

DIVS –Vivado IP Packager

Andrej Trost

Laboratorij za načrtovanje integriranih vezij

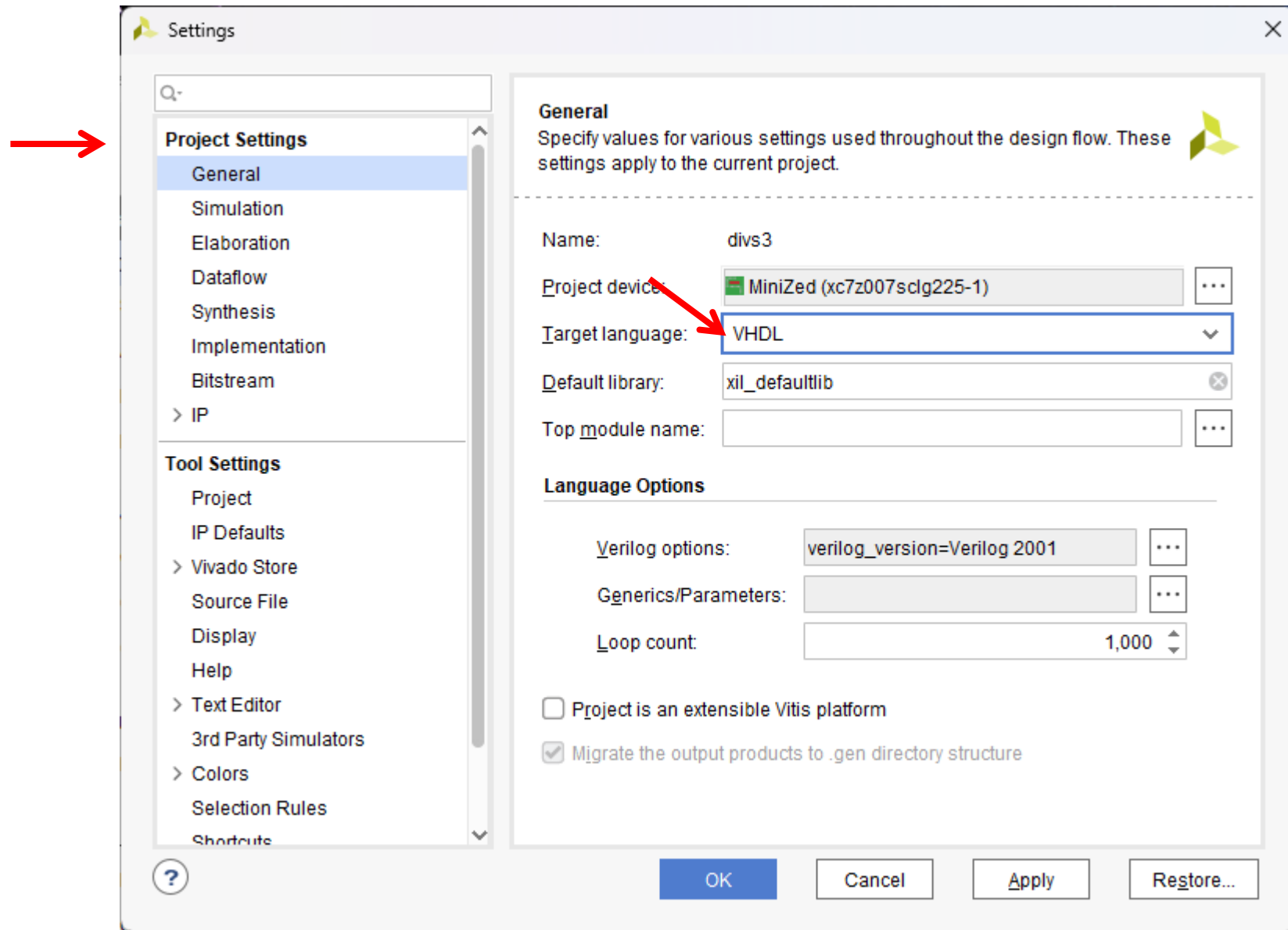


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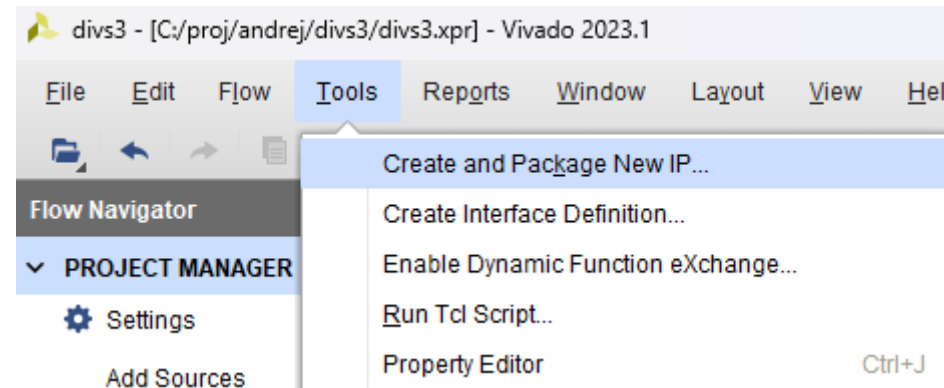
**Fakulteta
za elektrotehniko**

Nastavi privzeti strojno-opisni jezik



Izdelava nove IP komponente

- izvedemo v projektu, kjer smo izbrali FPGA in nastavili jezik



Create and Package New IP

Create Peripheral, Package IP or Package a Block Design

Please select one of the following tasks.

Packaging Options

- Package your current project
Use the project as the source for creating a new IP Definition.
- Package a block design from the current project
Choose a block design as the source for creating a new IP Definition.
- Package a specified directory
Choose a directory as the source for creating a new IP Definition.

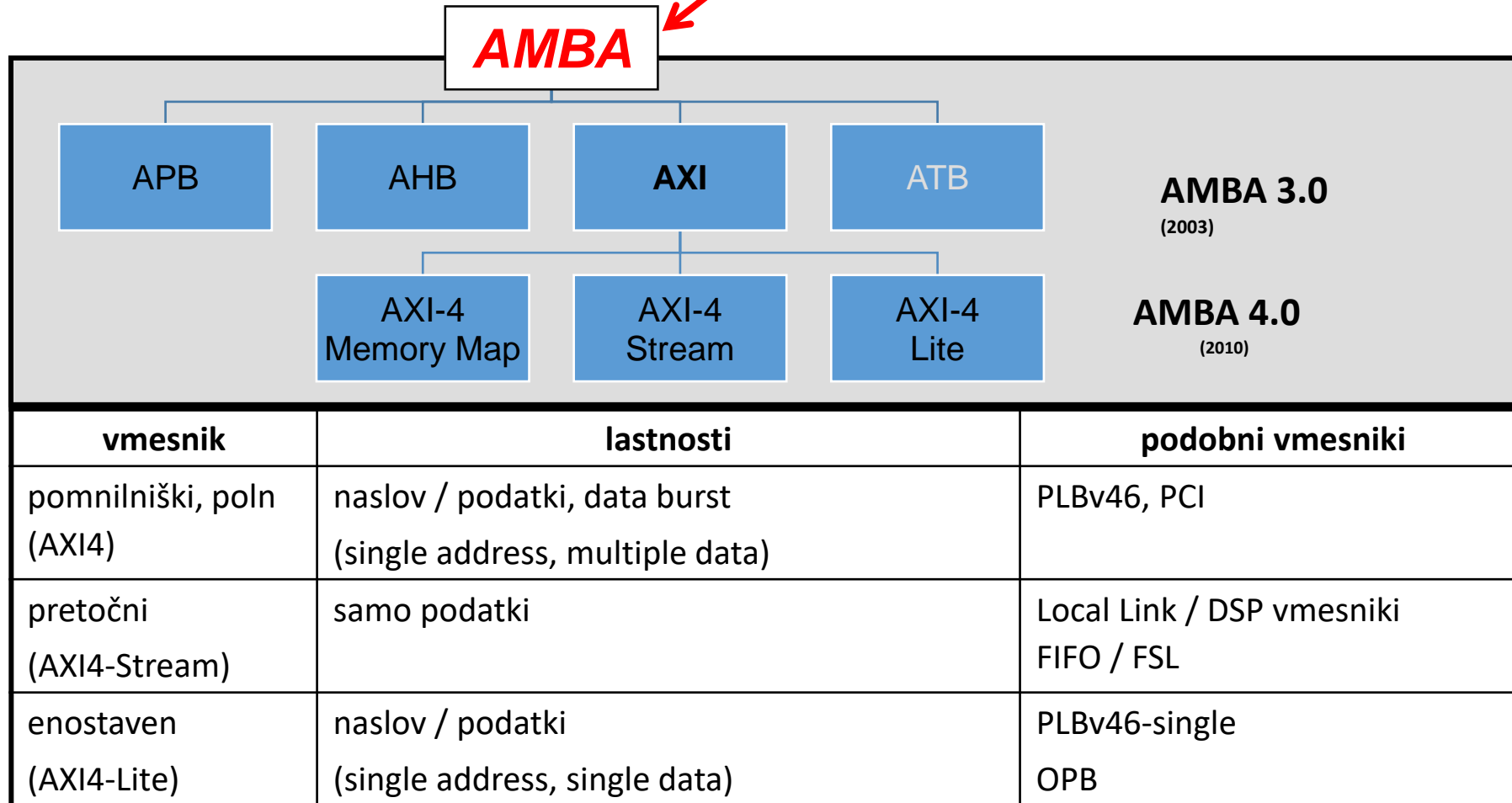
Create AXI4 Peripheral

- Create a new AXI4 peripheral
Create an AXI4 IP, driver, software test application, IP Integrator AXI4 VIP simulation and debug demonstration design.

? < Back Next > Finish Cancel

AXI vmesnik

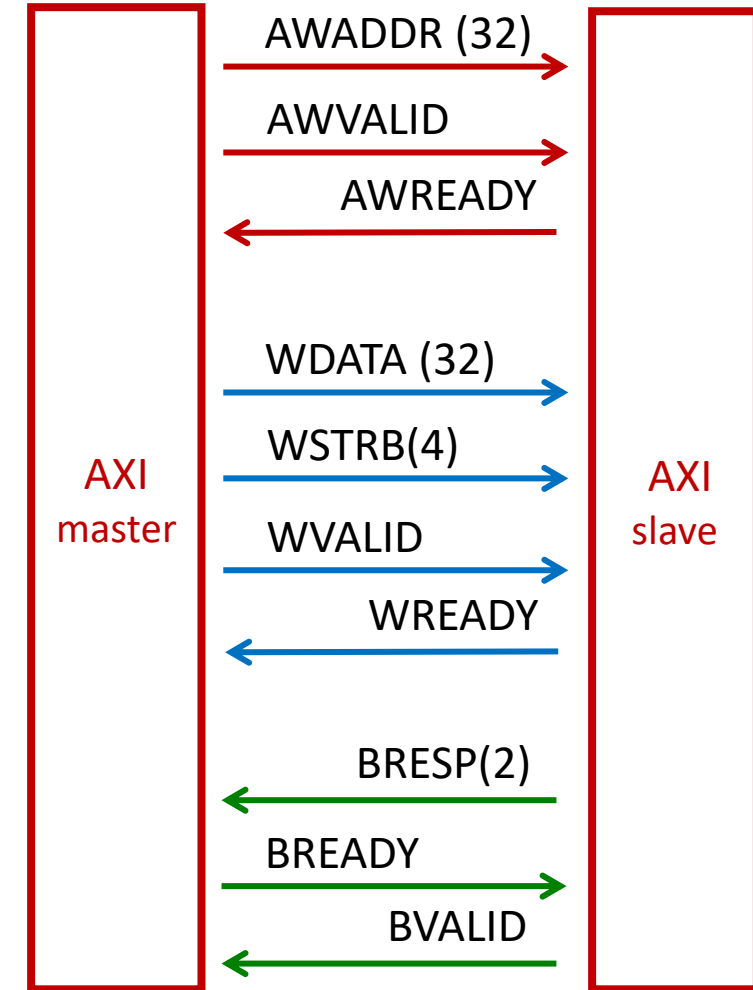
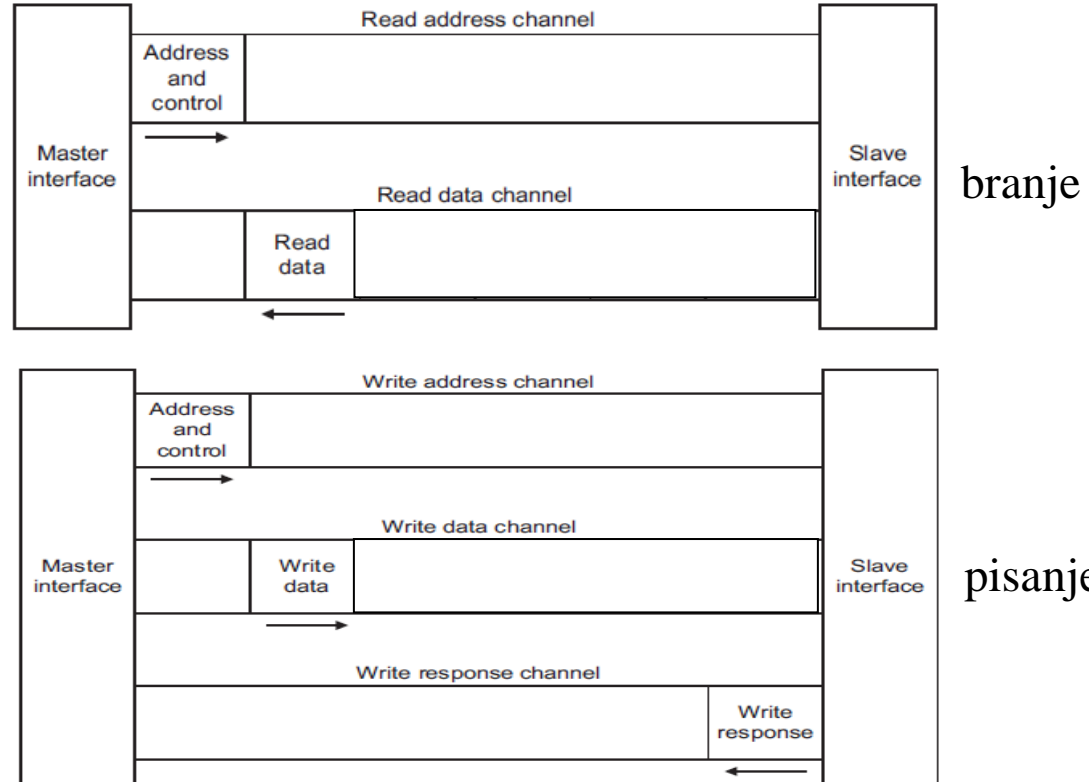
arhitektura vodila procesorjev ARM



Vmesnik AXI4-Lite

5 kanalov

- read address
- read data
- write address
- write data
- write response



Nastavitve komponente

Create and Package New IP

Peripheral Details
Specify name, version and description for the new peripheral

Name: bars

Version: 1.0

Display name: bars_v1.0

Description: prikaz stolpcev na VGA

IP location: C:/proj/andrej/divs3/ip

Overwrite existing

? < Back Next > Finish Cancel

izberemo npr. novo mapo
znotraj obstoječega projekta

Nastavitve komponente

Create and Package New IP

Add Interfaces

Add AXI4 interfaces supported by your peripheral

Enable Interrupt Support

Interfaces

- S00_AXI

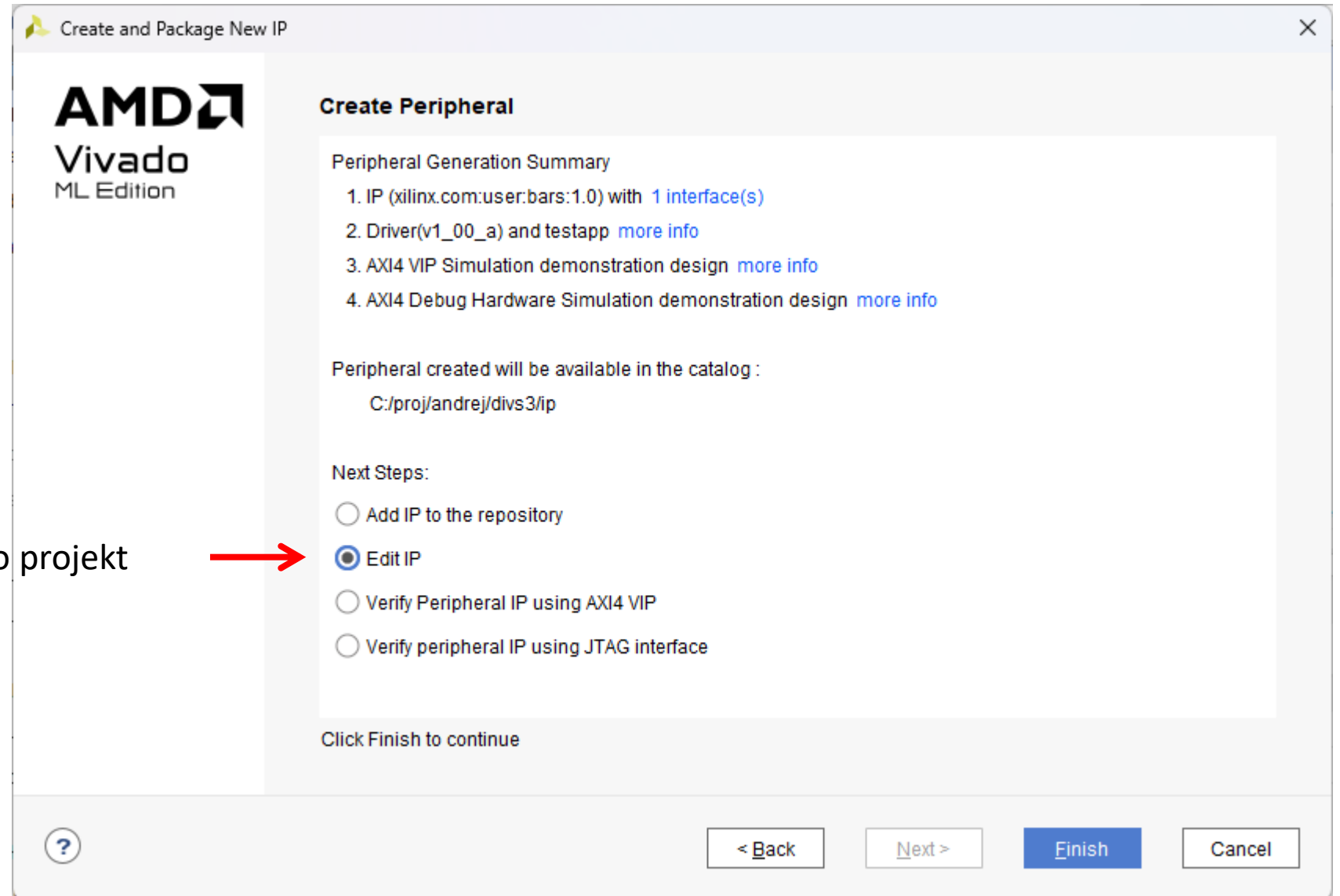
S00_AXI
bars_v1.0

Name	S00_AXI
Interface Type	Lite
Interface Mode	Slave
Data Width (Bits)	32
Memory Size (Bytes)	64
Number of Registers	8 [4..512]

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Nastavitve komponente

komponento bomo uredili,
zato se bo odprl nov Vivado projekt



Izdelava IP paketa

The screenshot displays the PROJECT MANAGER interface for editing an IP package named 'bars_v1_0'. The interface is divided into several panels:

- Sources:** A tree view on the left showing the project structure. A red arrow points to the 'component.xml' file under the 'IP-XACT (1)' folder.
- Project Summary:** A central panel with a tab titled 'Package IP - bars' (circled in orange). It lists various packaging steps with their status: Identification, Compatibility, File Groups (highlighted), Customization Parameters, Ports and Interfaces, Addressing and Memory, Customization GUI, and Review and Package.
- File Groups:** A table on the right showing the configuration of file groups. The 'File Groups' step is selected, and the table lists various groups and their associated files.
- IP File Prop:** A panel at the bottom left showing the properties of the selected IP file, including Name, Library name, Type, and Description.

The 'File Groups' table is as follows:

Name	Library Name	Type	Is Include	File Group Name	Model Name
Standard			<input type="checkbox"/>		
Advanced			<input type="checkbox"/>		
VHDL Synthesis (2)			<input type="checkbox"/>		bars_v1_0
VHDL Simulation (2)			<input type="checkbox"/>		bars_v1_0
Software Driver (6)			<input type="checkbox"/>		
drivers/bars_v1_0/data/bars.mdd			<input type="checkbox"/>		
drivers/bars_v1_0/data/bars.tcl			<input type="checkbox"/>		
drivers/bars_v1_0/src/Makefile			<input type="checkbox"/>		
drivers/bars_v1_0/src/bars.h			<input checked="" type="checkbox"/>		
drivers/bars_v1_0/src/bars.c			<input type="checkbox"/>		
drivers/bars_v1_0/src/bars_selftest.c			<input type="checkbox"/>		
UI Layout (1)			<input type="checkbox"/>		
Block Diagram (1)			<input type="checkbox"/>		

A context menu is open over the 'drivers/bars_v1_0/src/bars.h' file, showing options such as 'Open Files', 'Add Files...', 'Add URL', 'Add Sub-Core Reference...', 'Add File Group...', 'Remove File', and 'Copy To'.

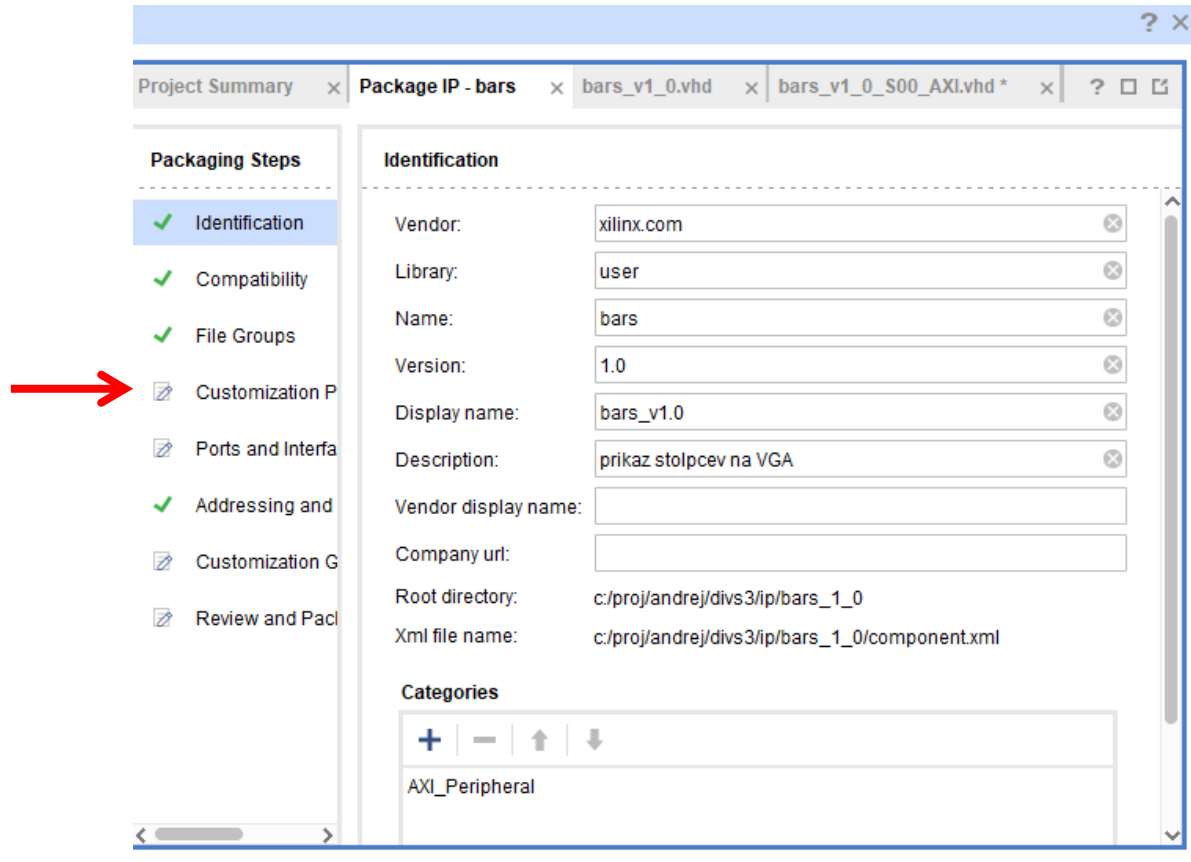
Popravljanje privzetih nastavitvev

orodje za AXI periferne enote avtomatsko naredi opis in SW gonilnike, ki pa **niso združljivi** z orodjem Vitis, zato jih odstranimo iz projekta!

The screenshot shows the Xilinx IDE interface for a project named 'Package IP - bars'. The 'Packaging Steps' sidebar on the left lists various steps, with 'File Groups' highlighted in blue. A red arrow points from the text 'niso združljivi' to this step. The main window displays a table of 'File Groups' with columns for Name, Library Name, Type, Is Include, File Group Name, and Model Name. The table lists several groups, including 'Standard', 'Advanced', 'VHDL Synthesis (2)', 'VHDL Simulation (2)', and 'Software Driver (6)'. A context menu is open over the file list, with 'Remove File' highlighted. A red arrow points to this option.

Name	Library Name	Type	Is Include	File Group Name	Model Name
Standard			<input type="checkbox"/>		
Advanced			<input type="checkbox"/>		
VHDL Synthesis (2)			<input type="checkbox"/>		bars_v1_0
VHDL Simulation (2)			<input type="checkbox"/>		bars_v1_0
Software Driver (6)			<input type="checkbox"/>		
drivers/bars_v1_0/data/bars.mdd			<input type="checkbox"/>		
drivers/bars_v1_0/data/bars.tcl			<input type="checkbox"/>		
drivers/bars_v1_0/src/Makefile			<input type="checkbox"/>		
drivers/bars_v1_0/src/bars.h			<input checked="" type="checkbox"/>		
drivers/bars_v1_0/src/bars.c			<input type="checkbox"/>		
drivers/bars_v1_0/src/bars_selftes			<input type="checkbox"/>		
UI Layout (1)			<input type="checkbox"/>		
Block Diagram (1)			<input type="checkbox"/>		

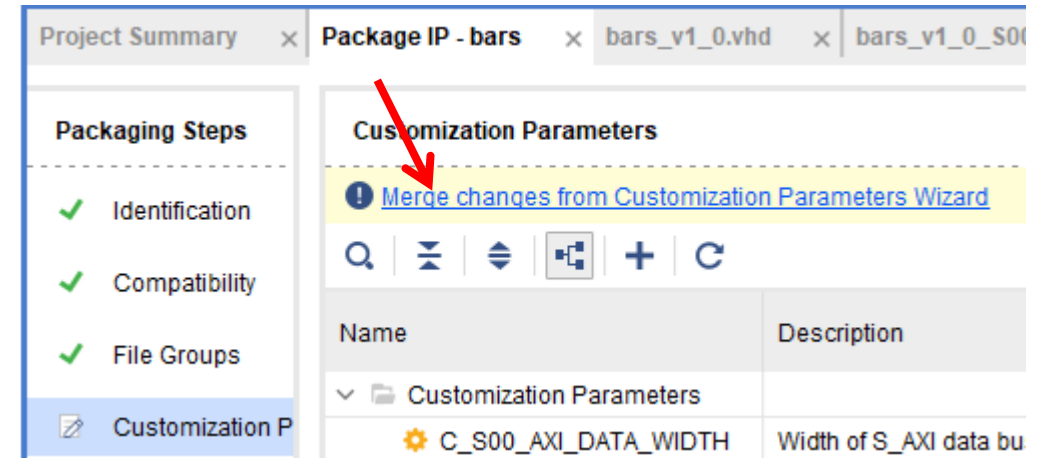
Potrjevanje sprememb



The screenshot shows the 'Packaging Steps' sidebar on the left with a red arrow pointing to the 'Customization Parameters' step. The main window displays the 'Identification' section with the following details:

Vendor:	xilinx.com
Library:	user
Name:	bars
Version:	1.0
Display name:	bars_v1.0
Description:	prikaz stolpcev na VGA
Vendor display name:	
Company url:	
Root directory:	c:/proj/andrej/divs3/ip/bars_1_0
Xml file name:	c:/proj/andrej/divs3/ip/bars_1_0/component.xml

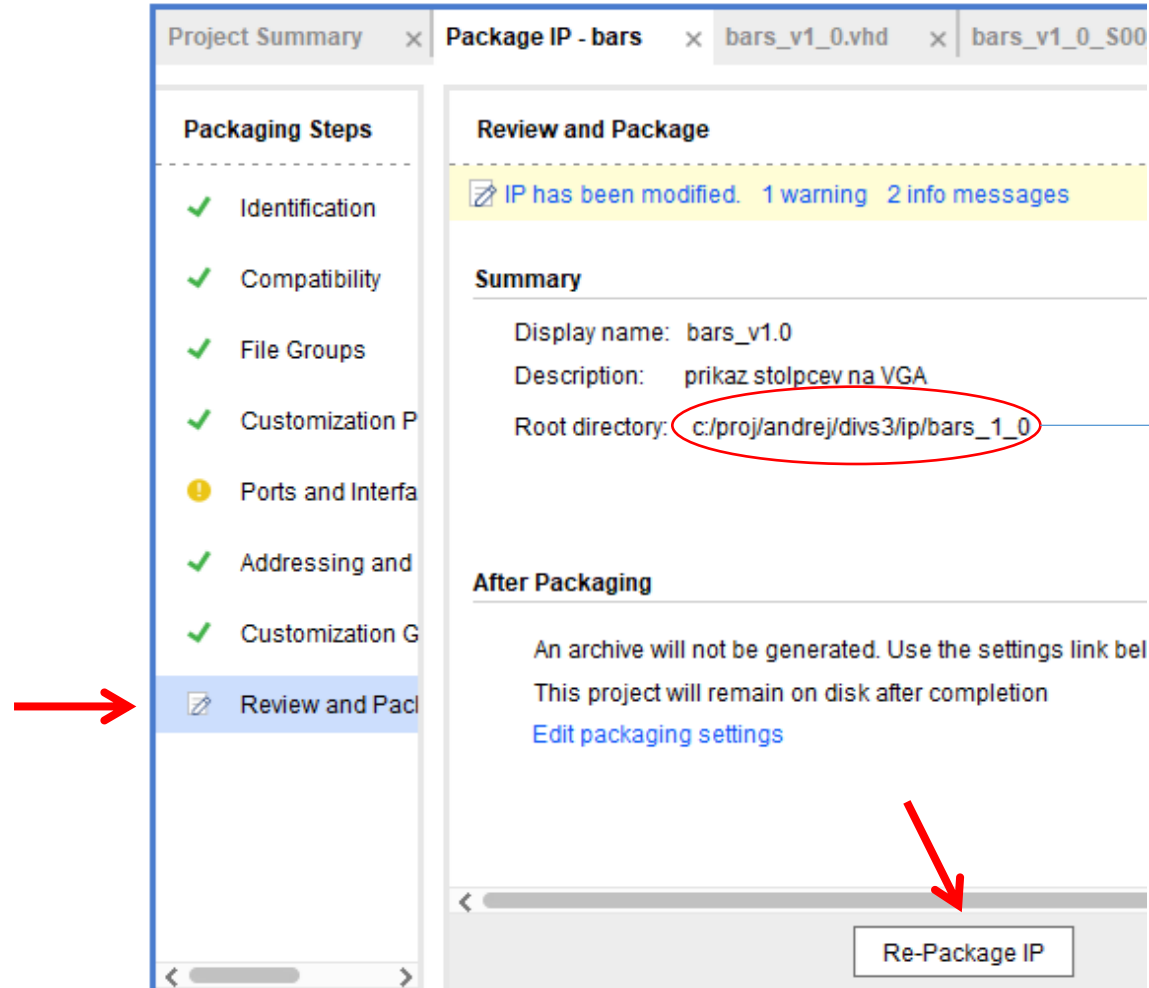
Below the identification fields, there is a 'Categories' section with a list containing 'AXI_Peripheral'.



The screenshot shows the 'Customization Parameters' section in the packaging process. A red arrow points to a yellow notification bar with the text: [Merge changes from Customization Parameters Wizard](#). Below this, there is a table with the following data:

Name	Description
Customization Parameters	
⚙️ C_S00_AXI_DATA_WIDTH	Width of S_AXI data bu

Izdelava IP paketa



datoteke IP paketa

Name
bd
drivers
example_designs
hdl
xgui
component.xml