



# TMcraft Packer Software Manual



Original Instructions

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Based on: 1.18.1400

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## Revision History

Revision	Date	Description
1.00	2024-06-22	Original release

# 1. Introduction

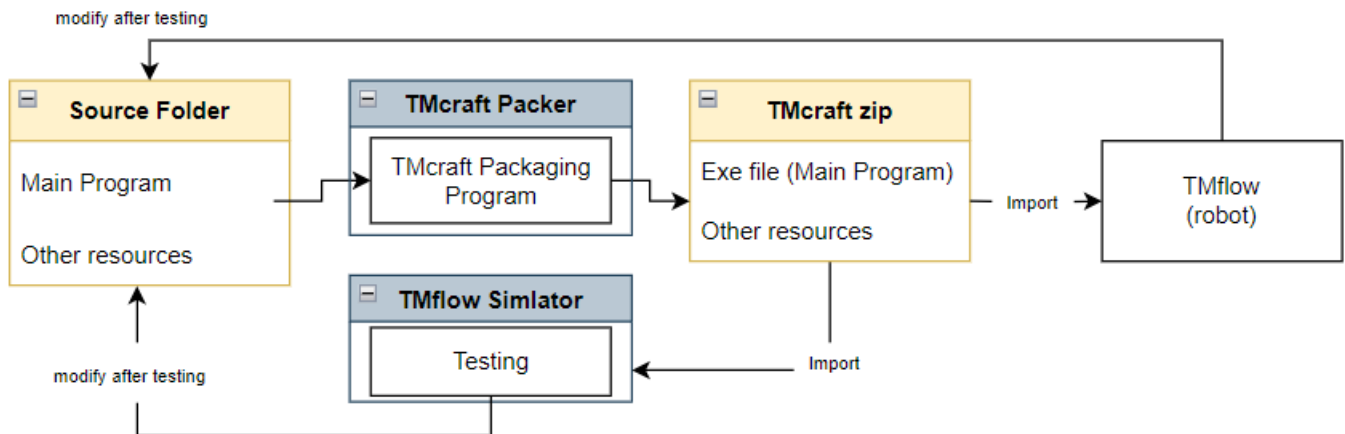


Figure 1: The Basic Concept of TMcraft plugin development

TMcraft Packer is a tool for the packaging process of TMcraft plugins. After developers finish building the TMcraft plugin program, it required a packaging process before usage on TMflow:

- For TMcraft Node, Toolbar and Setup, TMcraft Packer will first generate the corresponding execution files from their User Control Library files.
- In addition, TMcraft Packer will also generate an Installation Code (more detail on section 9) and a configuration file that represent the TMcraft plugin. Then, the system will package the TMcraft plugin execution file and all related files into a zip file.

This manual organizes the content based on TMcraft.dll version 1.18.1400 released with TMcraft Development Kit 2.18.

- Section 2: Installation
- Section 3: Brief Introduction
- Section 4: TMcraft Node Packaging
- Section 5: TMcraft Service Packaging
- Section 6: TMcraft Shell Packaging
- Section 7: TMcraft Toolbar Packaging
- Section 8: TMcraft Setup Packaging
- Section 9: Installation Code and Checksum

## 2. Installation

Software requirement:

- Operating System: Windows 7, 8/8.1, or 10.
- .NET 6.0 and .NET SDK installed
- 7-Zip file archiver installed

Download the TMcraft Development Kit, unzip it, and access the folder "TMcraft Packer". Choose the necessary folder from several available options; it should include the following items.

- release note
- setup
- TMcraftPackerInstall

Install TMcraftPacker by running TMcraftPackerInstall and complete the setup. After the installation, launch TMcraft Packer.

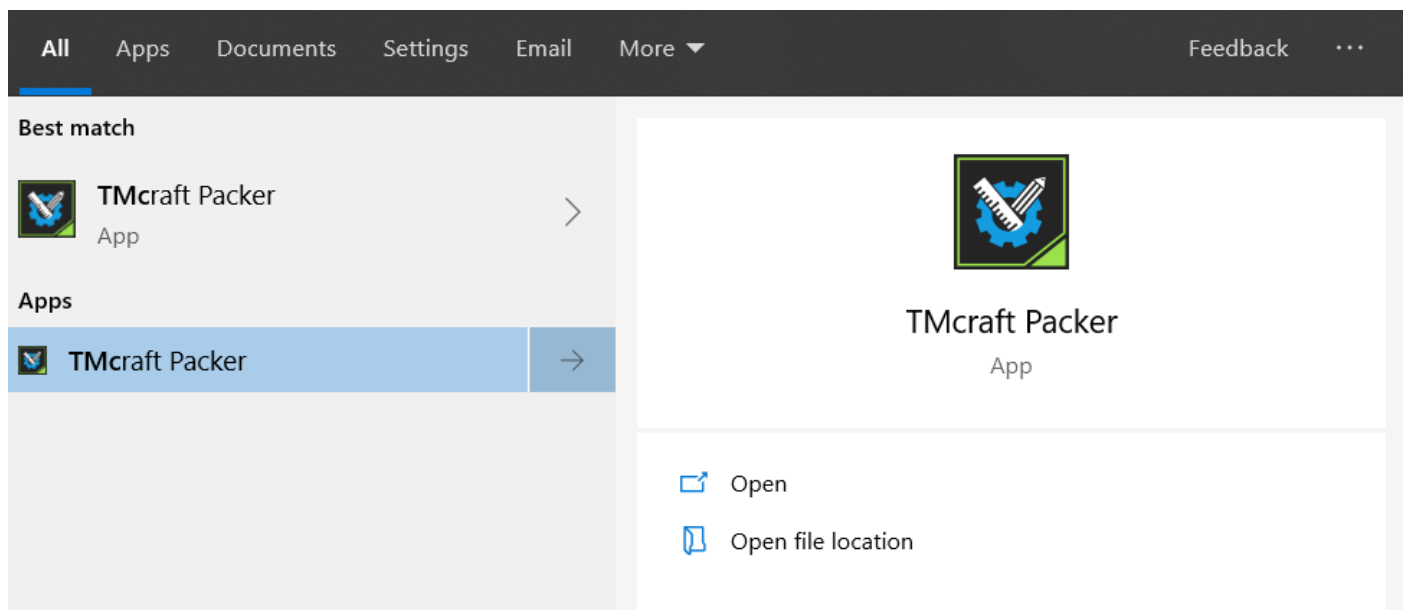


Figure 2: TMcraft Packer App

## 3. Overview

### 3.1 Entry Page

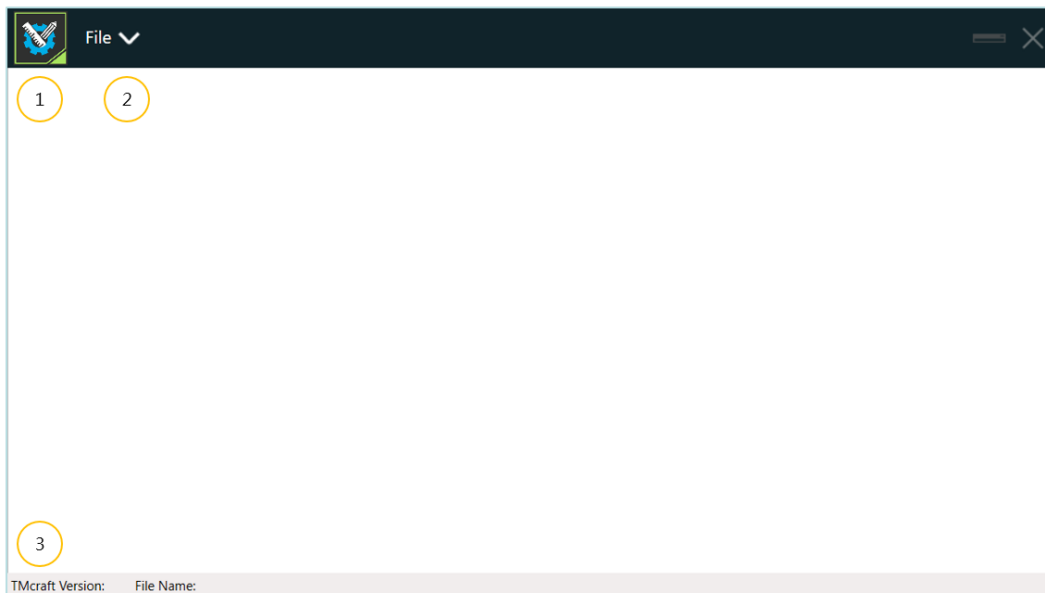


Figure 3: The Entry Page of TMcraft Packer

1. Software Information: click to open the information window
2. File: a dropdown list of functions associated to the project file management including:
  - New: open a new project page
  - Open: browse and open a project
  - Save: save the current project
  - Save As: save the current project with another file name
3. Message Bar: display the following information:
  - **TMcraft Version:** After setting the source folder file path for the Project, TMcraft Packer finds TMcraft.dll in the folder and displays its version.
  - **File Name:** the name of the current editing project

### 3.2 New Project

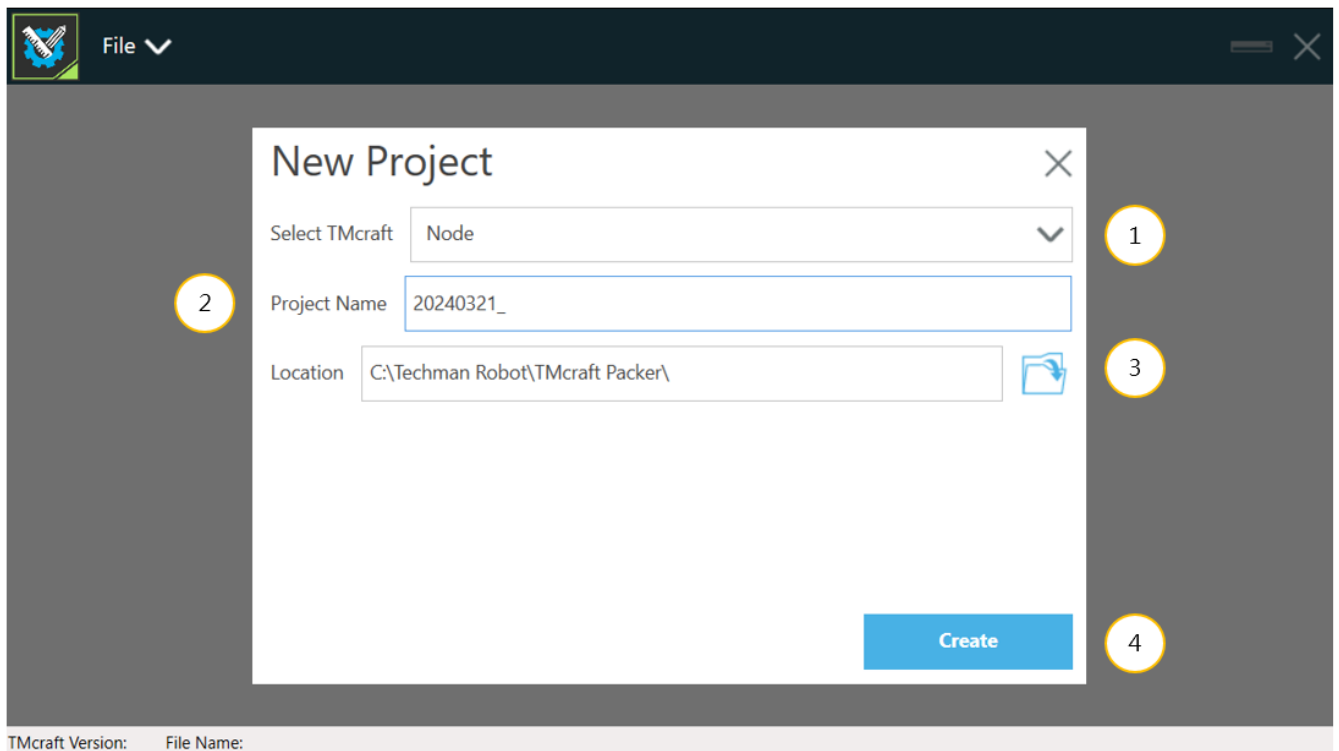


Figure 4: The New Project Page

- **Select TMcraft:** click the dropdown button to choose a project type from the TMcraft plugins list.
- **Project Name:** name the project, adding a date format prefix by default, which is removable if unnecessary.
- **Location:** set the location of the Project file by typing or browsing. The default file path is ...\\TMcraft Packer\\
- **Create:** click **Create** after setting to launch the Project Page.



## 4. TMcraft Node Packaging

First, prepare a source folder with the following items.

- The User Control Library file (dll) of the Node UI
- All files from the TMcraft API (1.16 or above) folder in the development kit
- The icon image
- Other resource files, such as:
  - Reference files used by the Program
  - Files used by the Node, such as media, documents, etc.

### Note

#### NOTE:

Suggest putting all files from the ...\\bin\\Debug folder into the source folder.

Next, launch TMcraft Packer and create a project. Select **Node** as the target TMcraft item and complete the Project Settings. The system saves the project as a .tmcraft file at the specified file path in the **Location** field.

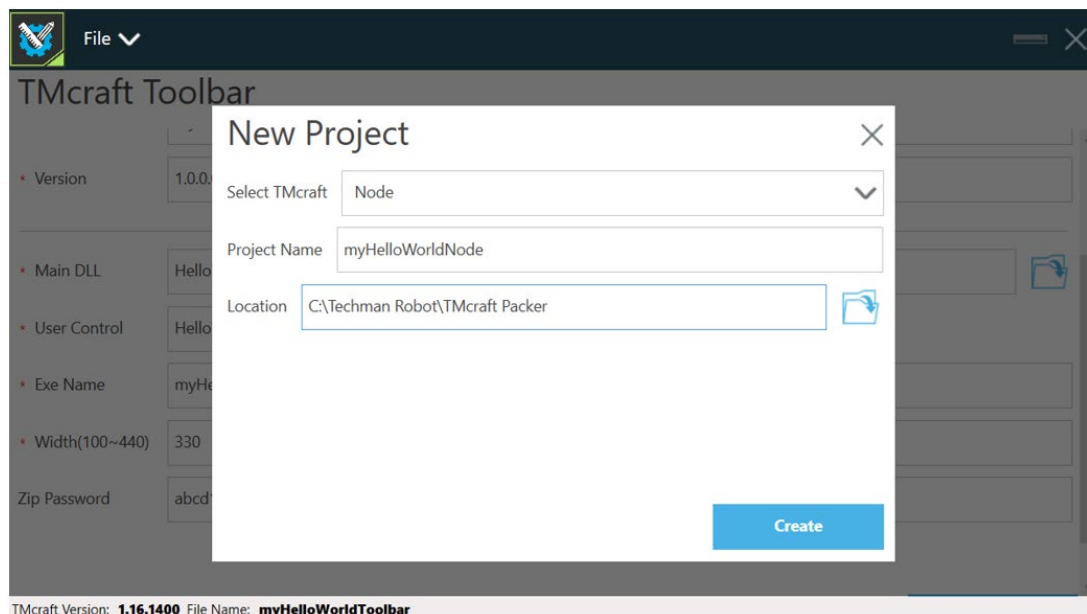


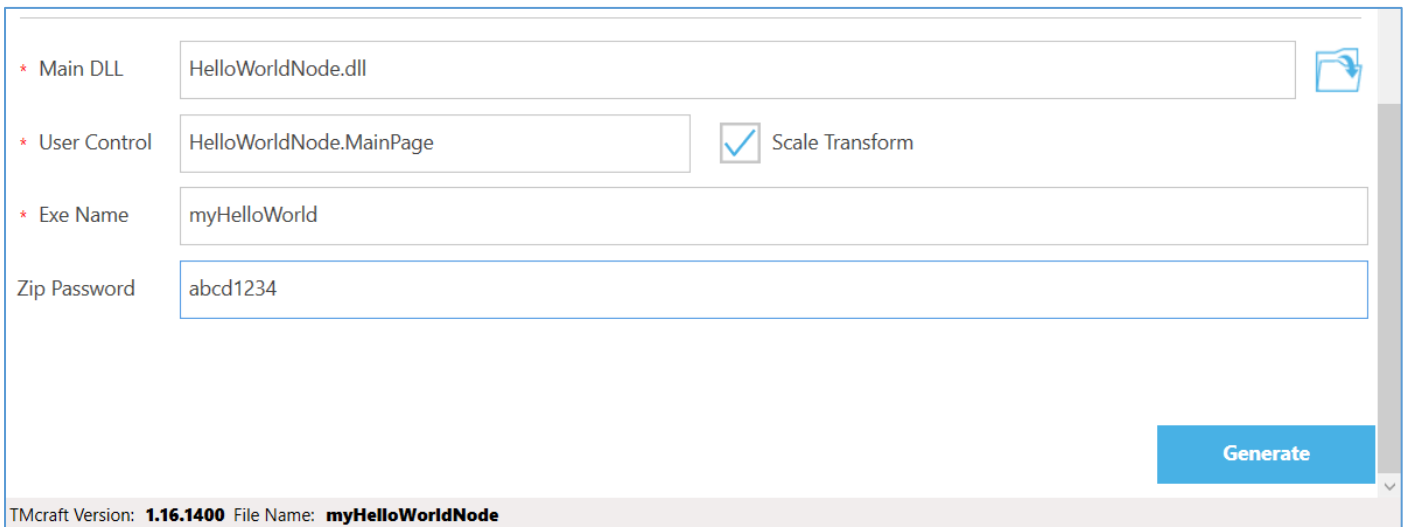
Figure 5: Create a TMcraft Packaging Project

After opening the project, users can see a form of parameters required to build and package the TMcraft Node. Refer to the following for explanations.

Parameters	Description	Requisite
<b>Source folder</b>	Path of the source folder	○
<b>Target folder</b>	Path of the target folder. For any new projects, the default target folder is ..\\TMcraft Packer\\USB\\TM_Export\\[PC Name]\\TMcraft\\Node	○
<b>Node Name</b>	Name of the Node, which is shown on the Node List of the flow project	○

Parameters	Description	Requisite
<b>Provider</b>	Name of the developer or the company providing this Node, which is shown on the TMcraft Management Page	
<b>Version</b>	The version of the TMcraft Node, which is registered onto the exe file and also shown on the TMcraft Management Page	<input type="radio"/>
<b>Copyright</b>	Copyright of the TMcraft Node, which is registered onto the exe file	
<b>Main DLL</b>	File name of the User Control Library of the TMcraft Node	<input type="radio"/>
<b>User Control</b>	The startup user control from the Main DLL. Since there might be several user controls within the User Control Library, it is necessary to define which one is used as the Main User Control. The format of this parameter should be <i>[Namespace].[UserControlName]</i>	<input type="radio"/>
<b>Exe Name</b>	Defines the name of the executable file generated. Be reminded that it <b>should NOT</b> be identical to the User Control Library file name.	<input type="radio"/>
<b>Scale Transform</b>	Denotes if the TMcraft Node would change the scale automatically by the resolution of the Control Box (1366 x 768 pixels). Disable the transformation if confident in the defined width and height.	<input type="radio"/>
<b>Zip Password</b>	Developers can define the password of the zip file. The password length should be between 6 and 256 characters of the non-case-sensitive Latin alphabet and numbers.	

※ Complete all parameters labeled with a red star in the TMcraft Packer GUI before proceeding.



The screenshot shows the 'TMcraft Packer' application window. It has a light blue header bar with the 'TM' logo. The main area contains several input fields and a checkbox:

- Main DLL:** A text box containing 'HelloWorldNode.dll'.
- User Control:** A text box containing 'HelloWorldNode.MainPage'.
- Scale Transform:** A checkbox that is checked, with the label 'Scale Transform'.
- Exe Name:** A text box containing 'myHelloWorld'.
- Zip Password:** A text box containing 'abcd1234'.

At the bottom right, there is a blue button labeled 'Generate'. At the bottom left, a status bar shows 'TMcraft Version: 1.16.1400' and 'File Name: myHelloWorldNode'.

Figure 6: Set up the Packaging of TMcraft Node

Once all requirements are ready, click **Generate**. It might take several minutes to package, and users can check the current progress on the Page (Users will see an error message if anything goes wrong). After packaging the TMcraft Node successfully, users should see the successful status label.

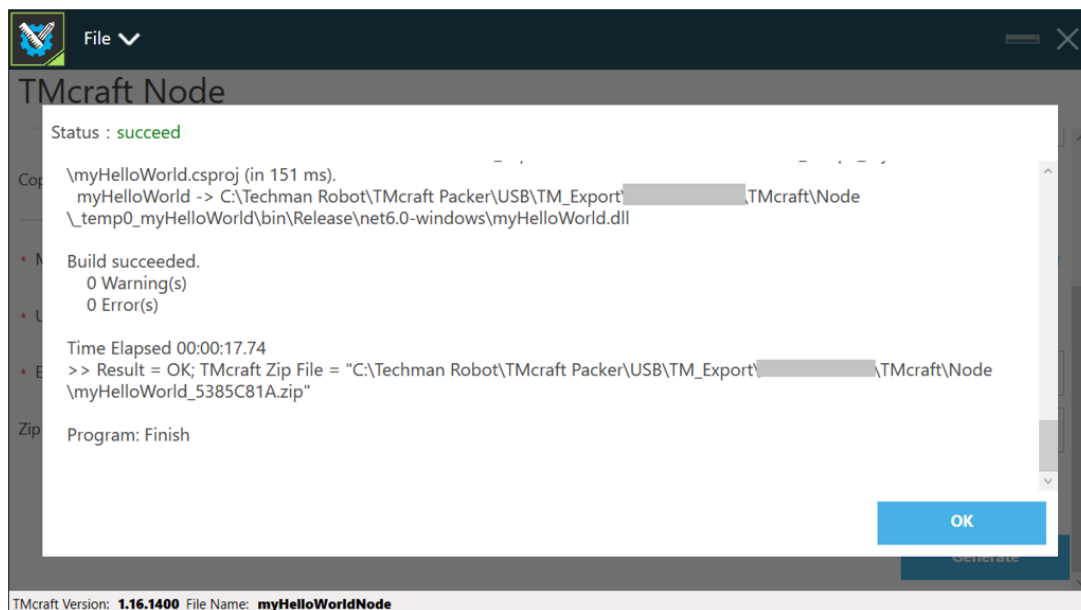


Figure 7: The Message Shown After Packaged Successfully

Finally, users can find the TMcraft Node zip file named after *[Exe Name]\_[Checksum]* in the target folder.

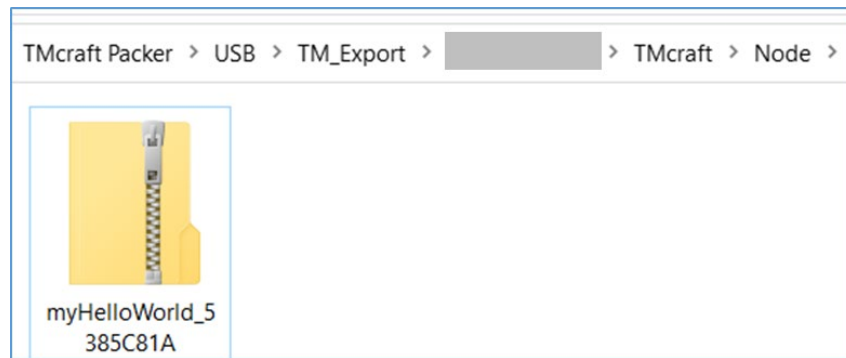


Figure 8: TMcraft Node zip at Target folder

## 5. TMcraft Service Packaging

After developing the exe file for TMcraft Service, it require a packaging process before importing to TMflow. To do this, developers have to use the tool, TMcraft Packer.exe, within the TMcraft Development Kit.

First, prepare a source folder with the executable file and associated others.

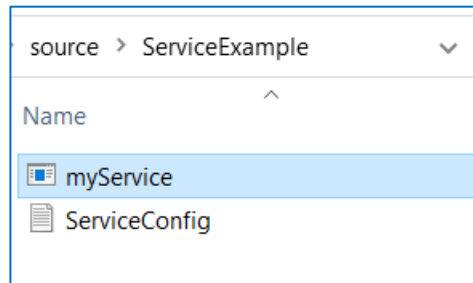


Figure 9: Source folder of TMcraft Service

### Note

#### NOTE:

Suggest putting all files from the ...\\bin\\Debug folder into the source folder.

Next, open TMcraft Packer and create a project. Select **Service** as the target TMcraft item and complete the Project Settings. The system saves the project as a .tmcraft file at the file path defined on **Location**.

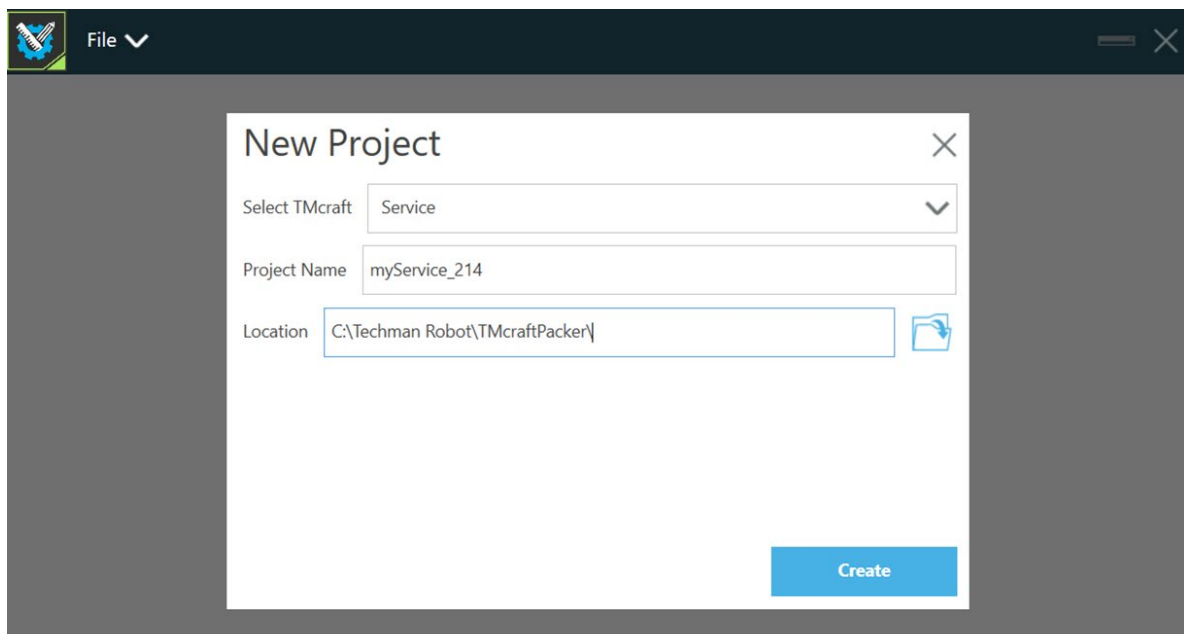
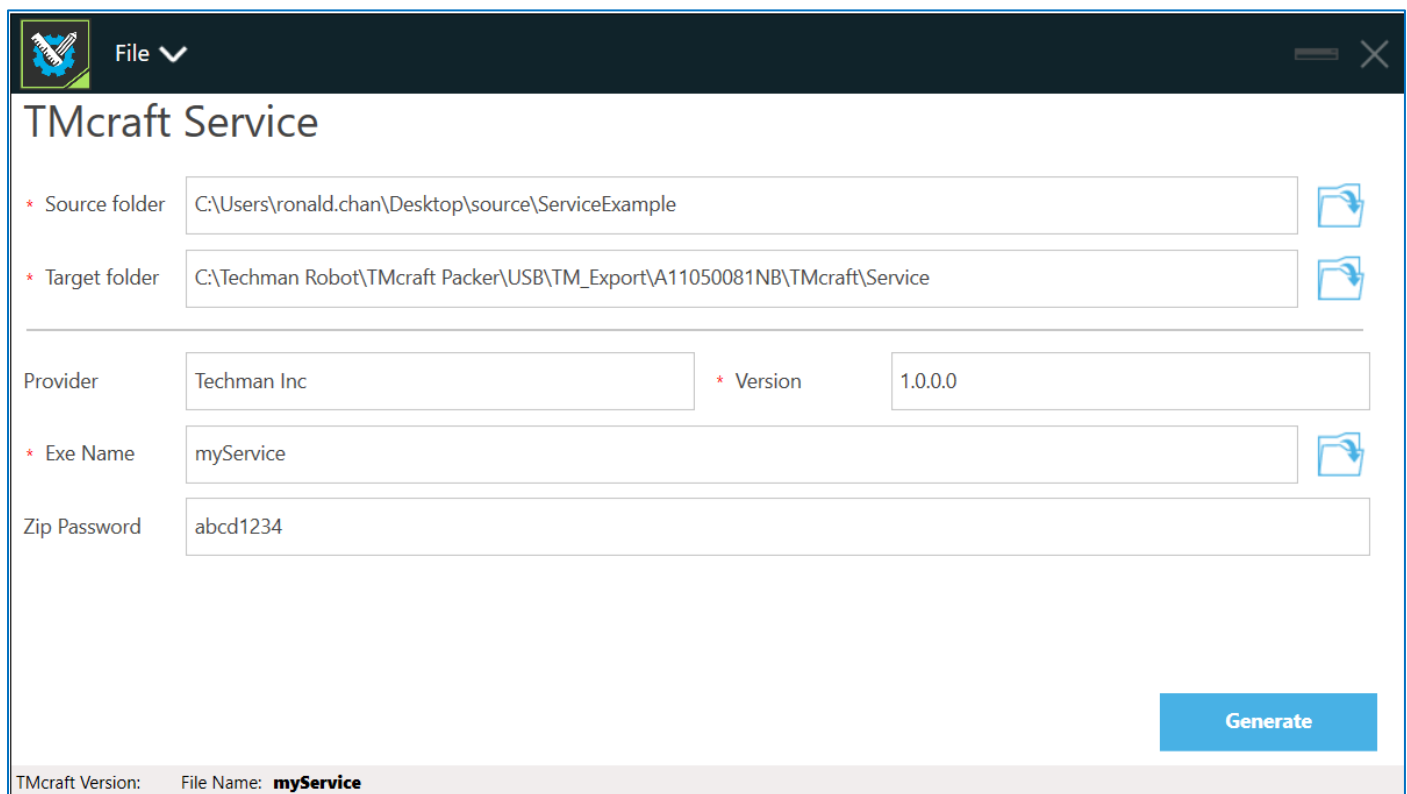


Figure 10: Create a TMcraft Packaging Project

After opening the project, users can see a form of parameters required to build and package the TMcraft Service. Refer to the following for explanations.

Parameters	Description	Requisite
<b>Source folder</b>	Path of the source folder	<input type="radio"/>
<b>Target folder</b>	Path of the target folder. For any new projects, the default target folder is ..\TMcraft Packer\USB\TM_Export\PC Name\TMcraft\Service	<input type="radio"/>
<b>Provider</b>	Name of the developer or the company providing this service, which is shown on the TMcraft Management Page	
<b>Version</b>	Version of the TMcraft Service, which is shown on the TMcraft Management Page	<input type="radio"/>
<b>Exe Name</b>	The major program (exe) used as the TMcraft Service	<input type="radio"/>
<b>Zip Password</b>	Developers can define the password of the zip file. Length between 6 and 256 characters, using only the non-case-sensitive Latin alphabet and numbers	



**TMcraft Service**

\* Source folder: C:\Users\ronald.chan\Desktop\source\ServiceExample

\* Target folder: C:\Techman Robot\TMcraft Packer\USB\TM\_Export\A11050081NB\TMcraft\Service

Provider: Techman Inc \* Version: 1.0.0.0

\* Exe Name: myService

Zip Password: abcd1234

**Generate**

TMcraft Version: File Name: **myService**

Figure 11: Set up the packaging of TMcraft Service

Once all requirements are ready, click **Generate**. It might take several minutes to package, and users can check the current progress on the Page (Users will see an error message if anything goes wrong). After packaging TMcraft Service successfully, users should see the successful status label.

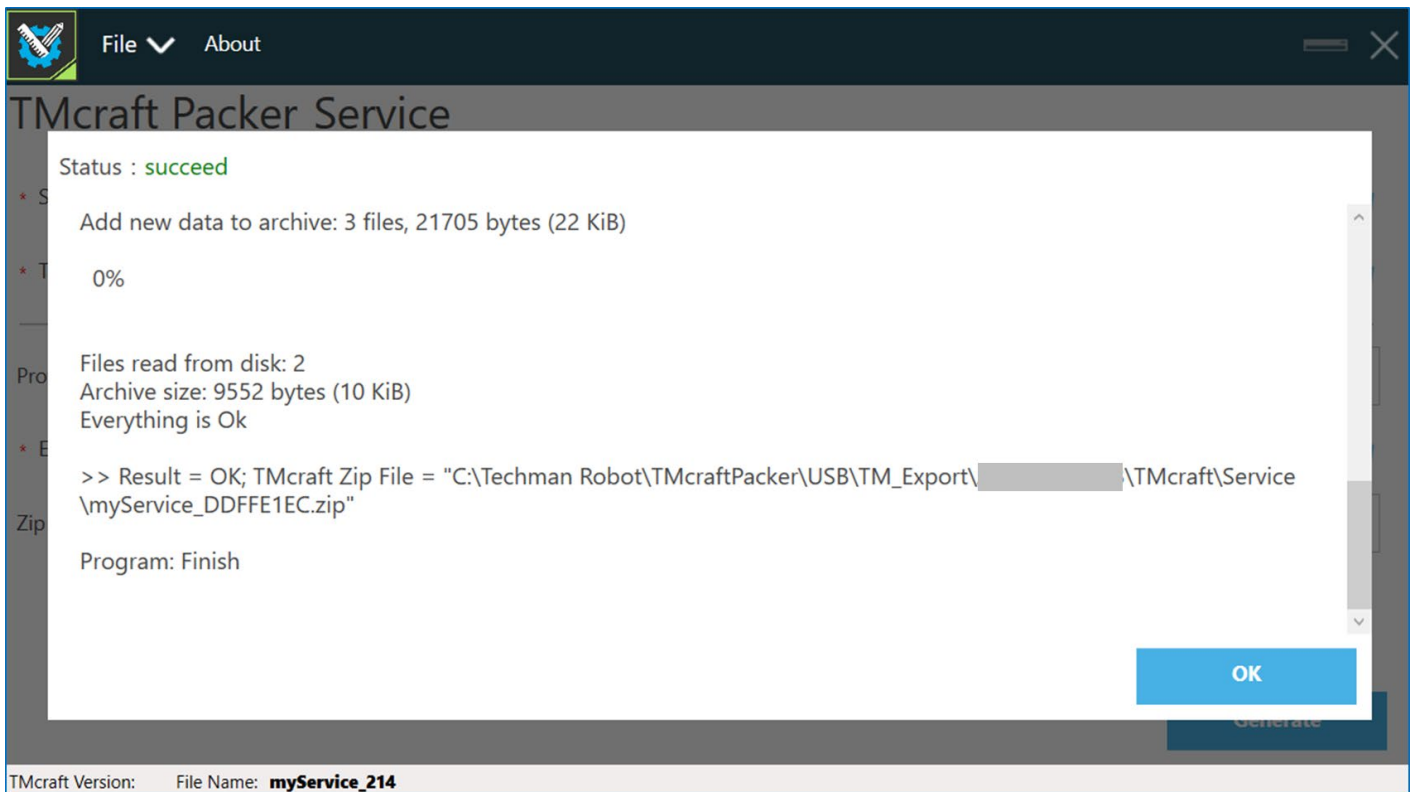


Figure 12: The Message Shown After Packaging successfully

Users can find the TMcraft Service zip file named after *[Exe Name]\_[Checksum]* in the target folder.

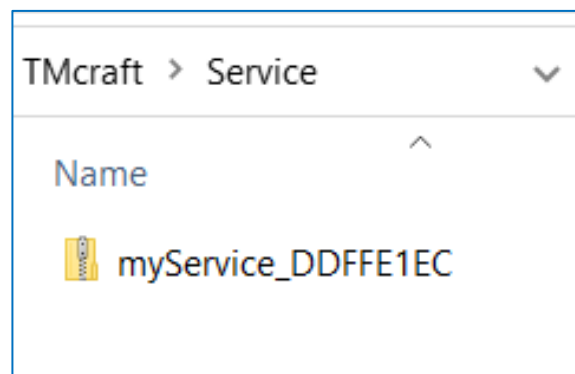


Figure 13: TMcraft Service zip at Target folder

## 6. TMcraft Shell Packaging

First, prepare a source folder with the following items.

- The execution file of the Shell UI
- All files from the TMcraft API (1.16 or above) folder from the development kit
- Other resource files, such as:
  - Other reference files used by the Program
  - Files used by the Shell, such as media, documents, etc.

### Note

#### NOTE:

Suggest putting all files from the ...\\bin\\Debug folder into the source folder.

Next, open TMcraft Packer and create a project. Select **Shell** as the target TMcraft item and complete the Project Settings. The system saves the project as a .tmcraft file at the specified file path in the **Location** field.

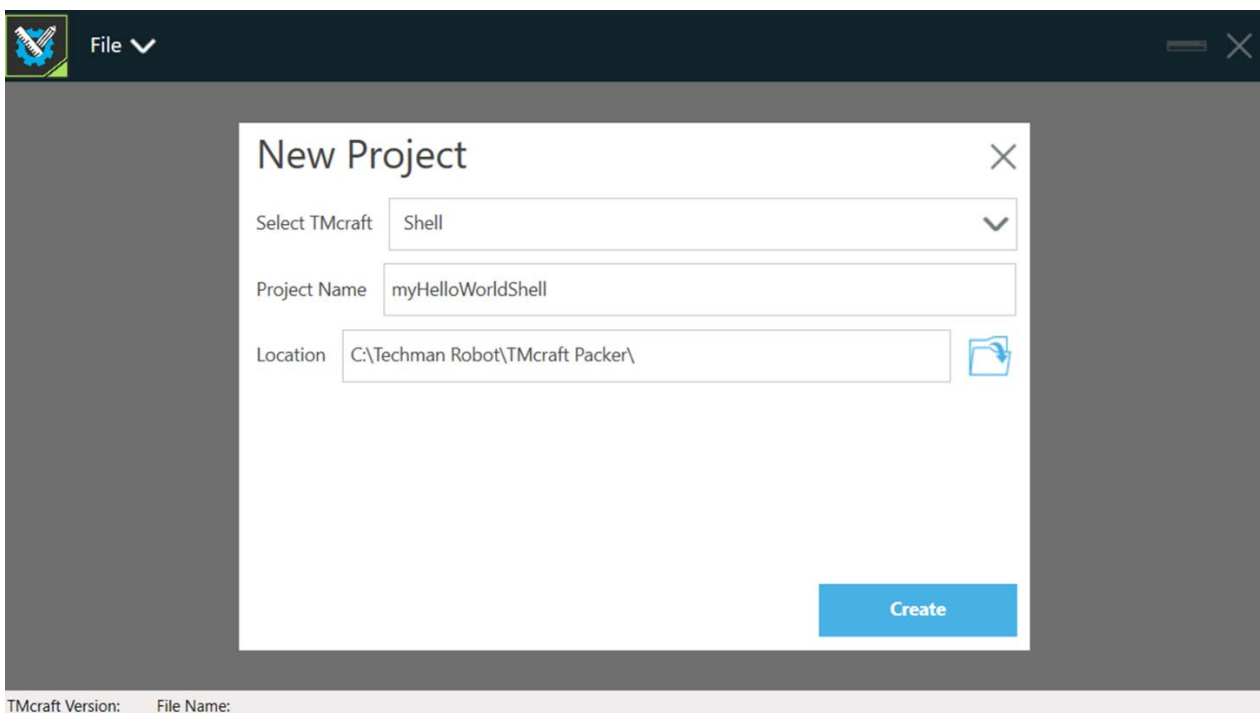


Figure 14: Create a TMcraft Packaging Project



#### IMPORTANT:

Ensure that TMcraft Packer is running in the environment with .NET 6.0 installed.



After opening the project, users can see a form of parameters required to build and package the TMcraft Shell. Refer to the following for explanations.

Parameters	Description	Requisite
<b>Source folder</b>	Path of the source folder	<input type="radio"/>
<b>Target folder</b>	Path of the target folder. For any new projects, the default target folder is ..\TMcraft Packer\USB\TM_Export\ <i>[PC Name]</i> \TMcraft\Shell	<input type="radio"/>
<b>Provider</b>	Name of the developer or the company providing this Shell, which is shown on the TMcraft Management Page	
<b>Version</b>	The version of the TMcraft Shell, which is registered onto the exe file and also shown on TMcraft Management Page	<input type="radio"/>
<b>Exe Name</b>	Name of the execution file of the TMcraft Shell Program	<input type="radio"/>
<b>Zip Password</b>	Developers can define the password of the zip file. The password length should be between 6 and 256 characters of the non-case-sensitive Latin alphabet and numbers.	

※ Complete all parameters labeled with a red star in the TMcraft Packer GUI before proceeding.

Figure 15: Set up the Packaging of TMcraft Shell

Once all requirements are ready, click **Generate**. It might take several minutes to package, and users can check the current progress on the Page (Users will see an error message if anything goes wrong). After packaging the TMcraft Shell successfully, users should see the successful status label.

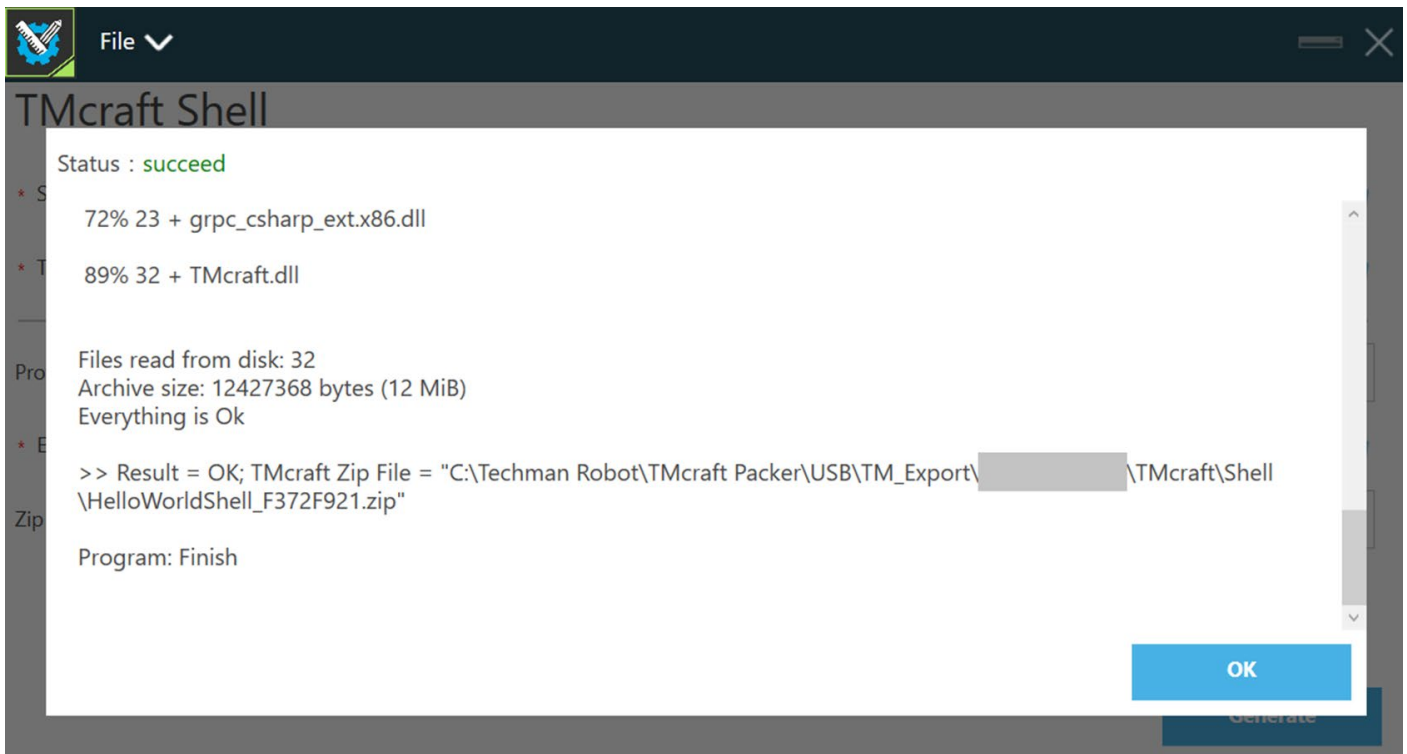


Figure 16: The Message Shown When Packaged Successfully

Finally, users can find the TMcraft Shell zip file named after *[Exe Name]\_[Checksum]* in the target folder.

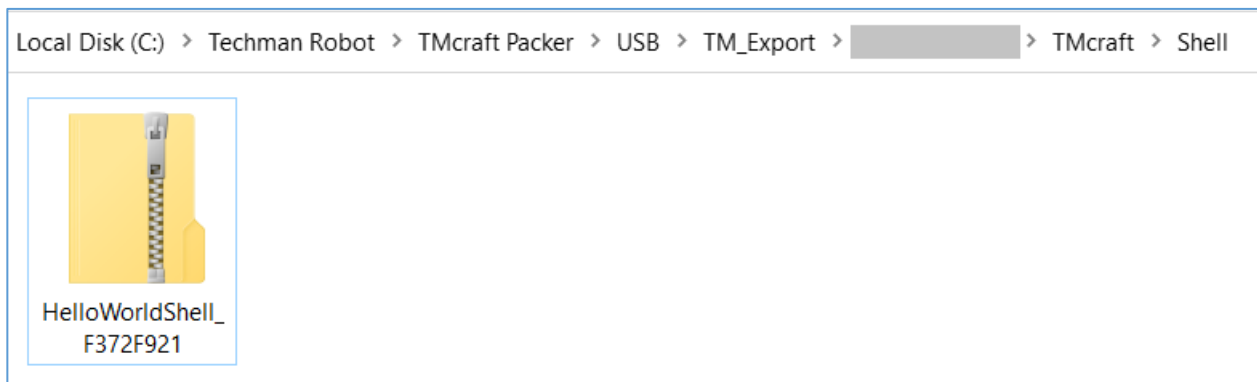


Figure 17: TMcraft Shell zip at Target folder

## 7. TMcraft Toolbar Packaging

First, prepare a source folder with the following items.

- UserControl Library file (dll) of the Toolbar UI
- All files from the TMcraft API (1.16 or above) folder from the development kit
- The icon image
- Other resource files, such as:
  - Other reference files used by the Program
  - Files used by the Toolbar, such as media, documents, etc.

### Note

#### NOTE:

Suggest putting all files from the ...\.bin\Debug folder into the source folder.

Next, open TMcraft Packer and create a project. Select **Toolbar** as the target TMcraft item and complete the Project Settings. The system saves the project as a .tmcraft file at the specified file path in the **Location** field.

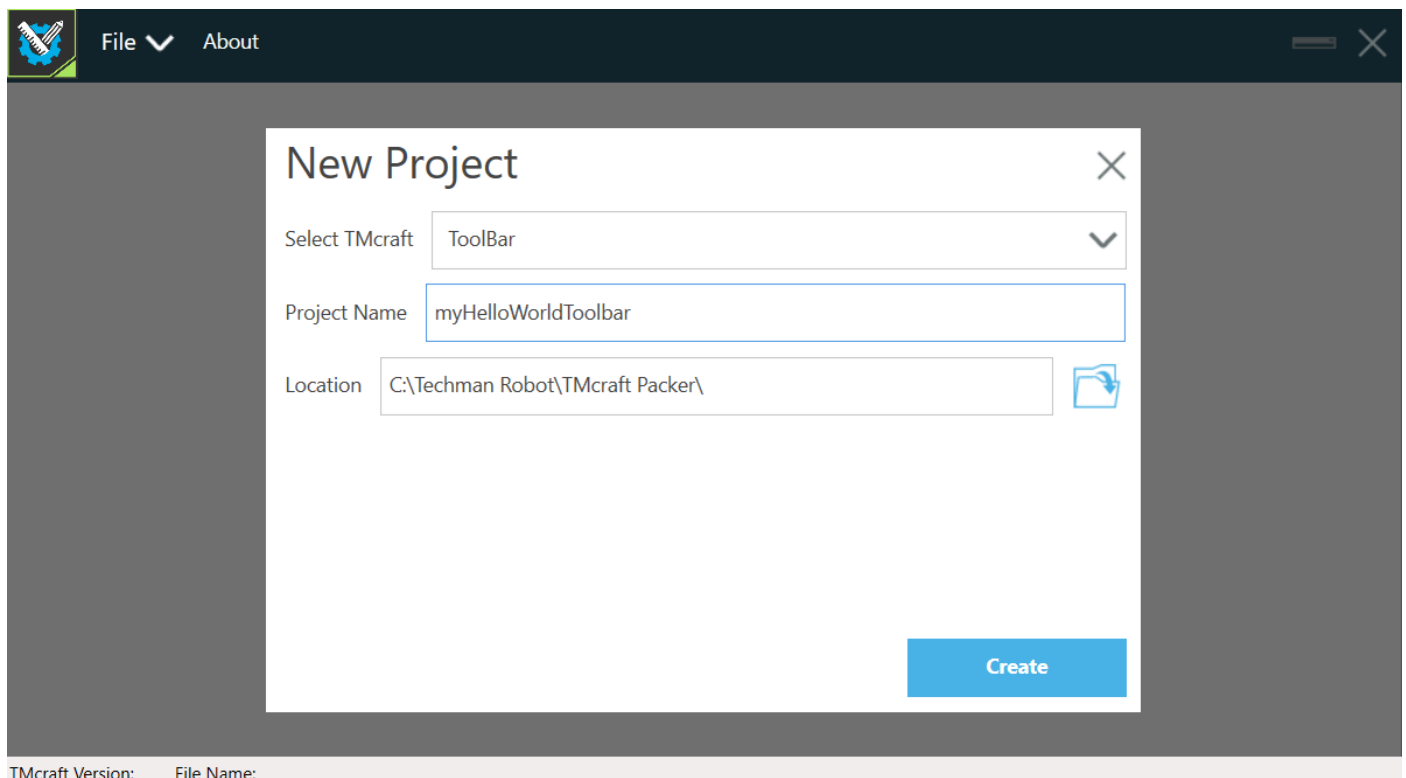


Figure 18: Create a TMcraft Packaging Project

**IMPORTANT:**

Ensure that TMcraft Packer is running in the environment with .NET 6.0 installed.

After opening the project, users can see a form of parameters required to build and package the TMcraft Toolbar. Refer to the following for explanations.

Parameters	Description	Requisite
<b>Source folder</b>	Path of the source folder	<input type="radio"/>
<b>Target folder</b>	Path of the target folder. For any new projects, the default target folder is <code>..\TMcraft Packer\USB\TM_Export\[PC Name]\TMcraft\Toolbar</code>	<input type="radio"/>
<b>Toolbar Name</b>	Name of the Toolbar, which is shown on Toolbar top bar	<input type="radio"/>
<b>Provider</b>	Name of the developer or the company providing this Toolbar, which is shown on the TMcraft Management Page	
<b>Version</b>	The version of the TMcraft Toolbar, which is registered onto the exe file and also shown on TMcraft Management Page	<input type="radio"/>
<b>Copyright</b>	Copyright of the TMcraft Toolbar, which is registered onto the exe file	
<b>Main DLL</b>	File name of the User Control Library of the TMcraft Toolbar	<input type="radio"/>
<b>User Control</b>	The startup user control from the Main DLL. Since there might be several user controls within the User Control Library, it is necessary to define which one is used as the Main User Control. The format of this parameter should be <code>[Namespace].[UserControlName]</code>	<input type="radio"/>
<b>Exe Name</b>	Defines the name of the executable file generated. Be reminded that it <b>should NOT be</b> identical to the User Control Library file name.	<input type="radio"/>
<b>Scale Transform</b>	Denotes if the TMcraft Toolbar would change the scale automatically by the resolution of Control Box (1366 x 768 pixels). It is recommend to disable this transform if developer is confident with the width and height defined	<input type="radio"/>
<b>Width</b>	The width of toolbar, ranged between 100 ~ 440 pixels	<input type="radio"/>
<b>Height</b>	The height of toolbar, ranged between 100 ~ 700 pixels	<input type="radio"/>
<b>Zip Password</b>	Developers can define the password of the zip file. The password length should be between 6 and 256 characters of the non-case-sensitive Latin alphabet and numbers.	

※ Complete all parameters labeled with a red star in the TMcraft Packer GUI before proceeding.

**TMcraft Toolbar**

\* Source folder: C:\Users\... \Desktop\source\HelloWorldToolbar

\* Target folder: C:\Techman Robot\TMcraft Packer\USB\TM\_Export\... \TMcraft\Toolbar

\* Toolbar Name: myToolbar

Provider: Techman Inc

\* Version: 1.0.0.0

Copyright: Techman Inc.

\* Main DLL: HelloWorldToolbar.dll

\* User Control: HelloWorldToolbar.MainPage ☐ Scale Transform

\* Exe Name: myHelloWorldToolbar

\* Width(100~440): 330

\* Height(100~700): 210

Zip Password: abcd1234

**Generate**

TMcraft Version: **1.16.1400** File Name: **myHelloWorldToolbar**

Figure 19: Set up the Packaging of TMcraft Toolbar

Once all requirements are ready, click **Generate**. It might take several minutes to package, and users can check the current progress on the Page (Users will see an error message if anything goes wrong). After packaging the TMcraft Toolbar successfully, users should see the successful status label.

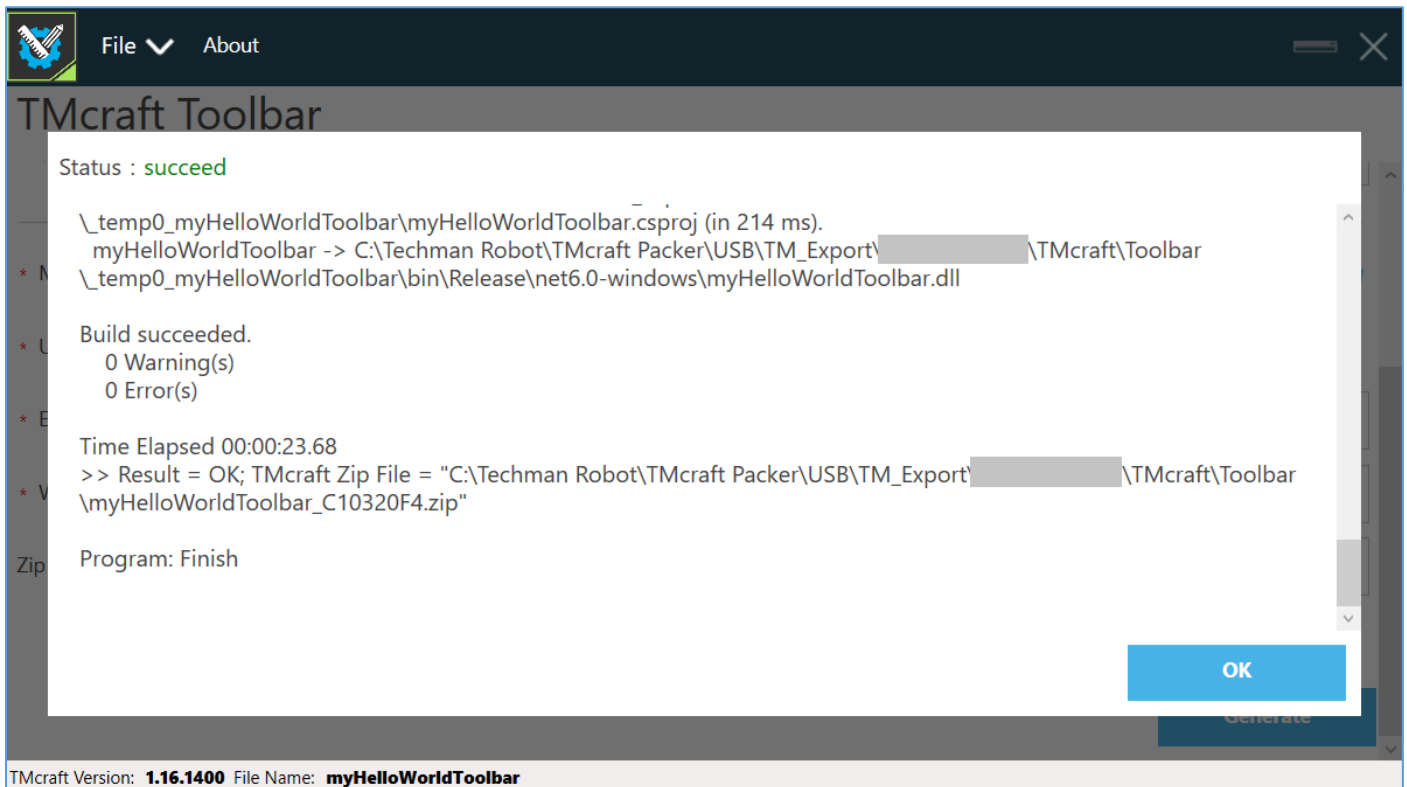


Figure 20: The Message Shown When Packaged Successfully

Finally, users can find the TMcraft Toolbar zip file named after *[Exe Name]\_[Checksum]* in the target folder.

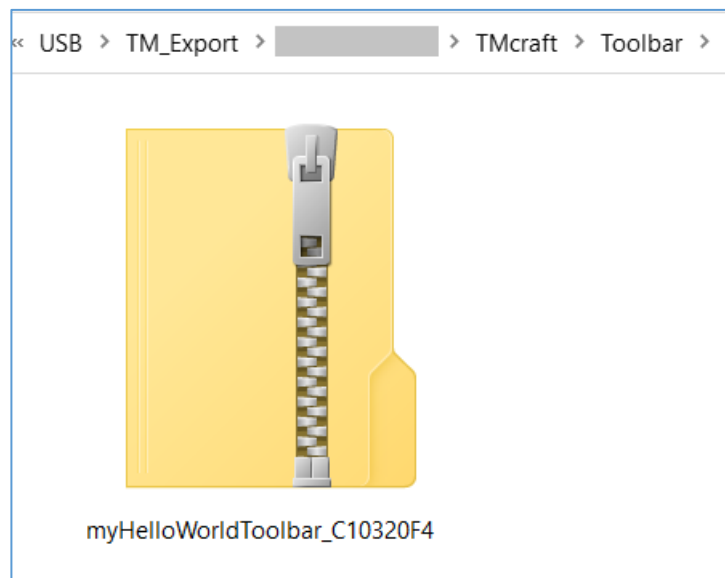


Figure 21: TMcraft Toolbar zip at Target folder

## 8. TMcraft Setup Packaging

First, prepare a source folder with the following items.

- The UserControl Library file (dll) of the Setup UI
- All files from the TMcraft API (1.18 or above) folder from the development kit
- The icon image
- Other resource files, such as:
  - Other reference files used by the Program
  - Files used by the Setup, such as media, documents, etc.

### Note

#### NOTE:

Suggest putting all files from the ...\\bin\\Debug folder into the source folder.

Next, open TMcraft Packer (1.18 or above) and create a project. Select **Setup** as the target TMcraft item and complete the Project Settings. The system saves the project as a .tmcraft file at the specified file path in the **Location** field.

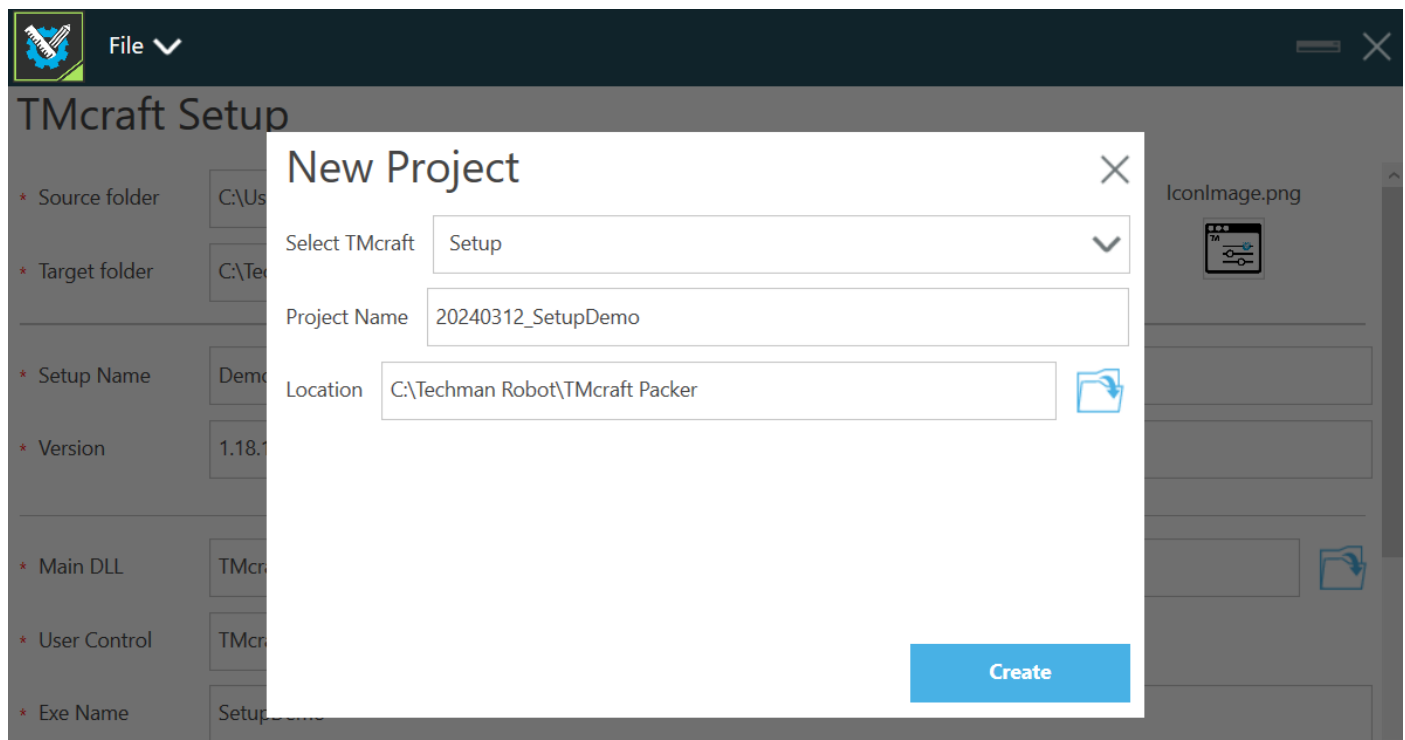


Figure 22: Create a TMcraft Packaging Project



### IMPORTANT:

Ensure that TMcraft Packer is running in the environment with .NET 6.0 installed.

After opening the project, users can see a form of parameters required to build and package the TMcraft Setup. Refer to the following for explanations.

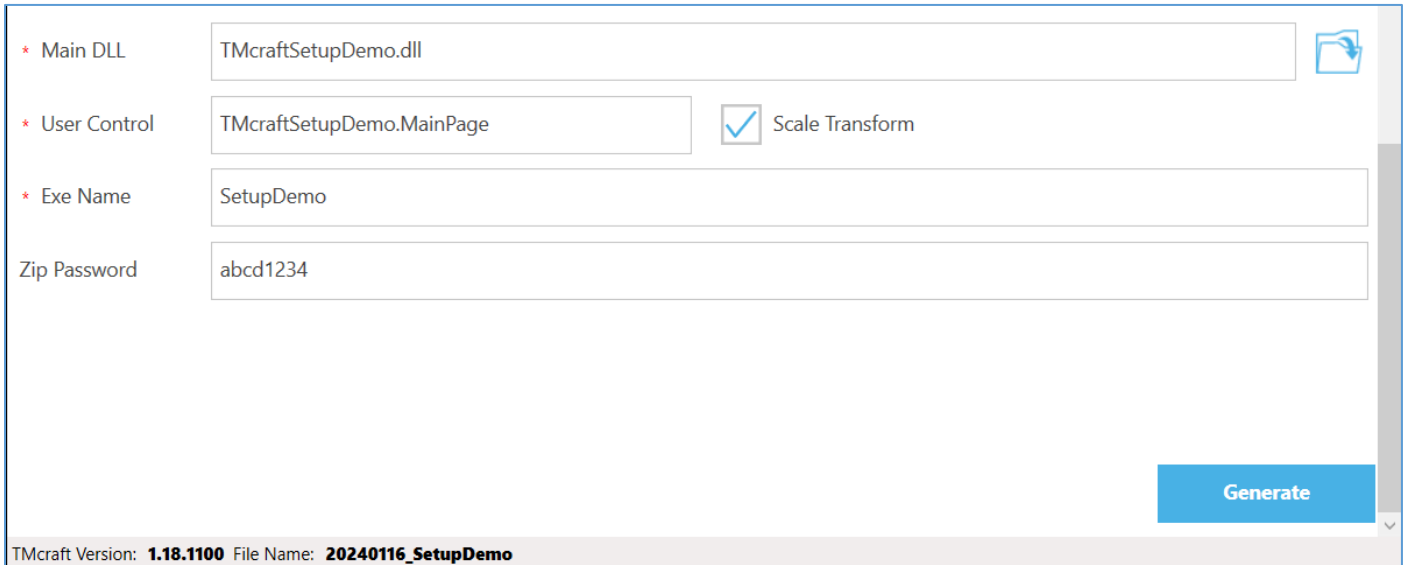
Parameters	Description	Requisite
<b>Source folder</b>	Path of the source folder	<input type="radio"/>
<b>Target folder</b>	Path of the target folder. For any new projects, the default target folder is ..\TMcraft Packer\USB\TM_Export\[PC Name]\TMcraft\Setup	<input type="radio"/>
<b>Setup Name</b>	Name of the Setup, which is shown on the list of Flow Project\Project function\TMcraft Item	<input type="radio"/>
<b>Provider</b>	Name of the developer or the company providing this Setup, which is shown on the TMcraft Management Page	
<b>Version</b>	The version of the TMcraft Setup, which is registered onto the exe file and also shown on the TMcraft Management Page	<input type="radio"/>
<b>Copyright</b>	Copyright of the TMcraft Setup, which is registered onto the exe file	
<b>Main DLL</b>	File name of the User Control Library of the TMcraft Setup	<input type="radio"/>
<b>User Control</b>	The startup user control from the Main DLL. Since there might be several user controls within the User Control Library, it is necessary to define which one is used as the Main User Control. The format of this parameter should be [Namespace].[UserControlName]	<input type="radio"/>
<b>Exe Name</b>	Defines the name of the executable file generated. Be reminded that it <b>should NOT</b> be identical to the User Control Library file name.	<input type="radio"/>
<b>Scale Transform</b>	Denotes if the TMcraft Setup would change the scale automatically by the resolution of the Control Box (1366 x 768 pixels). Disable the transformation if confident in the defined width and height.	<input type="radio"/>
<b>Zip Password</b>	Developers can define the password of the zip file. The password length should be between 6 and 256 characters of the non-case-sensitive Latin alphabet and numbers.	

※ Complete all parameters labeled with a red star in the TMcraft Packer GUI before proceeding.

The screenshot shows the 'TMcraft Setup' window with a 'File' menu and a 'TMcraft Setup' title bar. The main area contains several input fields and buttons:

- Source folder:** A text box containing 'source\SetupDemo' with a red star icon to its left. To the right is a folder selection button and a preview of 'IconImage.png'.
- Target folder:** A text box containing 'C:\Techman Robot\TMcraft Packer\USB\TM\_Export\TMcraft\Setup' with a red star icon to its left. To the right is a folder selection button and a preview of a TMcraft icon.
- Setup Name:** A text box containing 'Demo' with a red star icon to its left.
- Provider:** A text box containing 'Techman Inc'.
- Version:** A text box containing '1.18.1100' with a red star icon to its left.
- Copyright:** A text box containing 'Techman Inc'.





\* Main DLL:

\* User Control:  ☒ Scale Transform

\* Exe Name:

Zip Password:

**Generate**

TMcraft Version: 1.18.1100 File Name: 20240116\_SetupDemo

Figure 23: Set up the Packaging of TMcraft Setup

Once all requirements are ready, click **Generate**. It might take several minutes to package, and users can check the current progress on the Page (Users will see an error message if anything goes wrong). After packaging the TMcraft Setup successfully, users should see the successful status label.

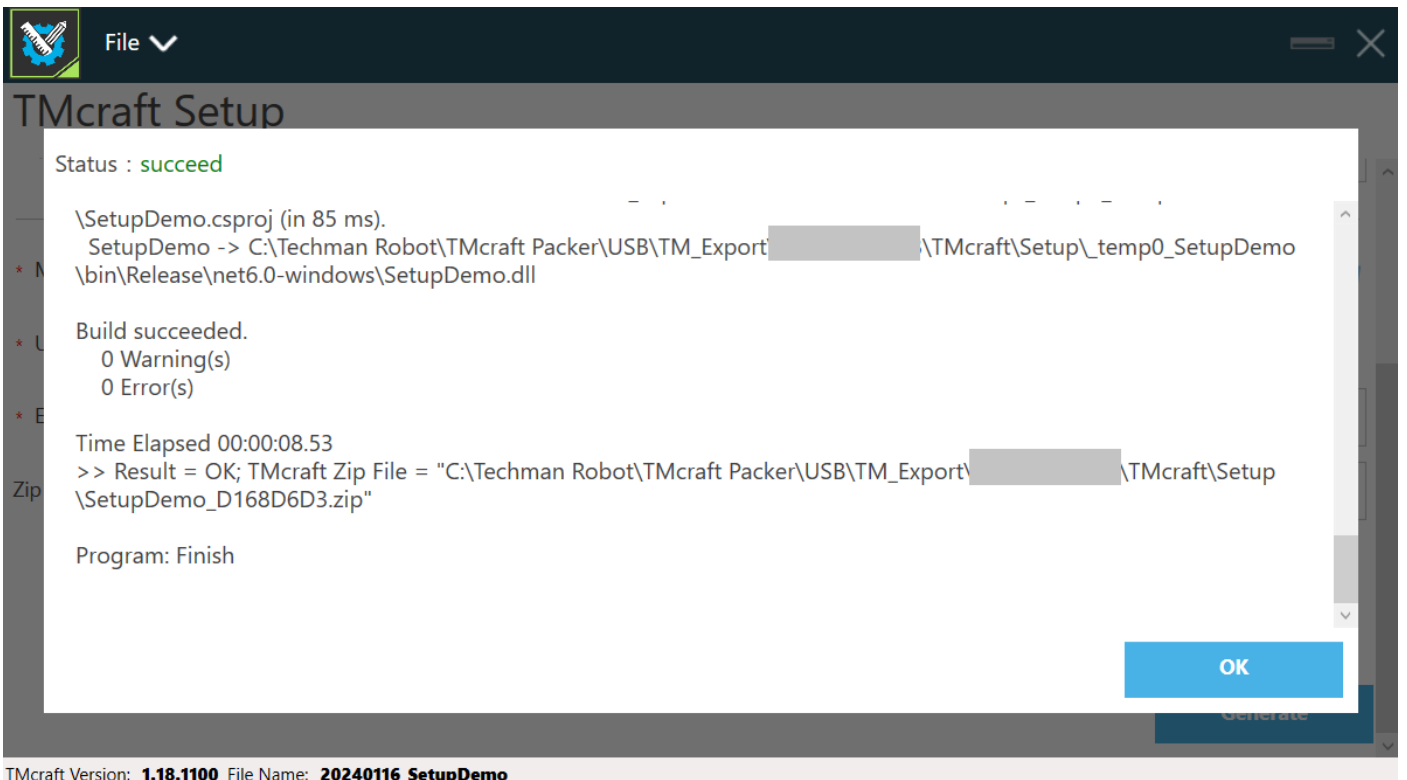


Figure 24: The Message Shown After Packaged Successfully

Finally, users can find the TMcraft Setup zip file named after *[Exe Name]\_[Checksum]* in the target folder.

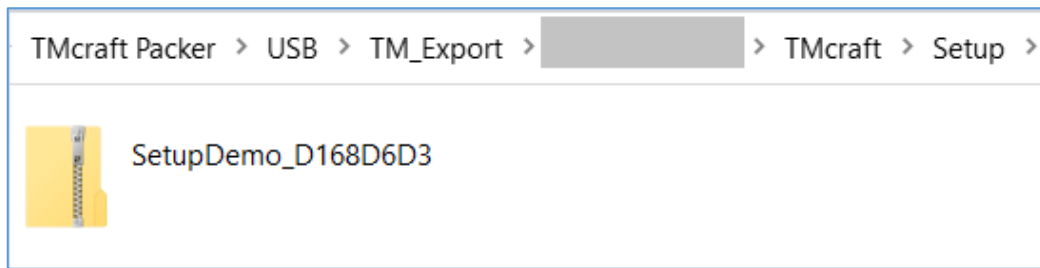


Figure 25: TMcraft Setup zip at Target folder

## 9. Installation Code and Checksum

To protect the rights and interests of developers, each TMcraft Packer Projects has its own encrypted Installation Code (GUID based). Any TMcraft items generated by this project will share the same Installation Code and be able to replace one another on the same robot. In addition, if there are two items generated from two different TMcraft Packer Projects (different Installation Codes), even though they might share the same name and configuration, they cannot replace each other. Therefore, developers should keep their packer project safe.

On the other hand, TMcraft Packer will also generate a checksum for each TMcraft item based on the binary footprint of the files (exe and dll) within the source folder and the Installation Code. The TMcraft item saves it onto the configuration file. When importing the TMcraft item, TMflow will calculate a checksum by the same method; if these two checksums are not identical, TMflow will block the importing.

Developers can announce the checksum so that end users can check the checksum on TMcraft Management Page and make sure it is a genuine product.

