

# **THIS IS MERGING!**



## **INSTRUCTIONAL DOCUMENT**

# THIS IS MERGING – TABLE OF CONTENTS

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# Disclaimer and info

“This is Merging”, “TIM” from now on, is a tool created by José Castro, a Microsoft Dynamics NAV developer in his own free time. This means no guarantees are given, no support is explicitly provided and the continuity of the tool is not certain. Use at your own risk. That being said, I am very excited to put this utility out there for all of you 😊

The tool is provided in the form of a fob/txt file for a Microsoft Dynamics NAV 2013+ database and a set of scripts. The ID’s of the objects by default is 89000+.

You are completely free to change it any way you want, modify it to adapt your needs or solve issues you might find. The only thing is you should always keep the source of the tool and its author intact.

This document assumes you have downloaded the TIM package from [msnav.es](http://msnav.es) which includes the Microsoft Dynamics NAV 2013 R2 objects and the scripts necessary for its correct execution. Also, you will need to have Powershell installed on your machine. Check for the OS you are currently using. Some of them have it preinstalled.

## Installation

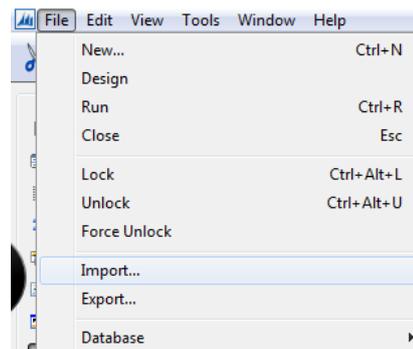
Once you have downloaded the package for TIM, you should decompress the file and find inside several files. Amongst them:

- A scripts folder
- The objects for TIM, in both .fob and .txt form.
- Additional documentation.

### Installing the objects in the NAV database

To install the tool, follow the steps:

1. Open your development environment and select your database.
2. Go to File>Import and select the TIM1.00.fob file.
3. If no warnings are issued, just click ok and wait to finish. Go to step 5.
4. If warnings appear, check the warnings. Some of the ID’s might already be in use. Decide from there.

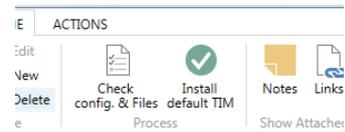


5. Once the import is done, select all the files with version list @\*tim\* and compile them (F11).
6. If no errors occur, you are done!

## Installing TIM in the RTC client

To make the options TIM has available as soon as you log in, just go to the RTC client and:

1. Go to Departments>This is Merging>TIM setup
2. In the action bar, click the Install default TIM button.
3. You will be prompted to confirm the installation. Select yes.
4. The confirmation of the profile creation will be shown to you, if need be.
5. You will be prompted to select who to install TIM for: just you or all users. Select accordingly.
6. You will have the option to let TIM complete the setup for you automatically.  
**BEWARE**, this option will complete the fields with standard options. You will have to modify it afterwards to your system structure.
7. After that, the installation will be completed.
8. Close Microsoft Dynamics NAV, and open it again. You should be presented with the Role Center for TIM.

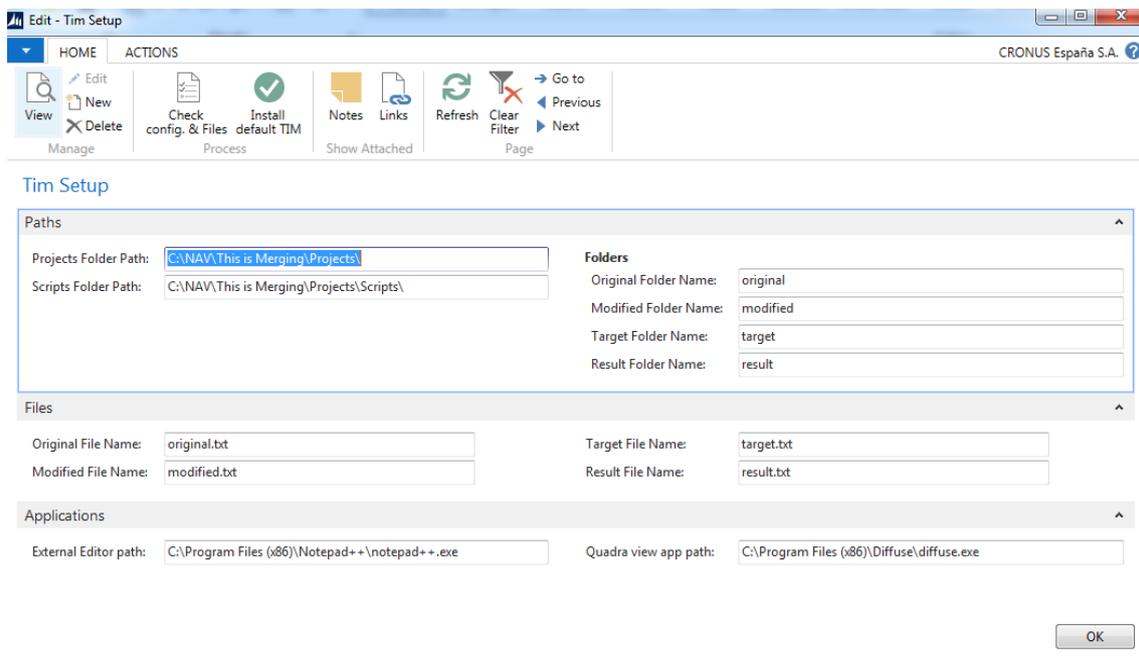


# Setup

## Defining the setup options

In order to access the setup, you first have to go to Departments>This is Merging>TIM Setup

If you have done the default installation, you should see something similar to this (the paths might be different):



### Parameters definition:

- **Projects Folder Path:** this path contains the folder where all the projects files will be stored. We understand project as a merging project.
- **Scripts Folder Path:** the scripts themselves will be provided to you in the TIM package, and you need to save them somewhere TIM can find them. Indicate where you have stored them here.
- **Original Folder Name:** every project has several folders (original, modified, target and result). Indicate the name of the folder you want to use for your original/base objects here.
- **Modified Folder Name:** every project has several folders (original, modified, target and result). Indicate the name of the folder you want to use for your modified/customer's/product's objects here.
- **Target Folder Name:** every project has several folders (original, modified, target and result). Indicate the name of the folder you want to use for your target/destination objects here.
- **Result Folder Name:** every project has several folders (original, modified, target and result). Indicate the name of the folder you want to use for your output for the merged projects here.

- **Original File Name:** the name of the .txt file that will contain all the standard/original objects. By default, original.txt
- **Modified File Name:** the name of the .txt file that will contain all the modified/customized objects. By default, modified.txt
- **Target File Name:** the name of the .txt file that will contain all the target/destination objects. By default, target.txt
- **Result File Name:** the name of the .txt file that will contain all the resulting objects. By default, result.txt
- **External Editor Path:** the path that contains the executable of the external application you wish to use when editing files.
- **Quadra view app path:** the path that contains the executable of the external application you wish to use when comparing 4-way the resulting object with the 3 used to produce it. It has to be an application that accepts 4-way comparing/merging (for instance, [diffuse](#)).

# How to use TIM

## Necessary information

This tool works with 3 sets of objects, the original, modified and target.

In a very short version, what it does is compare every modified object with the original object it originally came from to see what the differences are. If the tool detects the differences it will go to the target object and see if it can add that customization automatically. If the customizations follow certain guidelines and best practices, this tool should merge automatically almost every customization into the target object.

If you want more info as to how this works, you can check [msnav.es](http://msnav.es) or [the official entry in the Microsoft Dynamics NAV blog](#).

## Creating a project

The first step is to create a new merging project. To do so, go to: Departments>This is Merging>TIM Projects List>Click on the “new” button.

Once you’ve done that, you can add the extra information to identify that project.

You must assign the project a unique ID (field code), and optionally, the descriptions.

The name of the folder will be assigned automatically depending on the choice of the name of the project. This folder will be the folder where all the files regarding this project will be stored. If you wish to change the folder name but you must do it before you start working with the files. Otherwise you can end up with missing objects.

The screenshot displays the TIM Project Card interface. At the top, there is a navigation bar with 'HOME' and 'ACTIONS' tabs. Below this is a toolbar with various icons for actions like View, Edit, New, Delete, Upload File, Check Files, Find Generated Files, Divide Files, Merge Files, Join Files, Finish Project, Reopen Project, Notes, Links, Refresh, Clear Filter, and Page navigation. The main content area is titled 'TIM Project Card' and contains a 'General' section with the following fields:

Code:	MYNEWPROJECT	Created at:	19/10/2014 19:42
Description:	For the instructional document	Status:	No data found
Description 2:		Project Folder Name:	MYNEWPROJECT
Created by:	WIN7SSD-PC\WIN7SSD		

Below the 'General' section is a 'Merging (result of the last merge)' section with the following data:

Inserted Objects:	0	Failed Objects:	0
Deleted Objects:	0	Automatic Merge:	
Unchanged Objects:	0	Automatic Merging %:	0,00

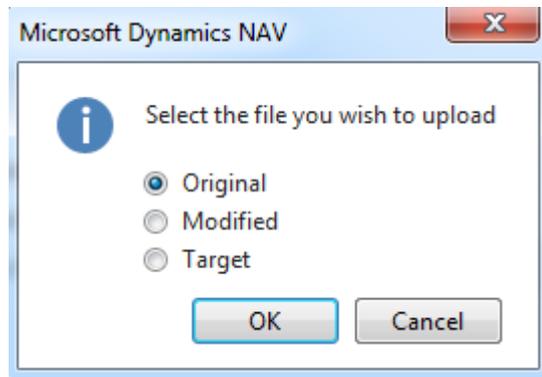
At the bottom, there is a 'TIM Project Object Matrix' section with a toolbar for 'Review Object', 'Mark as Solved', 'Mark as Unsolved', 'Find', 'Filter', and 'Clear Filter'. The matrix table has the following columns:

Object Type	Object ID	Object Code	Original Exists	Modified Exists	Target Exists	Result Exists	Conflict Exists	Solved Conflict Exists
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## Uploading the project files

When you have your project created, the next step is to upload the files. To do so, go to the project card and press the “Upload File...” action.

When doing so, you will be prompted to select what set of objects you wish to upload.



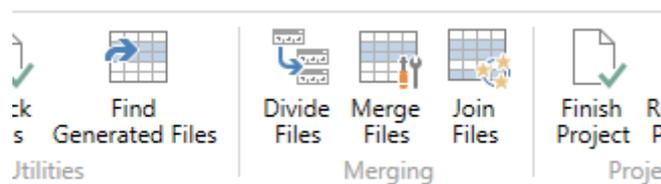
Before we continue, you must ensure you have uploaded the three set of objects. That way you will make sure you have all the modifications required and the merging can be done properly.

\*If you get an error when uploading the files saying “could not find part of the path”, you must create the directory manually (projects path\project folder name\original\modified\target\result folder name).

## Dividing the files

Before we start with the merging we must divide each .txt file we have previously uploaded containing a set of objects to one file per object.

This process will divide the original.txt file containing table 18 and table 27 into two files, one called TAB18.txt and one called TAB27.txt.



## Merging the files

After the division has completed you will see the different files on the project card. Make sure all the files are there and make sure you don't have any modified files without original files. If that is the case, it will be shown to you with a different color.

HOME ACTIONS

View Edit New Delete Upload File... Check Files Find Generated Files Divide Files Merge Files Join Files Finish Project Reopen Project Notes Links Refresh Clear Filter Go to Previous Next

MYNEWPROJECT

General

Code: MYNEWPROJECT Created at: 19/10/2014 19:42  
 Description: For the instructional document Status: Files divided  
 Description 2: Project Folder Name: MYNEWPROJECT  
 Created by: WIN7SSD-PC\WIN7SSD

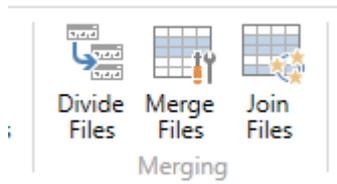
Merging (result of the last merge)

Inserted Objects: 0 Failed Objects: 0  
 Deleted Objects: 0 Automatic Merge  
 Unchanged Objects: 0 Automatic Merging %: 0,00

TIM Project Object Matrix

Object Type	Object ID	Object Code	Original Exists	Modified Exists	Target Exists	Result Exists	Conflict Exists	Solved Conflict Exists
Codeunit	1	COD1.TXT	No	Yes	Yes	No	No	No
Codeunit	2	COD2.TXT	Yes	Yes	Yes	No	No	No
Codeunit	3	COD3.TXT	Yes	Yes	Yes	No	No	No
Codeunit	6	COD6.TXT	Yes	Yes	Yes	No	No	No

When you have made sure every object you need is on TIM, you can go ahead and choose the merge files action.



## Solving the conflicts

When the merge process completes, you will likely find some conflicts which will be shown in red. You can review them using the “Review Object” option in the lines part. When that option is used, you are prompted to select how you wish to review the object.

TIM Project Object Matrix

Object Type	Object ID	Object Code	Original Exists	Modified Exists	Target Exists	Result
Codeunit	1	COD1.TXT	No	Yes	Yes	Yes
Codeunit	2	COD2.TXT	Yes	Yes	Yes	Yes
Codeunit	3	COD3.TXT	Yes	Yes	Yes	Yes
Codeunit	6	COD6.TXT	Yes	Yes	Yes	Yes
Codeunit	14	COD14.TXT	Yes	Yes	Yes	Yes

Microsoft Dynamics NAV

Select the way you wish to review the object(s)

- (Single File) External Editor
- (Single File) NAV Viewer
- (Quadra view) External Editor

OK Cancel

- (Single File) External Editor: This will open up the resulting file with your external editor defined in the TIM Setup.
- (Single File) NAV Viewer: This will open up the resulting file within a NAV page so you can see what the code looks like.

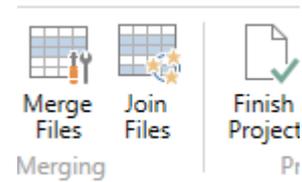
- (Quadra View) External Editor: This will open up all the 4 files (original, modified, target and result) in a 4-way merge with your defined application in the TIM Setup (diffuse, for example).

Once you have solved the conflicts, you can select the object and **“Mark as solved”** in the action bar of the lines.

## Joining the files and getting the resulting objects

Once all the conflicts have been solved and marked as such, you can join all the resulting files and get your final .txt.

To do so, you only have to select the “Join Files” option in the actions bar.



After the joining finishes, you will be asked to save a result.txt file wherever you desire. Once you have that you can just select the “Finish Project” option and import the merged code into your database.