is automatically generated from the Build No. Series defined in the Version Manager Setup.
Comment Text:	Optional text to describe the build.
New Version List:	The New Version List to be assigned to the object. A number of additional functions to replace all or part of the version list. Please refer to the chapter "Additional Version List features".
Replace Version List:	The old version list that the new version list must search for in order to update the version list of the object after roll-out. E.g. here will the version list RN be replaced with RN1.00. If nothing is entered in the Replace Version List field, the new version list will be appended to the existing version list with a comma, like: NAVW17.00,RN1.00.
New Object Date:	Replaces the Object Date on the rolled-out objects. Here 01-01-2016.
New Object Time:	Replaces the Object Time on the rolled-out objects. Here 12:00.
Blank Modified:	Blanks the Modified fields on all rolled-out objects.
Responsible Person:	Optional field to show who is responsible for the build.
Applying User ID:	The user that actually applied the build.
Status:	The build can be in the following statuses:
	Open: It is possible to add or remove objects from the build.
	Locked: The build is locked for editing and the roll-back objects have been retrieved. This must happen just before the roll-out to prevent any changes in the objects between the time when the build is locked and the actual roll-out.
	Applied: The build has been rolled-out to the databases and the build is not editable.
	Rolled Back: the build was applied but has now been rolled back. Now the build is editable again.

#### Additional Version List features

It is possible to replace all or part of the version list to the rolled-out object by using ? (Question marks) or \* asterix in the Version List.

Using "\*" will replace the exact same part of the version list from the previous version, and "?" will replace the exact same part of the version list from the build version list.

Looking like this: Build version list from the development database New build version list Version List from the object in the destination database RNX\*???? = RNSE1.01

Other examples could look like this:

			^
ersion No	Old Version List	New Version List	
1	RNDK1.07	RN**????	
1	RNDK1.07	****?????	
1	RNDK1.07	RNDK????	
1	RNDK1.07	RN**1.09	
1	RNDK1.07	RNDK1.07	

It is possible to view the new version lists by clicking the "Apply version list"

	Time	Version List	New Version List
016	17:32:56	NAVSE9.001, RNSE1.01, NAVDK9.001	NAVSE9.001, RNSE1.07, NAVDK9.001
016	14:59:50	NAVDK9.001,RNSE1.01	NAVDK9.001,RNSE1.07
016	15:00:27	RNSE1.01, NAVDK9.001	RNDK1.07, NAVDK9.001
016	17:33:11	RNSE1.01	RNSE1.09
016	17:33:16	RNSE1.01	RNDK1.07
016	17:33:22	RNSE1.01	RNDK1.07
016	15:01:43	RNSE1.01	RNDK1.07
016	15:02:19	RNSE1.01	RNDK1.07
016	17:32:56	RNUS1.02	RNUS1.07
016	14:59:50	RNUS1.02	RNUS1.07
016	15:00:27	RNUS1.02	RNDK1.07
016	17:33:11	RNUS1.02	RNUS1.09
		the second second of the	and the Could have been a second s

#### The Version Manager Build Objects FastTab:

The Version Manager Build Objects FastTab holds all objects from one or more servers that must be rolledout to the receiving servers.

VM Build Objects					^
😓 Select Objects   🏾 New 🏦 Find 🛛 Filter 🍡	🔆 Clear Filter				
Server Name 🔔 Server Instance 🔔 Datat	base Name Object A Type	Company Object Object	Object Name Version No	Old Version List	New Version List
DESKTOP-IBG0PQH Demo	Database NAV (9-0) W1 DEV Table	68000 R	lental Header 2	RN	RN1.01
DESKTOP-IBG0PQH Demo	Database NAV (9-0) W1 DEV Table	68001 R	lental Line 2	RN	RN1.01
DESKTOP-IBG0PQH Demo	Database NAV (9-0) W1 DEV Table	68003 R	lental Entries 2	RN	RN1.01
DESKTOP-IBG0PQH Demo	Database NAV (9-0) W1 DEV Report	68000 R	lental Order 2	RN	RN1.01
DESKTOP-IBG0PQH Demo	Database NAV (9-0) W1 DEV Report	68001 R	lental Invoice 2	RN	RN1.01
DESKTOP-IBG0PQH Demo	Database NAV (9-0) W1 DEV Page	68000 R	lental Order 2	RN	RN1.01
DESKTOP-IBG0PQH Demo	Database NAV (9-0) W1 DEV Page	68001 R	lental Lines 2	RN	RN1.01
DESKTOP-IBG0PQH Demo	Database NAV (9-0) W1 DEV Page	68003 R	lental Entries 2	RN	RN1.01

In order to pick the objects to be included in the build the **Select Objects** action can be used:

VM Build Poll Back Objects					•
VIVI Bullu Koll Back Objects					
🏙 Find 🛛 Filter 🗽 Clear Filter					
Server Name 🔔 Server Instance 🦼	Database Name 🔔 Type 🚊	ID 🔔 Name	Mo Co Date	Time Version List	New Version List
DESKTOP-IBG0PQH	Demo Database NAV (9-0) W1 TE Table	68000 Rental Header		RNUS1.08	RN1.01
DESKTOP-IBG0PQH	Demo Database NAV (9-0) W1 TE Table	68001 Rental Line		RNUS1.08	RN1.01
DESKTOP-IBG0PQH	Demo Database NAV (9-0) W1 TE Table	68003 Rental Entries		RNUS1.08	RN1.01
DESKTOP-IBG0PQH	Demo Database NAV (9-0) W1 TE Report	68000 Rental Order		RNUS1.08	RN1.01
DESKTOP-IBG0PQH	Demo Database NAV (9-0) W1 TE Report	68001 Rental Invoice		RNUS1.08	RN1.01
DESKTOP-IBG0PQH	Demo Database NAV (9-0) W1 TE Page	68000 Rental Order		RNUS1.08	RN1.01
DESKTOP-IBG0PQH	Demo Database NAV (9-0) W1 TE Page	68001 Rental Lines		RNUS1.08	RN1.01
DESKTOP-IBG0PQH	Demo Database NAV (9-0) W1 TE Page	68003 Rental Entries		RNUS1.08	RN1.01

Here it is possible to filter all objects in Version Manager. In this case the Demo Database NAV (8-0) Rental database has been selected, **Version No** 0 and the \*RN\* **Version List**. Clicking Ok will import the objects into the build objects FastTab and update the Version List, the Date and the Time. This can be updated later as well if anything has changed.

Server Name:	SQL server name
Server Instance:	SQL server instance
Object Database Name:	The database containing the objects that must be backed up.
Object Type:	Object Type
<b>Object Company:</b>	Object Company
Object ID:	Object ID
Object Name:	Objects Name of the active object
Version No:	Shown the Version No that will be rolled-out to the destination server. The Version No will be populated from the active version. If another version is wanted, the field is editable and another version can be chosen.
Old Version List:	The objects old version list.
New Version List:	The new version list for the rolled-out object. This field is editable and can be manually altered.

Version Manager Build Roll-Back Objects FastTab:

The fields of the Version Manager Build Objects FastTab are:

VM Build Roll Ba	ck Objects									^
Find Filter	🖳 Clear Filter									
Server Name	▲ Server Instance ▲	Database Name	🔔 Туре	Company Name	ID 🔔 Name	Mo	Со	BLOB Size Date	Time	Version

The Version Manager Build Roll-Back Objects FastTab will be automatically populated when the build is locked. All objects from all servers will be copied into this FastTab. If nothing appears in the FastTab on locking the build, it is because the objects did not exist in the destination database already.

The fields on the Version Manager Object page are:

Server Name:	SQL server name
Server Instance:	SQL server instance
Database Name:	The database containing the objects that must be backed up.
Туре:	Object Type
Company Name (Hidden):	Company Name
ID:	Object ID
Name:	Objects Name of the active object
Modified:	Shows if the active version is marked as modified
Compiled:	Shows if the active version is compiled

Blob Size (Hidden):	The size of the active object
Date:	The date registered on the active object
Time:	The time registered on the active object
Version List:	The version list of the active object
Handle Date:	Shows the date the active version was handled
Handle Time:	Shows the time the active version was handled

#### Version Manager Build Actions:

The actions on the Version Manager Build page are:

Roll-Out Build:	Rolls out a build. The build must be in status <b>Locked</b> or in status <b>Rolled Back</b> .
Roll-Back Build:	Rolls back a build. The build must be in status <b>Applied</b> to be rolled back.
Lock Build:	locks the build for editing and the roll-back objects will be retrieved. This must happen just before the roll-out to prevent any changes in the objects between the time when the build is locked and the actual roll-out. The build must be in status Open or Rolled-Back in order to lock.
Re-Open Build:	Re-Opens a build. The build must be in status <b>Locked</b> or <b>Rolled-Back</b> to be able to reopen it. All Roll-Back objects will be removed from the build.
Build Servers:	Here all the receiving databases must be selected. There must be at least one database selected in the Build servers.
Apply Version List,	
Date and Time to All:	Applies the Version List, Date and Time from the build to the Build Objects.

#### Example

An example of a build could be this:

The Rental Solution developed in the **Demo Database NAV (8-0) Rental** database must be rolled out to the **Demo Database NAV (8-0) Obj** database. The objects must be given a new Version List and Date and Time must be reset. Also the Modified flag must be blanked.

First a new build is created:

📊 Edit	t - VM	Build	s																			-		×
-	номе	E	ACTIONS																					0
×ъ				×		X	A	Ś			١. م		N				ß	$\mathbb{Y}_{\mathbf{X}}$	<u>i</u>					
New	V	'iew List	Edit E List	Delete	Roll-Out Build	Roll-Back Objects	Lock Build	Re Open Build	Build Servers	Apply Version Li Date and Time to	st, Show All as List	Show as Chart	Onel	Vote I	Notes	Links	Refresh	Clear Filter	Find					
New			Manage					Process				View		Show	Attache	ed		Page						
VM B	Build	s •																Тур	e to filte	r (F3)	Build No		-   ->	× ^
																						No filters	applied	
Buil	ld No		Comment	t Text			New \	/ersion List	Re	place Version List	New Object Date	New Ob Time	ject	Blank Mo	Resp	onsible l	erson		Apply	ying Use	er ID	:	Status	
B001	122		Build to im	plement	CR0002, C	R0023 an	RN1.00	)	RN		01-01-2016	12:00:00		$\checkmark$	D.E. V	/eloper						(	)pen	
B001	122		Build to im	nplement	CR0002, C	R0023 an	RN1.00	)	RN		01-01-2016	12:00:00			D.E. V	/eloper						C	)pen	

Then the objects are selected from the **Demo Database NAV (8-0) Rental**.

VM Build Objects	5									^
😓 Select Objects	🛅 New 🏙 Find	Filter 🛛 🏹 Clear Filter								
Server Name	Server Instance	Database Name	_ Object _	Company Name	*	Object Object Name	Version No	Old Version List	New Version List	

Select Objects will show all objects in the database and it is possible to filter to only show the relevant objects:

VM Version History						_		×
HOME ACTIONS								?
Compare Export Objects Object as Text Process View View Refresh Clear Page								
VM Version History *					Demo I	Database NAV   Database Name		<u>×</u> ^
Show results:								
× Where Version List ▼ is *RN*								
× And Version No ▼ is 0								
+ Add Filter								
Server Name 🔔 Server Instance 🔔 Database Name 🍙	Туре	ID 🔒	Active Change Type Version	Restored Date From Version	Time	Version List		Develo
DESKTOP-I9MRMRK Demo Database NAV (8-0) Rental	Table	68000	14	0 08-05-2016	08:36:11	RN		
DESKTOP-I9MRMRK Demo Database NAV (8-0) Rental	Table	68001	14	0 03-01-2016	14:59:50	RN		
DESKTOP-I9MRMRK Demo Database NAV (8-0) Rental	Table	68003	14	0 03-01-2016	15:00:27	RN		
DESKTOP-I9MRMRK Demo Database NAV (8-0) Rental	Report	68000	14	0 21-01-2016	17:33:11	RN		
DESKTOP-I9MRMRK Demo Database NAV (8-0) Rental	Report	68001	14	0 21-01-2016	17:33:16	RN		
DESKTOP-I9MRMRK Demo Database NAV (8-0) Rental	Page	68000	14	0 21-01-2016	17:33:22	RN		
DESKTOP-I9MRMRK Demo Database NAV (8-0) Rental	Page	68001	14	0 03-01-2016	15:01:43	RN		
DESKTOP-I9MRMRK Demo Database NAV (8-0) Rental	Page	68003	14	0 03-01-2016	15:02:19	RN		
<								>
						ОК	Car	ncel

Having selected the objects, the Version Manager Build objects FastTab looks like this:

VM Build Objects							** ^
😓 Select Objects 🛛 New 🏙 Find	Filter 🔣 Clear Filter						
Server Name 🔔 Server Instance	🔔 Database Name 🔺	Object Type	Company Name	Object Object Name	Version No Old Version List	New Version List	
DESKTOP-I9MRMRK	Demo Database NAV (8-0) Rental	Table		68000 Rental Header	1 RN	RN1.00	
DESKTOP-I9MRMRK	Demo Database NAV (8-0) Rental	Table		68001 Rental Line	1 RN	RN1.00	
DESKTOP-I9MRMRK	Demo Database NAV (8-0) Rental	Table		68003 Rental Entries	1 RN	RN1.00	
DESKTOP-I9MRMRK	Demo Database NAV (8-0) Rental	Report		68000 Rental Order	1 RN	RN1.00	
DESKTOP-I9MRMRK	Demo Database NAV (8-0) Rental	Report		68001 Rental Invoice	1 RN	RN1.00	
DESKTOP-I9MRMRK	Demo Database NAV (8-0) Rental	Page		68000 Rental Order	1 RN	RN1.00	
DESKTOP-I9MRMRK	Demo Database NAV (8-0) Rental	Page		68001 Rental Lines	1 RN	RN1.00	
DESKTOP-I9MRMRK	Demo Database NAV (8-0) Rental	Page		68003 Rental Entries	1 RN	RN1.00	

The servers to receive the objects are selected using the Build Server action:

VM Select Build Serve	ers			
- HOME				0
View Edit List List Manage	Refresh Clear Filter Page			
Server Name	Server Instance	Database Name	Database Version	
DESKTOP-I9MRM	IRK	Demo Database NAV (8-0)	2015	
DESKTOP-I9MRM	IRK	Demo Database NAV (8-0) Obj	2015	
DESKTOP-I9MRM	IRK	Demo Database NAV (8-0) Rental	2015	
DESKTOP-I9MRM	IRK	Demo Database NAV (9-0)	2016	
			OK	Cancel

Now the Build Servers will show one receiving database:



The Version Manager Build Servers page shows all databases that will receive the build and it consists of the following fields:

Server Name:	Shows the server name of the receiving database.
Server Instance:	Shows the instance of the receiving database.
Database Name:	Shows the name of the receiving database.
Database Version:	Shows the version of the receiving database.
Rolled Out:	Confirms that the build has been rolled out.
Roll-Out Date:	The date of the roll-out.
Rolled Out By:	The user rolling out the build.

Having added the server to the page is enough and no other actions are necessary on this page.

Now the build is ready to be locked:

📶 Edit - VM Bu	ilds												- [	2	×
<ul> <li>HOME</li> </ul>	ACTIONS														0
					<u>ام</u>				ß	<b>X</b>					
New View List	v Edit Delete	Build Objects	Build Build	Servers Date and Time to	All as List	Chart C	UneNote I	Notes Links	Ketresh	Filter	Find				
New	Manage		Process		V	liew	Show	Attached		Page					
VM Builds	*									Тур	e to filter (F3)	Build No	•   ·	<b>→</b> ~	· ^
													No filters appl	ed	
Build No 🦼	Comment Text		New Version List	Replace Version List	New Object Date	New Object Time	t Blank Mo	Responsible P	erson		Applying U	ser ID	Statu		
B00122	Build to implement	nt CR0002, CR0023 an	RN1.00	RN	01-01-2016	12:00:00		D.E. Veloper					Locke	ł	

Rolling out the build, the following warning appears. This means that if you proceed, it is your own responsibility to ensure that that the roll-out does not cause any unplanned data loss.

Please refer to the warning in the beginning of this manual for more information.

Note that all objects will be rolled out in an uncompiled state.

This means that the affected objects are inoperable until they have been compiled and user cannot work with the functionality of the objects during the roll-out.

Having marked the "I have read the documentation and accept the risks of restoring objects" field, it is not too late. Any structural changes to the database will not be implemented until the objects are compiled in the database.

Therefore, a roll back can be performed restoring the original database structure.

The Roll-back will also leave the objects uncompiled.

If there are any doubt about the consequences on rolling out objects to a database, please contact your Dynamics NAV partner.

Edit - VM Restore Warning	?	×
Warning!		^
ROLLING OUT BUI	D!	
B00122		
This will overwrite the objects	in the	
selected database(s	).	
The objects will be restored U	NCOMPIL	ED,
leaving the databases inope	erable	
until all objects have been re	compiled	
Version List, date and time wi	l be reset	
to the build Version List, Date	and time	
Are you sure you want to c	ontinue?	
		^
I have read the documentation an	d	
accept the riscs of restoring object	is: 🗌	
<u>Y</u> es	No	1

After accepting and closing the warning by clicking **Yes**, the following confirmation appears:



Now the status of the build has changed to Applied and the objects have been imported in the receiving database.

🚮 Edit - VM Builds								- 0	×
HOME ACTIONS								CRONUS Danmar	*k A/S 🕜
New Very Edit Delete Build Objects Cock Build Objects	en Build Apply Version Lis Servers Date and Time to rocess	st, Tickets All View	w as art Show	Notes Links Re	efresh Clea Filte Pag	ar Find er			
VM Builds *							Type to filter (F3) Build No	- →	~
								No filters applied	
Build No 🔺 Comment Text	New Version List	Replace Version List	New Object Date	New Object Time	Blank Mo	Responsible Person	Applying User ID	Status	
B00122 Build to implement CR0002, CR0023 an	RN1.00	RN	01-01-2016	12:00:00	$\checkmark$	D.E. Veloper		Applied	

The objects in the receiving databases Development Environment now looks like this:

Tabla	Type ID		Name	Modified	Version List	Date	Time	Compiled	Locked	Locked By
Taple	•	68000	Rental Header		RN1.00	01-01-16	12:00:00			
Page		68001	Rental Line		RN1.00	01-01-16	12:00:00			
Report		68003	Rental Entries		RN1.00	01-01-16	12:00:00			
icc <u>p</u> ore		68000	Rental Order		RN1.00	01-01-16	12:00:00			
<u>C</u> odeunit	-	68001	Rental Invoice		RN1.00	01-01-16	12:00:00			
Ouerv	<b>=</b>	68000	Rental Order		RN1.00	01-01-16	12:00:00			
gaci'y	<b>=</b>	68001	Rental Lines		RN1.00	01-01-16	12:00:00			
XMLport	<b>.</b>	68003	Rental Entries		RN1.00	01-01-16	12:00:00			
Menu <u>S</u> uite										
<u>A</u> ll										

Notice that:

- They are uncompiled
- All version lists have been updated
- All Date fields have been aligned
- All Time fields have been aligned

Compiling the objects can be performed by selecting them all (Ctrl+A) and clicking Tools/Compile. The shortcut F11 could also have been used.

File Edit View	Tool	s Window Help									
X 🖻 浳		Language									
		Object Designer	Shift+F12			-	-				
		Debugger	>								
		Zoom	Ctrl+F8								
		Translate	>								
		Language Module	>								
		Compile	F11								
		Error List									
		Build Server Application Objects									
		Sync. Schema For All Tables	>	Object	Design	ner					
		Data Upgrade	>								
		License Information		Table			Type	ID	Name	Modified	Ve
		Custom Controls			_			68000	Rental Header		RI
		Ontions		Page		- 5		68001	Rental Line		
	-	options		🔄 🖪 Rego	ort			68000	Rental Order		RI
				😽 <u>C</u> ode	eunit			68001	Rental Invoice		RI
				🖂 Quer	v		-	68000	Rental Order		RI
					<u> </u>			68001	Rental Lines		RI
				<u>x</u> MLt	ort		8	68003	Rental Entries		RI
				🖄 Meni	u <u>S</u> uite		_				

🔟 Demo Database NAV (8-0) Obj - Microsoft Dynamics NAV Development Environment

The compile function will give the following choice:



The Synchronize Schema options are:

"Now – with validation":	The compilation will check for incompatible structural changes and if it is not possible to implement the object, an error message appear
Later:	Will leave the objects "as is" but uncompiled and therefore inoperable. To be used, the object must first be compiled successfully with either the "Now – with validation" or with the Force option.
Force:	The new structure will be implemented and any data that are not in the new table structure will be lost.

The safest option is always the "Now – With validation". Then any structural changes to the database will cause an error and the only way to implement the object correctly is by rolling back the objects or to force the implementation, which again can cause data loss.

After the objects are compiled, the solution has been implemented and is operable.

Tabla		Туре	ID	Name	Modified	Version List	Date	Time	Compiled	Locked	Locked By	
Table	Þ		68000	Rental Header		RN1.00	01-01-16	5 12:00:00	~			
Page			68001	Rental Line		RN1.00	01-01-16	5 12:00:00	~			
Report			68003	8 Rental Entries		RN1.00	01-01-16	5 12:00:00	~			
I Keport		-	68000	Rental Order		RN1.00	01-01-16	5 12:00:00	~			
<u>C</u> odeunit			68001	Rental Invoice		RN1.00	01-01-16	5 12:00:00	~			
Ouerv		==	68000	Rental Order		RN1.00	01-01-16	5 12:00:00	~			
- <u>-</u> ,		==	68001	Rental Lines		RN1.00	01-01-16	5 12:00:00	~			
<u>XMLport</u>		=	68003	8 Rental Entries		RN1.00	01-01-16	5 12:00:00	~			
: Menu <u>S</u> uite	$\vdash$											
All	H											
	$\vdash$											
	$\vdash$											
		<									>	

Now the Build Servers page shows this:

📊 Edit -	VM Build Se	ervers										_		×
- H	OME AC	CTIONS												0
Delete Manage	Abc Abc Select Servers Process	Show as List V	Show as Chart iew	OneNote Sho	Notes	Links	<b>C</b> Refresh	Clear Filter Page	Find					
VM Bu	ild Serve	ers •						[	Type to	filter <mark>(</mark> F3)	Server	Name Filte	▼   →er: B00122	*
Server	Name	Serv	er Instance	🔺 Data	abase Nai	me		Data Versi	base on	Rolled Out	Roll-Out Date	Roll	ed-Out by	
DESKT	OP-I9MRMR	к		Dem	io Databa	se NAV (	8-0) Obj	2015		$\checkmark$	16-05-2016	DESK	TOP-19MR	MRK
												_		
													0	ĸ

#### **Object Management**

Object management is one of the more tedious and time consuming tasks during a Dynamics NAV development project. Especially if there are more than one developer involved working on different databases.

Version Manager provide a tool to help getting an overview for this. The Objects per database page consists of three parts:

Edit - Object per Database	-	- 🗆 X
Nome     Activity       Delete     V     V     V       Select     Deselect     Send To All     Process       Process     Page		v
Object per Database *     Type       General     Server Name Filter:       Server lattages filter     Show Server Name;	e to filter (F3) Version List No f	
Select Type Company ID Name Version List Date Time Active		
Name Version		
		ОК

The Red area defines which objects will be the main database of the compare.

The Green area shows the objects of the main database.

The Blue area shows the Version List, the Date, the Time and the Active Version of the objects of up to ten compare databases.

Selecting the main database is done on the lookup buttons of the Server Name field, the Server Instance field or the Database Name field:

VM Select Build Servers		_		×
▼ HOME				?
View Edit List List Manage Page				
Server Name 🔔 Server Instance 🛓	Database Name	Database Version	Base Data	Co With
DESKTOP-IBG0PQH	Demo Database NAV (7-0)	2013		
DESKTOP-IBG0PQH	Demo Database NAV (9-0) W1	2016		$\checkmark$
DESKTOP-IBG0PQH	Demo Database NAV (9-0) W1 DEV	2016		
DESKTOP-IBG0PQH	Demo Database NAV (9-0) W1 TE	2016		$\checkmark$
		ОК	Car	ncel

The selected line with the mark in the **Base Database** field will define the main database to be shown in the green area and equally important to be included in builds.

If the **Compare With** field is selected for the other databases, the databases will be included in the blue area of the compare objects page. The objects of the compare databases cannot be included in builds.

🚮 Edit - Ob	ject per Dat	abase									-		×
- ном	IE ACTI	ONS											?
Delete S Manage	ielect Dese All A	elect Send II Buil	To Refresh Find Page										
Object	per Data	abase -								Type to filter (F3)	Select No filters a	r   → applied	~
General													
Server Nan	ne Filter:	DESKTOP	P-IBG0PQH		~	Database N	ame Filter:	Demo	Database NAV (9-0) W1 DEV				
Server Insta	ance Filter:				~	Show Serve	r Name:						
						Show only I	Lines with Dif	ference:					
Select	Туре	*	ID 🗼 Name	Version List		Date	Time	Mo	Active Demo Database NAV (9-0) W1 Version	Demo Database I	NAV (9-0) W1 TEST		^
	Table		27 Item	NAVW19.00.00.45243		26-02-2016	12:00:00		1 NAVW19.00.00.45243 26-02-16 12:00:00	1 NAVW19.00.00.45	243 26-02-16 12:00:0	/0 1	
	Table		30 Item Transl	lation NAVW17.00		07-09-2012	12:00:00		1 NAVW17.00 07-09-12 12:00:00 1	NAVW17.00 07-09	-12 12:00:00 1		
	Table		32 Item Ledge	er Entry NAVW19.00		15-09-2015	12:00:00		1 NAVW19.00 15-09-15 12:00:00 1	NAVW19.00 15-09	-15 12:00:00 1		
	Table		36 Sales Head	er NAVW19.00.00.45834		29-04-2016	12:00:00		1 NAVW19.00.00.45834 29-04-16 12:00:00	1 NAVW19.00.00.45	834 29-04-16 12:00:0	/0 1	
	Table		37 Sales Line	NAVW19.00.00.45834		29-04-2016	12:00:00		1 NAVW19.00.00.45834 29-04-16 12:00:00	1 NAVW19.00.00.45	834 29-04-16 12:00:0	<i>.</i> 0 1	
	Table		38 Purchase I	Header NAVW19.00.00.45834		31-01-2017	17:26:23	$\checkmark$	1 NAVW19.00.00.45834 29-04-16 12:00:00	1 NAVW19.00.00.45	834 29-04-16 12:00:0	/0 1	
	Table		39 Purchase l	Line NAVW19.00.00.45834		30-01-2017	13:29:36	$\checkmark$	1 NAVW19.00.00.45834 29-04-16 12:00:00	1 NAVW19.00.00.45	834 29-04-16 12:00:0	.0 1	
	Table		42 Rounding	Method NAVW17.00		07-09-2012	12:00:00		1 NAVW17.00 07-09-12 12:00:00 1	NAVW17.00 07-09	-12 12:00:00 1		
	Table		43 Purch. Con	nment Li NAVW17.00		07-09-2012	12:00:00		1 NAVW17.00 07-09-12 12:00:00 1	NAVW17.00 07-09	-12 12:00:00 1		
	Table		44 Sales Com	ment Line NAVW17.00		07-09-2012	12:00:00		1 NAVW17.00 07-09-12 12:00:00 1	NAVW17.00 07-09	-12 12:00:00 1		
	Table		45 G/L Registe	er NAVW17.00		07-09-2012	12:00:00		1 NAVW17.00 07-09-12 12:00:00 1	NAVW17.00 07-09	-12 12:00:00 1		
	Table		46 Item Regist	ter NAVW17.10		23-09-2013	12:00:00		1 NAVW17.10 23-09-13 12:00:00 1	NAVW17.10 23-09	-13 12:00:00 1		~
												ОК	

In this case, the Demo Database NAV (9-0) W1 DEV is selected as the main database in the compare and the **Demo Database NAV (9-0) W1** and **Demo Database NAV (9-0) W1 TEST** databases to be the compare databases. It is obvious that the table 38 Purchase Header and 39 Purchase Line exists in different versions in the three databases.

The fields in the Objects Per Database page are:

The General FastTab:

Server Name Filter: The server name of the main database

Server Instance Filter:	The server instance of the main database
Database Name Filter:	The Database Name of the main database
Show Server Name:	Changes so the compare databases are prefixed with server name and instance.
Show Only Lines with Difference:	Changes the view to only show lines with difference. This gives a quick overview over the differences in the database.
The Compare FastTab list:	
Select:	Select id the objects should be included in a build
Туре:	Object Type
Company Name (Hidden):	Company Name
ID:	Object ID
Name:	Objects Name of the active object
Date:	The date registered on the active object
Time:	The time registered on the active object
Active Version:	The version number of the active object
Compare Database 1-10:	The Version List, the Date, the Time and the Active Version of the equivalent object in the compare database.

The line will change to red if there are differences between the object in the main database the objects in any of the compare databases.

Object	per Data	abase 🔹								Ту	/pe to filter (F3)	Version List	-	→	~
													Filter:	Yes	
General															
Server Nan	ne Filter:	DESKTOP-I9MR	MRK			~	Database Nam	e Filter:	Demo D	)atabase N	IAV (8-0) Rental				
Server Inst	ance Filter:					~	Show Server N	ame:							
							Show only Lin	es with Differen	ice: 🗸						
Select	Туре	Company Name	*	ID 🔺	Name	Version List		Date	Time	Active Version	Demo Database N	IAV (8-0) Obj			
	Table			18	Customer	NAVW18.00.00.39368		07-01-2015	12:00:00	1	NAVW18.00.00.393	68 09-09-14 12:0	0:00 1		
	Table			36	Sales Header	NAVW18.00.00.38798, PBA	4	30-03-2016	08:23:42	1	NAVW18.00.00.387	98 27-11-14 12:0	0:00 1		
	Table			68000	Rental Header	RN		08-05-2016	08:36:11	1	Missing				
	Table			68001	Rental Line	RN		03-01-2016	14:59:50	1	Missing				
	Table			68003	Rental Entries	RN		03-01-2016	15:00:27	1	Missing				
	Report			68000	Rental Order	RN		21-01-2016	17:33:11	1	Missing				
	Report			68001	Rental Invoice	RN		21-01-2016	17:33:16	1	Missing				
	Page			9018	Administrator Rol	NAVW18.00		09-09-2014	12:00:00	1	NAVW18.00 16-04-	16 23:26:58 1			
	Page			68000	Rental Order	RN		21-01-2016	17:33:22	1	Missing				
	Page			68001	Rental Lines	RN		03-01-2016	15:01:43	1	Missing				
	Page			68003	Rental Entries	RN		03-01-2016	15:02:19	1	Missing				

An example of the compare with the **Show Only Lines with Difference** field activated.

If the objects were previously in the database but were deleted they will show up a little differently:

#### General

Server Nan	ne Filter:	[	DESKTOP	-I9MRMRK		~	Database	Name Filter:		Demo Database NAV (8-0) Rental
Server Insta	ance Filte	r:				~	Show Serv	er Name:		
							Show only Lines with Difference:			$\bigtriangledown$
Select	Туре	*	ID 🔺	Name	Version List		Date	Time	Active Version	Demo Database NAV (8-0) Obj
	Table		18	Customer	NAVW18.00.00.39368		07-01-2015	12:00:00	1	NAVW18.00.00.39368 09-09-14 12:0
	Table		36	Sales Header	NAVW18.00.00.38798, PBA		30-03-2016	08:23:42	1	NAVW18.00.00.38798 17-05-16 13:18:07 1
	Table		68000	Rental Header	RN		08-05-2016	08:36:11	1	RN1.00 17-05-16 13:17:23 1
	Table		68001	Rental Line	RN		03-01-2016	14:59:50	1	RN1.00 01-01-16 12:00:00 1
	Table		68003	Rental Entries	RN		03-01-2016	15:00:27	1	RN1.00 01-01-16 12:00:00 1
	Report		68000	Rental Order	RN		21-01-2016	17:33:11	1	RN1.00 01-01-16 12:00:00 1
	Report		68001	Rental Invoice	RN		21-01-2016	17:33:16	1	RN1.00 01-01-16 12:00:00 1
	Page		9018	Administrator Rol	NAVW18.00		09-09-2014	12:00:00	1	NAVW18.00 16-04-16 23:26:58 1
	Page		68000	Rental Order	RN		21-01-2016	17:33:22	1	RN1.00 01-01-16 12:00:00 1
	Page		68001	Rental Lines	RN		03-01-2016	15:01:43	1	RN1.00 01-01-16 12:00:00 1
	Page		68003	Rental Entries	RN		03-01-2016	15:02:19	1	RN1.00 01-01-16 12:00:00 1

To get the total picture of all the changes between the two objects click

the AssistEdit .... button on the version list of the compare database. The compare objects page provides a side-by-side view of all the fields in the object table highlighting the differences.

View - Compare Objects - DESKTOP-I9MRMRK ·	Demo Database NAV — 🛛 🛛 🗙
<ul> <li>HOME ACTIONS</li> </ul>	CRONUS International 💡
View Compare Objects Show Attached	ks Refresh Clear Filter Page
DESKTOP-I9MRMRK · Demo Da	atabase NAV (8-0) Obj · Table
General	^
Server Name	ServerName
DESKTOP-I9MRMRK	DESKTOP-I9MRMRK
Server Instance	ServerInstance
Database Name	DatabaseName
Demo Database NAV (8-0) Obj	Demo Database NAV (8-0) Rental
Туре	Туре
Table 🗸 🗸	Table $\checkmark$
Company Name	Company Name
ID	ID
18	18
Name	Name
Customer	Customer
Date	Date
09-09-2014	07-01-2015
Time	Time
12:00:00	12:00:00
Version List	Version List
NAVW18.00.00.39368	NAVW18.00.00.39368
Active Version	Active Version
1	1
	Close



Process The compare objects action will open the compare tool, showing the actual differences in the two objects.

Sessions 🕈	* ≠ All Diffs S	= ame Context Minor Ru	les Format	Copy Edit Next S	ection Prev Section Swap Rela	5 Dad		
\temp\Table-18	8-1.txt				🗸 🏷 🗁 🖛 🔛 C:\ter	mp\Table-18-1-2.txt		- 🔁 🖉 י
5-07-2016 19:19	33 113.368 by	tes Everything Else 🔻 ANSI	F PC		05-0	7-2016 19:19:34 113.368 bytes Everythin	ng Else 🔻 ANSI 👻 PC	
1 DBJECT 2 {	Table 18 Cus	tomer1			^	1 OBJECT Table 18 Customer1 2 {		
3 OBJE	CT-PROPERTIES					3 OBJECT-PROPERTIES 4 {		
5 Dat	te=09-09-14;				\$	5 Date=07-01-15; 5 Time=12:00:00:		
7 Ver	rsion List=NA	VW18.00.00.39368;				7 Version List=NAVW18.00.00.	39368;	
9 PROPI	ERTIES					9 PROPERTIES		
10 { 11 Per	rmissions=Tab	leData 21=r;				10 { 11 Permissions=TableData 21=r	3	
Canada		14	V28 FILTERED LINE:				1428 FILTERED LIN	-3
Server Nan	ne Filter:	DESKTOP-I9MRMRK			~ [	atabase Name Filter:	Demo Database NA	/ (8-0) Rental
Server Inst	ance Filter:				~ S	how Server Name:		
					S	how only Lines with Difference:		
Select	Туре 🔺	Company 🔺 Name	ID 🔺	Name	Version List	Date	Time Active Version	Demo Database NAV (8-0) Obj
	Table		18	Customer	NAVW18.00.00.39368	07-01-2015	12:00:00 1	NAVW18.00.00.39368 09-09-14 12:00:00
	Table		36	Sales Header	NAVW18.00.00.38798, PB	4 30-03-2016	08:23:42 1	NAVW18.00.00.38798 27-11-14 12:00:00
	Table		68000	Rental Header	RN	08-05-2016	08:36:11 1	RN(Deleted)
	Table	E	68001	Rental Line	RN	03-01-2016	14:59:50 1	RN(Deleted)
	Table		68003	Rental Entries	RN	03-01-2016	15:00:27 1	RN(Deleted)
	Report		68000	Rental Order	RN	21-01-2016	17:33:11 1	RN(Deleted)
	Report		68001	Rental Invoice	RN	21-01-2016	17:33:16 1	RN(Deleted)
	Page		9018	Administrator Rol	NAVW18.00	09-09-2014	12:00:00 1	NAVW18.00 16-04-16 23:26:58 1
	Page		68000	Rental Order	RN	21-01-2016	17:33:22 1	RN(Deleted)
	Page		68001	Rental Lines	RN	03-01-2016	15:01:43 1	RN(Deleted)
	Page		68003	Rental Entries	RN	03-01-2016	15:02:19 1	RN(Deleted)
						00 01 2010		

If the some or all of the objects are needed in the compare database, it is possible to select the objects and make them into a build:

Here the same version was installed with the same version list but were deleted from the database again.

In this case, the objects of the rental solution has been selected. Next the Send To Build action is pressed:

Microsof	t Dynamics NAV		×
?	Create a new b	uild with all	selected lines?
		Yes	No

This will create a new build to roll out all the selected objects to all the compare databases.



Edit - VM Builds				- 🗆 X
<ul> <li>HOME ACTIONS</li> </ul>				0
New         View         Edit List         Delete         Roll-Out Build         Roll-Back Objects         Lock Build         Re Open Build           New         Manage         Process         Image: Comparison of the comparison of t	Build Apply Version List, Sh Servers Date and Time to All as	ow Show as List Chart View Show Attached	Refresh Clear Filter Page	
VM Builds *			Type to filter (F3)	Build No ▼ → ✓
				No filters applied
Build No 🚡 Comment Text New Version Lis	Replace Version List New Ob	ject New Object Blank Responsible	Person Applying Use	r ID Status
R00123 Build created from objects for 1 server(s)	Date	Time Mo		Onen
				open
VM Build Objects				** ^
探 Select Objects   📋 New 🏦 Find 🛛 Filter 🏾 🍢 Clear Filter				
Server Name 🔒 Server Instance 🔒 Database Name	Object Company     Type Name	<ul> <li>Object Object Name</li> <li>No</li> </ul>	Version No Old Version List	New Version List
DESKTOP-I9MRMRK Demo Database NAV (8-0) Rer	al Table	68000 Rental Header	1 RN	RN
DESKTOP-I9MRMRK Demo Database NAV (8-0) Rer	al Table	68001 Rental Line	1 RN	RN
DESKTOP-I9MRMRK Demo Database NAV (8-0) Rer	al Table	68003 Rental Entries	1 RN	RN
DESKTOP-I9MRMRK Demo Database NAV (8-0) Rer	al Report	68000 Rental Order	1 RN	RN
DESKTOP-I9MRMRK Demo Database NAV (8-0) Rer	al Report	68001 Rental Invoice	1 RN	RN
DESKTOP-I9MRMRK Demo Database NAV (8-0) Rer	al Page	68000 Rental Order	1 RN	RN
DESKTOP-I9MRMRK Demo Database NAV (8-0) Rer	al Page	68001 Rental Lines	1 RN	RN
DESKTOP-I9MRMRK Demo Database NAV (8-0) Ren	al Page	68003 Rental Entries	1 RN	RN
VM Build Roll Back Objects				^
🏙 Find 🛛 Filter 🏷 Clear Filter				
Server Name 🔔 Server Instance 🔔 Database Name	Type Company Name	🔺 ID 👗 Name	Mo Co BLOB Size Di	ate Time Version
				¥
				ОК

And the confirmation. The build looks slightly different from builds that have been created manually:

The version list, the date field, the Time field and the Modified field has not been updated on creation. This can be done in the aftermath.

ni Edit -	VM B	Builds	;																			_		$\times$
• н	OME		ACTION	s																				0
× _		1		$\boldsymbol{\times}$			A	<b>(</b>	E.			Q		5			0	B	X					
New	Li	ew ist	List	Delete	Build	Objects	Build	Build	Servers	Date and Time to	o All	snow as List	Chart	One	NOTE N	Notes L	LINKS	Ketresn	Filter	Find				
New			Manage					Process				V	liew		Show A	Attached			Page					
Build	No	•	Comme	nt Text			New	/ersion List	Re	place Version List	New C Date	)bject	New Obj Time	ect	Blank Mo	Respo	nsible Po	erson		Appl	ying User ID	St	tatus	^
B0012		6	Build cre	ated from	n objects fo	r 1 server(s)	RN1.0	1	RN		01-01-2	2016	12:00:00		$\checkmark$	D.E.Vel	oper					O	pen	
																								_

Now the New Version List field, the Replace Version List field, the New Date field, the New Time field and the Blank Modified field has been filled. The action **Apply Version List, Date and Time to All** can be pressed and the objects will be updated.

VM Build Objects	
the ball objects	^
😓 Select Objects 🖞 New 🏦 Find Filter 🗏 Clear Filter	
Server Name 🔔 Server Instance 🔔 Database Name 🚖 Object 🛓 Company 🔔 Object 🐁 Object Name Version No Old Version List New Version List Type Name No	
DESKTOP-I9MRMRK Demo Database NAV (8-0) Rental Table 68000 Rental Header 1 RN RN1.01	
DESKTOP-I9MRMRK Demo Database NAV (8-0) Rental Table 68001 Rental Line 1 RN RN1.01	
DESKTOP-I9MRMRK Demo Database NAV (8-0) Rental Table 68003 Rental Entries 1 RN RN1.01	
DESKTOP-I9MRMRK Demo Database NAV (8-0) Rental Report 68000 Rental Order 1 RN RN1.01	
DESKTOP-I9MRMRK Demo Database NAV (8-0) Rental Report 68001 Rental Invoice 1 RN RN1.01	
DESKTOP-I9MRMRK Demo Database NAV (8-0) Rental Page 68000 Rental Order 1 RN RN1.01	
DESKTOP-I9MRMRK Demo Database NAV (8-0) Rental Page 68001 Rental Lines 1 RN RN1.01	
DESKTOP-I9MRMRK Demo Database NAV (8-0) Rental Page 68003 Rental Entries 1 RN RN1.01	

The rest of the roll-out process works exactly as described in the Build Management section.

#### Versions per Database

The versions per database is a matrix showing the lasts versions that exist in the different databases. When opening the page, it is necessary to select, which database should be included in the compare.

The more databases that are included, the longer the population of the data will take. This means that it is a good idea to start populating the data just before a break.

VM Select Build Servers		_	
✓ НОМЕ			0
View Edit List List Manage Page			
Server Name Server Instance Databa	e Name 🔺	Database Version	Co With
DESKTOP-IBG0PQH Demo D	atabase NAV (9-0) W1	2016	
DESKTOP-IBG0PQH Demo D	atabase NAV (9-0) W1 DEV	2016	
DESKTOP-IBG0PQH Demo D	atabase NAV (9-0) W1 TE	2016	
		ОК	Cancel

In this case, it is only databases based on the W1 version, but if other country versions are compared and different add-on modules as well, the list can be quite extensive.

🚮 Edit - Object per Data	abase		-		×
- HOME ACTIO	DNS				?
Delete Delete Select Databases Manage Process	Refresh Find Page				
General Show Server Name: [	Show only Lines with Difference:				
Base Version	Demo Database NAV (9-0) W1	Demo Database NAV (9-0) W1 DEV	Demo Database NAV (9-0) W1 TEST		
NAVW	NAVW19.00.00.45834	NAVW19.00.00.45834	NAVW19.00.00.45834		
NSC-Tool	NSC-Tool	NSC-Tool			
RN		RN			
RNDK		RNDK1.07			
RNUS			RNUS1.08		
VM	VM090.1.08				
				0	К

There is no report showing the same result, but as always, it is possible to export the page to a Excel sheet.

#### Reports

#### Version Manager Audit Report

n Print Preview	w								_		×
-									CRONUS Int	ernational L	.td. 🥊
Version M	lanager Audit Report										
₩ 4 1	of 1 🕨 🕅   🛞   🍰 🗐	û 🔍 - 🗌	100%	•	Find   Next						
CRONUS Inte Version Man	ernational Ltd. ager Object Change Audit Rep	ort						DES	21-05-2 Page No KTOP-I9MRMI	:016 14:24 o 1 RK\PEIKB	^
Server Nam	e Server Instance	Database Na	me								
DESKTOP-19	MRMRK	Demo Databa	se NAV	(8-0) Obj							
ID	Name	Date	Time	Modified	Version List	Change Type	Changed By	Version No	Handle Date	Handle Time	
68000	Rental Header	17-05-2016	13:17	True	RN1.00	Delete	peikb	:	2 21-05-2016	12:16	
99000750	Work Shift	21-05-2016	13:47	' True	NAVW17.00	Modify	peikb	:	2 21-05-2016	13:47	
Conver Nem	o Convor Instance	Databasa Na	-								
		Database Na		(9.0) Dente							
DESKTOP-15		Denio Databa	Se INAV	(0-0) Renta	·						
טו	Name	Date	rime	modified	Version List	Cnange Type	Changed By	Version No	Date	Handle Time	
68000	Rental Header	21-05-2016	12:15	True	RN	Modify	peikb	:	2 21-05-2016	12:15	
<											>

# Switching to Partner License temporarily

For the Version Manager users who do not have the Application Builder, the Solution Developer or a Developer License, it is possible to let a Dynamics NAV partner who also has purchased the full Version Manager Partner edition, utilize the full compare and export functionality.

This can be done by importing the partner license from the Version Manager setup page:

🛾 Edit - VM Setup				- 🗆	$\times$
HOME ACTIONS			CRONU	S Internationa	l Ltd. (
stall Version Uninstall Versi Manager Manager	n Synchronize Delete Old All Objects Version History Ceneral	nager port			
VM Setup					
General					~
General Path to Compare program:	Program Files\Bevond Compare 4\BCompare.exe	License Type:	Object Backup		^
General Path to Compare program: Program Parameters:	Program Files\Beyond Compare 4\BCompare.exe	License Type: License No:	Object Backup 5106225		* ~
General Path to Compare program: Program Parameters: Path for Development Env:	Program Files\Beyond Compare 4\BCompare.exe         %1 %2         C:\Program Files (x86)\Microsoft Dynamics NAV	License Type: License No: VM Version:	Object Backup 5106225 1.09		~
General Path to Compare program: Program Parameters: Path for Development Env: Expiry Date:	KProgram Files\Beyond Compare 4\BCompare.exe          %1 %2          C:\Program Files (x86)\Microsoft Dynamics NAV          31-12-2017	License Type: License No: VM Version: VM Script Version:	Object Backup 5106225 1.09 1.03		~

The Activities page before the switch will normally look like this:



After the switch the activities page will look like this:

