VectorBlox
embedded supercomputing

# VectorBlox MXP Quickstart for MXP Simulator

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# Contents

# 1 Installation

This guide describes installing VectorBlox MXP Simulation Library to run on an x86_64 host compiling with GCC

## 1.1 Prerequisites

Before you begin, make sure you have:

- GCC installed. Your native compiler should work on any linux workstation. On Windows you want to install mingw-w64 (Note that this is not to be confused with mingw from mingw.org, though you may want to download some utilities from that project such as GNU Make )
- (Windows Only) A unix-like environment we recommend msys from mingw. But make sure that the gcc command still points to the compiler described in the point above.

## 1.2 Installing

- There is no need to install the simulator, just remember where it is when you link to the library. This is done automatically in the example makefiles.
- To use the License File set the environment variable `export VECTORBLOX_SIM_LICENSE=/path/to/licens`

# 2 Software

This section describes how to download one of the provided pre-built FPGA bitstreams to a development board and how to compile and run a test program on it.

If you have a VectorBlox MXP hardware IP release, the string **EXAMPLES** refers to the `examples` subdirectory of the extracted release.

If you have downloaded the VectorBlox MXP preview release from github, the string **EXAMPLES** below refers to the top-level directory from the extracted download.

## 2.1 Running the software

1. **Make the executable**

   Navigate to a test application such as `vbw_vec_add_t`, located in `EXAMPLES/software/bmark/vbw_vec_add_t`.

   ```
   make clean_all all SIMULATOR=true
   ```

   This command builds the vbxapi and vbxsim libraries, the test.c, and then links them.

   Note that we used the `clean_all` target first to ensure that any libraries that might have been compiled for a different target in the past were cleaned and re-compiled. If you know that the libraries were already compiled for the correct target, you can omit the `clean_all` target.

2. **Execute the generated program**

   In order to execute the program that you just created make sure the environment variable `VECTORBLOX_SIM_LICENSE` points to the correct path, and it is exported (child processes will inherit the value). Then run the program with the command `./test.elf`