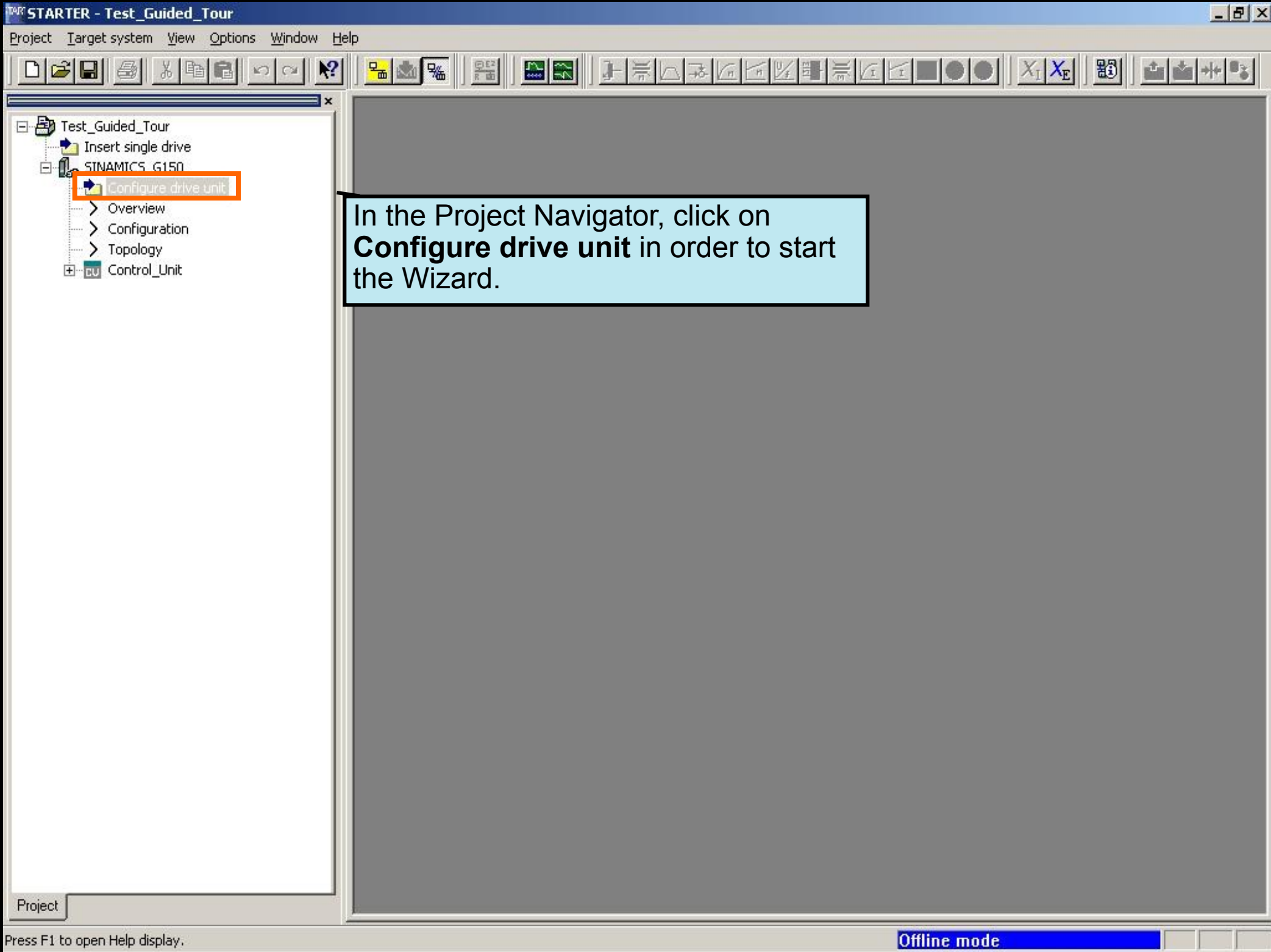




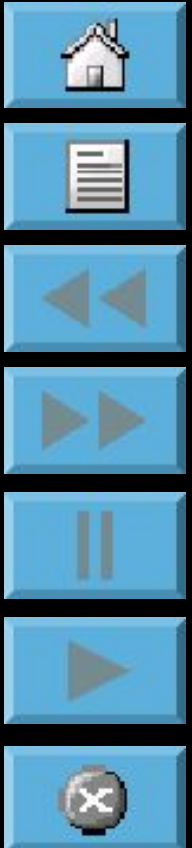
Configuring a SINAMICS G130 or G150 offline



After you have created a project and set-up a drive unit (G130/150), configure this using the Wizard. This involves configuring the drive unit, selecting the option modules and a motor. After the Wizard has been exited, the drive unit is configured and the motor can be tested.



In the Project Navigator, click on **Configure drive unit** in order to start the Wizard.





Selecting the drive unit



Configuration - SINAMICS_G150 - Drive unit

Drive unit
 Options
 Control structure
 Drive setting
 Motor
 Motor holding brake
 Defaults of the setpoint
 Drive functions
 PROFIBUS process data
 Important parameters
 Summary

Configure the drive unit:

Voltage selection: 400V

Display filter: All drive units

Drive unit selection:

Type (order no.)	Voltage	Rated power	Rated current
6SL3710-1GE32-1AA0	400V	110kW	210A
6SL3710-1GE32-1CA0	400V	110kW	210A
6SL3710-1GE32-1CU0	400V	110kW	210A
6SL3710-1GE32-6AA0	400V	132kW	260A
6SL3710-1GE32-6CA0	400V	132kW	260A
6SL3710-1GE32-6CU0	400V	132kW	260A
6SL3710-1GE33-1AA0	400V	160kW	310A
6SL3710-1GE33-1CA0	400V	160kW	310A
6SL3710-1GE33-1CU0	400V	160kW	310A
6SL3710-1GE33-8AA0	400V	200kW	380A
6SL3710-1GE33-8CA0	400V	200kW	380A
6SL3710-1GE33-8CU0	400V	200kW	380A

Configure the drive:

Drive object type: Vector

Default macro: G150 Cabinet unit V2.x
G150 Cabinet unit V2.x
G150 Cabinet unit V1.3

< Back Continue > Cancel Help

Here, select the **line supply voltage** of the drive inverter.

Here, select the unit corresponding to the Order No. of the drive unit.

Here, where relevant, select the pre-assignment (default) of the drive units:

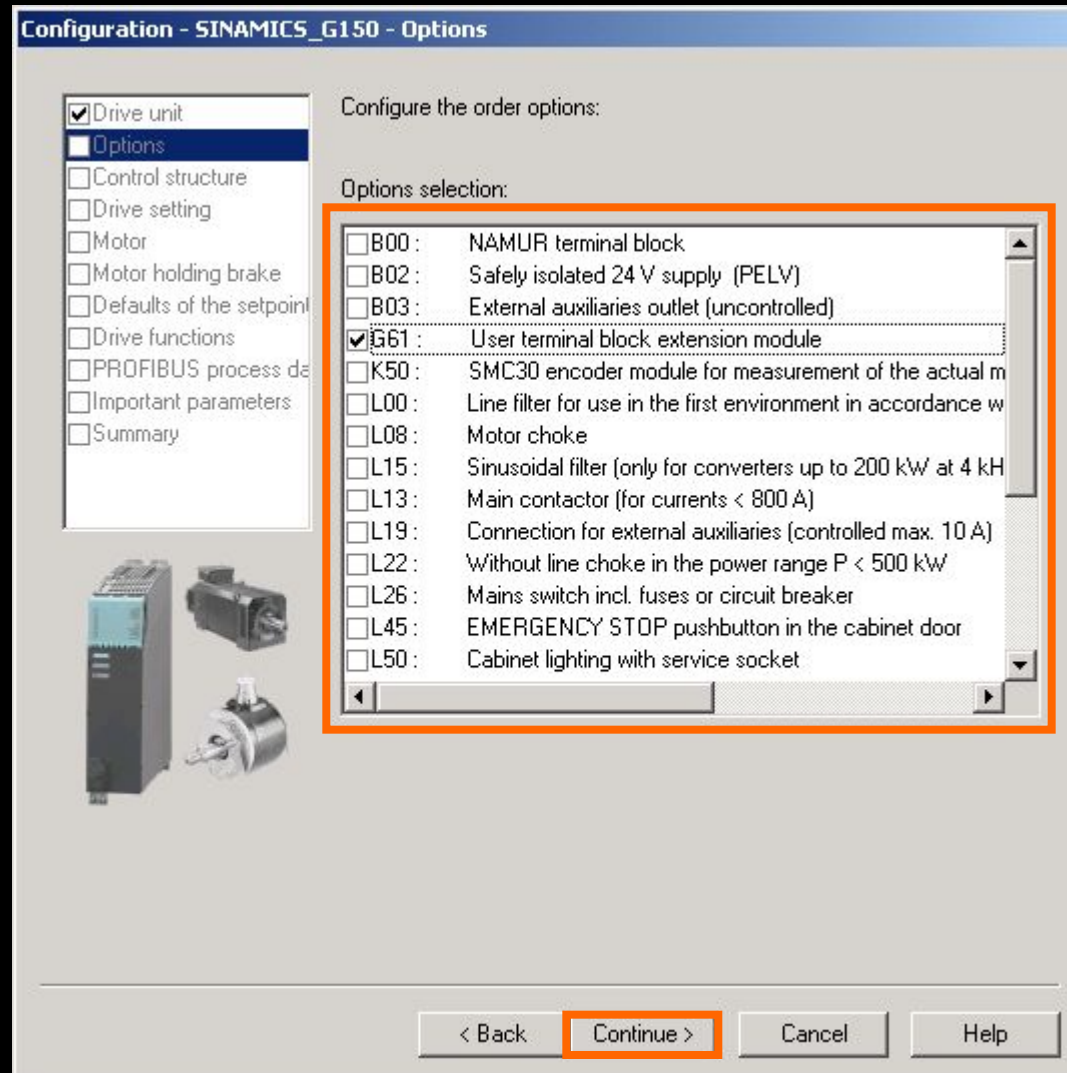
- V2.x....terminals, pre-assignment the same as Firmware V2.x (standard)
- V1.3...terminals, pre-assignment the same as Firmware V1.3 (for a firmware upgrade to V2.x and older terminal assignment), select the unit corresponding to the Order No. on the unit.

Click on **Continue** to change to the next window.



Selecting the options that you have ordered

In this dialog, you can select the options used so that the Wizard can make the appropriate parameter assignments for you.



Select the options by activating the checkbox.

Click on **Continue** to change to the next window.



Selecting the function modules and the control mode

In this dialog you have to choose the operating mode of your drive. The operating mode decides on the possible control modes.



Function modules are additional softwaremodules which allow to realize easy technology functions without a PLC. Before the function modules are usable, they must be activated in the configuration wizard.

Select the operating mode of your drive. In the operating mode “V/f control” no speed or torque control is possible.

Depending on the operating mode choose the control mode of your drive.

Click on **Continue** to change to the next window.



Select the Standard applicable for the motor




Configuration - SINAMICS_G150 - Drive setting

Drive: Drive_1, DDS 0

Configure the drive properties:

Standard:

Drive unit
 Options
 Control structure
 Drive setting
 Motor
 Motor holding brake
 Defaults of the setpoint
 Drive functions
 PROFIBUS process de
 Important parameters
 Summary



< Back **Continue >** Help

Select the Standard for operation.

- International Standard IEC (Standard)
- US Standard - NEMA

Click on **Continue** to change to the next window.



Ways of selecting motors

You can either select a SIEMENS motor from the list
- or you can directly enter the motor data.



Configuration - SINAMICS_G150 - Motor

Drive: Drive_1, DDS 0, MDS 0

Configure the motor:

Name:

Motor with DRIVE-CLiQ interface
 Read out motor again

Select standard motor from list
 Enter motor data

Motor type:

Motor selection:

Type (order no.)	Rat...	Ra...	Rat...	Rate...	Code nu
1PH7101-xxFxx-xLxx	150...	3,7...	10 A	51,6...	12701
1PH7101-xxFxx-xxxx	150...	3,7...	10 A	51,6...	10701
1PH7103-xxDxx-xLxx	100...	3,7...	9,6 A	35,6 ...	12702
1PH7103-xxDxx-xxxx	100...	3,7...	9,6 A	35,6 ...	10702
1PH7103-xxFxx-xLxx	150...	5,5...	13 A	52,7 ...	12703
1PH7103-xxFxx-xxxx	150...	5,5...	13 A	52,7 ...	10703
1PH7103-xxGxx-xLxx	200...	7 k...	17...	68,9...	12704
1PH7103-xxGxx-xxxx	200...	7 k...	17...	68,9...	10704
1PH7105-xxFxx-xLxx	150...	7 k...	17...	51,6...	12705
1PH7105-xxFxx-xxxx	150...	7 k...	17...	51,6...	10705
1PH7107-xxDxx-xLxx	100...	6,3...	17...	35,3 ...	12706
1PH7107-xxDxx-xxxx	100...	6,3...	17...	35,3 ...	10706

Enter a name for the motor, e.g. the equipment code.

Here you can either select a SIEMENS motor from the list – or you can manually enter the motor data (refer to the next page).

If you have decided to enter a motor from the list, then here, select the motor type (e.g. 1PH7 or 1PH6). In the checkbox below, you can specify whether your motor should have an internal brake.

Here, select your standard motor using the Order No. (this is only active if **Select standard motor from list** is activated).

Click on **Continue** to change to the next window.



Entering motor data according to the rating plate

This dialog box is only displayed if **Enter motor data** is activated in the previous dialog box.



Configuration - SINAMICS_G150 - Motor data

Drive: Drive_1, DDS 0, MDS 0

Motor data, Induction motor (rotary):

Name	Comment	Value	Unit
p304[0]	Rated motor voltage	0	V
p305[0]	Rated motor current	0.00	A
p307[0]	Rated motor power	0.00	kW
p308[0]	Rated motor power factor	0.000	-
p310[0]	Rated motor frequency	0.00	Hz
p311[0]	Rated motor speed	0.0	rpm
p335[0]	Motor cooling type	Non-ventilat	-

Do you want to enter the mechanical data?

Do you want to enter the equivalent circuit diagram data?

< Back **Continue >** Help

Enter the motor data according to the rating plate.

Activate the checkbox if you also wish to enter equivalent circuit diagram data (motor data sheet). Generally this is not required for standard applications.

Click on **Continue** to change to the next window.



Selecting the default settings for your command and setpoint sources for the standard data set (CDS0)

In addition you can also change the default settings for a second data set (CDS1) (CDS: ControlDataSet).

Configuration - SINAMICS_G150 - Defaults of the setpoints/command sources

Drive: Drive_1, DDS 0

Select the default macros for your command sources:

Command sources: CDS0 Terminal TM31
CDS1 No selection

All binector inputs (BI) of the corresponding command data set (CDS) will be interconnected accordingly.

Select the default macros for your setpoint sources:

Setpoint sources: CDS0 Terminal TM31
CDS1 No selection

All connector inputs (CI) of the corresponding command data set (CDS) will be interconnected accordingly.

< Back Continue > Help

Here, select a source for your basic drive controls – for example, the power-on command.

Here, select your setpoint source, e.g. analog input on a TM31.

Click on **Continue** to change to the next window.



Make the appropriate control settings and select a Profibus telegram

Configuration - SINAMICS_G150 - Drive functions

Drive: Drive_1, DDS 0


Technological application: **Pumps and fans (1)**

A motor identification is recommended for the initial commissioning:

Motor identification: **Motor data identification (2)**

A motor data identification is performed once at the drive enable. The motor is under current and may turn up to a quarter of a revolution.

Continue >



Here, select your particular drive application. This selection influences the pre-assignment (default setting) of the closed-loop control parameters.

Here, you can define the type of motor identification and controller optimization routines. For the motor identification routine, motor data are determined that are important for the closed-loop control.

Click on **Continue** to change to the next window.



Select a Profibus telegram



Configuration - SINAMICS_G150 - PROFIBUS process data exchange (drive)

Drive: Drive_1, DDS 0

Select the PROFIBUS message frame type:

PROFIBUS PZD message frame: **Free telegram configuration with BICO**

Length:

Input data (words):

Output data (words):

Notes:

1. The PROFIBUS process data will be interconnected to BICO parameters in accordance with the selected message frame type. These BICO parameters cannot be subsequently changed.

< Back **Continue >** Help

Here, you can select the Profibus telegram. You can either select a standard telegram or a freely assigning a telegram.

Click on **Continue** to change to the next window.



Entering the most important drive parameters




Configuration - SINAMICS_G150 - Important parameters

Drive: Drive_1, DDS 0

Set the values for the most important parameters:

Motor current limit:	<input type="text" value="210.00"/>	A
Minimum speed:	<input type="text" value="0.000"/>	rpm
Maximum speed:	<input type="text" value="1500.000"/>	rpm
Ramp-up time:	<input type="text" value="20.000"/>	s
Ramp-down time:	<input type="text" value="30.000"/>	s
Ramp-down time with OFF3:	<input type="text" value="10.000"/>	s



< Back **Continue >** Help

Here, enter the most important drive parameters.

Click on **Continue** to change to the next window.



Summary of the settings made



Configuration - SINAMICS_G150 - Summary

- Drive unit
- Options
- Control structure
- Drive setting
- Motor
- Motor data
- Calculation of the motor/controller data
- Motor holding brake
- Defaults of the setpoint
- Drive functions
- PROFIBUS process data
- Important parameters
- Summary

The following data of the drive unit has been entered:

Drive unit:
Name: SINAMICS_G150
Order no.: 6SL3710-1GE32-1AA0
Bus address: 0

Drive:
Name: Drive_1

Options:
Name: G61 - User terminal block extension module

Control structure:
Control type: Speed control (sensorless)

Drive setting:
Standard: IEC motor [50 Hz / kW]

Motor:
Name: Motor
Motor type: Induction motor (rotating)

Motor data:
Rated motor voltage: 0 V
Rated motor current: 0.00 A
Rated motor power: 0.00 kW
Rated motor power factor: 0.000
Rated motor frequency: 0.00 Hz
Rated motor speed: 0.0 rpm
Motor cooling type: 0

Calculation of the motor/controller data:
Complete calculation without equiv. circuit diagram data

Copy text to clipboard

< Back Finish Help

In this window you can see a summary of the settings you made.

You can copy this summary into a buffer with **Copy** so that it can be used in other applications, e.g. to generate a report.

In order to exit the Wizard, click on **Finish**. You can still change the settings with **Back**.



The drive unit has now been configured

You can now:

- Make additional settings
- Download the project into the target system
- Save the project and exit Starter
- ...

