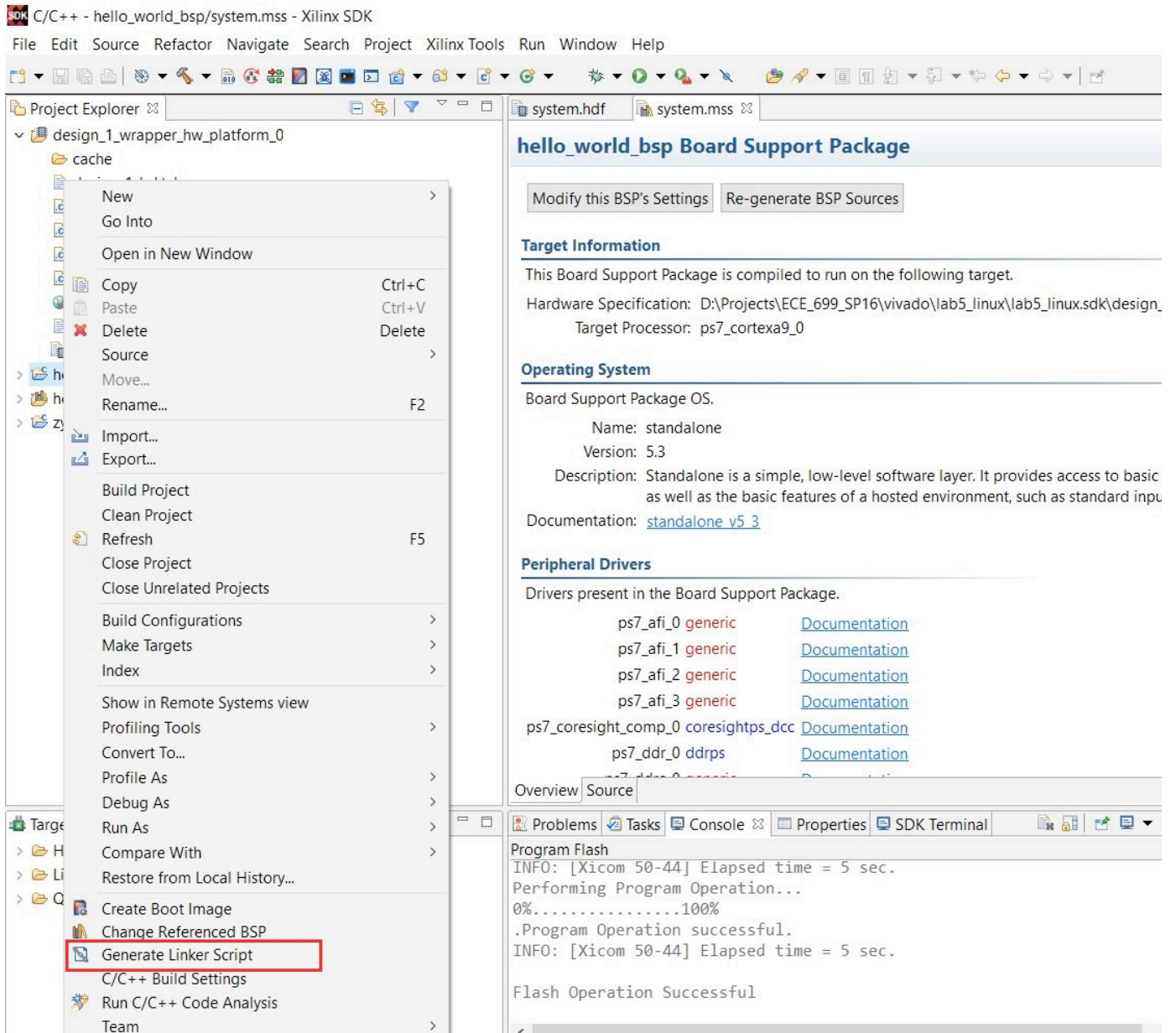



# Memory Allocation in Xilinx SDK Environment

- 1- Create a new application project in Xilinx SDK
- 2- Right click on the project name and choose *Generate Linker Script*




- 3- In Generate Linker Script window, you can choose between DDR memory and On-Chip memory to store Code sections, Data sections, Heap and Stack. Also, you can specify Heap size and Stack size. In case of DDR memory you should choose `ps7_ddr_0_S_AXI_BASEADDR` and for On-chip memory you can choose either `ps7_ram_0_S_AXI_BASEADDR` or `ps7_ram_1_S_AXI_BASEADDR`.


Generate a linker script

Generate linker script

Control your application's memory map.



Output Settings

Project: hello\_world

Output Script:

Browse

Modify project build settings as follows:

Set generated script on all project build configurations

Hardware Memory Map

Memory	Base Address	Size
ps7_ddr_0_S_AXI_BASEAD...	0x00100000	511...
ps7_qspi_linear_0_S_AXI_B...	0xFC000000	16 ...
ps7_ram_0_S_AXI_BASEAD...	0x00000000	192...
ps7_ram_1_S_AXI_BASEAD...	0xFFFF0000	~63...

Fixed Section Assignments

Basic
Advanced

Place Code Sections in: ps7\_ddr\_0\_S\_AXI\_BASEADDR

Place Data Sections in: ps7\_ram\_1\_S\_AXI\_BASEADDR

Place Heap and Stack in: ps7\_ddr\_0\_S\_AXI\_BASEADDR

Heap Size: 1 KB

Stack Size: 1 KB

?

Generate

Cancel

4- Finally, click on *Generate* button and the new linker script will be generated.

Variable Type	Location in Memory
Global variables	Data
Static variables	Data
Constant data types	Code or Data
Local variables	Stack
Dynamically allocated space (using malloc, calloc, realloc)	Heap
Pointers	Data or Stack