

Chips-2.0 Demo for SP605 Development Card

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This project is intended to demonstrate the capabilities of the [Chips-2.0](#) development environment. The project targets the Xilinx Spartan 6 device, and more specifically, the Xilinx SP605 development platform. The demo implements a TCP/IP socket interface, and a simple web application. So far the demonstration has been tested on a Ubuntu Linux only.

Dependencies

You will need:

- Xilinx ISE 12.0 or later (webpack edition is free)
- Python 2.7 or later (but not Python 3)
- Chips-2.0 (Included)
- Xilinx SP605 Spartan 6 Development Kit.
- git

Install

Clone the git repository with git:

```
$ git clone git@github.com:dawsonjon/SP605-Demo.git
$ cd SP605-Demo
$ git submodule init
$ git submodule update
```

Chips Compile

To compile the c code in chips, issue the following command in the project folder:

```
$ ./synthesise compile
```

Build in ISE

Edit the Xilinx variable in the scripts/user_settings to point to the Xilinx ISE install directory. Then build the design using the following command:

```
$ ./synthesise build
```

Download to SP605

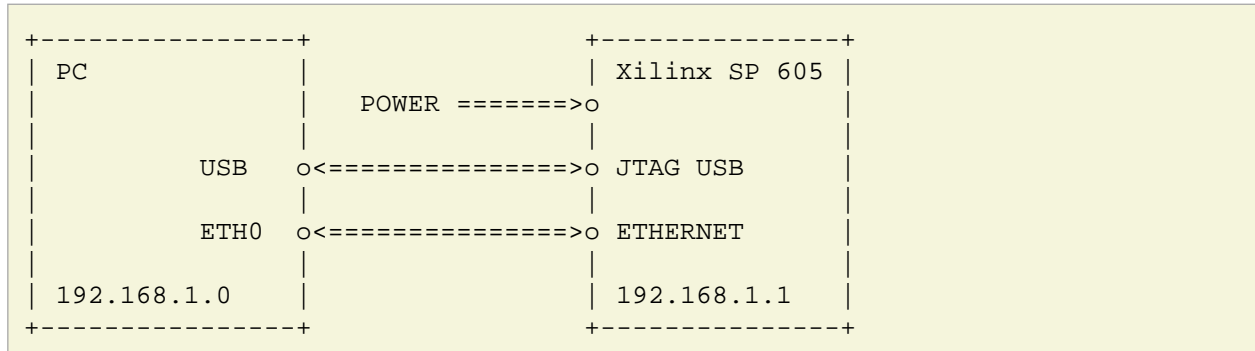
Power up the SP605, and connect the JTAG USB cable to your PC. Run the download command:

```
$ ./synthesise download
```

You can complete all three steps in one go using the *all* option:

```
$ ./synthesise all
```

Setup and Test



Connect the Ethernet port to SP605, using a crossed over Ethernet cable (which comes with the development kit).

Using the script, configure Ethernet port with IP address 192.168.1.0 and subnet mask 255.255.255.0. Turn off TCP Window Scaling and TCP time stamps:

```
$ ./configure_network
```

Verify connection using ping command:

```
$ ping 192.168.1.1
PING 192.168.1.1 (192.168.1.1) 56(84) bytes of data.
 64 bytes from 192.168.1.1: icmp_req=2 ttl=255 time=0.207 ms
 64 bytes from 192.168.1.1: icmp_req=3 ttl=255 time=0.263 ms
 64 bytes from 192.168.1.1: icmp_req=4 ttl=255 time=0.124 ms
 64 bytes from 192.168.1.1: icmp_req=5 ttl=255 time=0.185 ms
 64 bytes from 192.168.1.1: icmp_req=6 ttl=255 time=0.275 ms
--- 192.168.1.1 ping statistics ---
 6 packets transmitted, 5 received, 16% packet loss, time 5001ms
 rtt min/avg/max/mdev = 0.124/0.210/0.275/0.057 ms
```

Connect to 192.168.1.1 using your favourite browser.

