```
Xilinx_Vivado_SDK_2013.2_0616_1.tar
                                                                                   Xilinx Vivado 2013.2
                                                                                                           Based on ISE 14.6
                                                                                                                                    REPO: git://git.xilinx.com/u-boot-xlnx.git
                                                                                                               u-boot version / TAG: xilinx-14.6.01
                                                                                                                                    COMMIT: 0f6dbff16b792a106f52ca37f4503335af30601b
                                                                                   Boot Image (BOOT.BIN)
                                                                                                               FPGA Design (minimal) / for zc702 make sure to raise the GP0 clock to 100 MHz
                                                                                                                                          generate bitstream
                                                                                                               Build with sdk, see pdf file
                                                                                                              REPO: git://github.com/Xilinx/device-tree.git
                                                                                                   version / TAG: xilinx-v14.6
                                                                                                              COMMIT: a6e440e5a34df51cc5febb4177955bfeb3150bf9
                                                                                                                     in Vivado: File -> Export -> Export Hardware for SDK
                                                                                                                     copy device-tree to <project>.sdk/SDK/SDK_Export/bsp/device-tree_v0_00_x -r
                                                                                                                                                            New... local repository
                                                                                 Device Tree create DTS
                                                                                                                     In SDK: Xilinx Tools -> Repositories
                                                                                                                                                          Add folder: <project>.sdk/SDK/SDK_Export
                                                                                                                     Create new Board Support Package project
                                                                                                                                                                               console=ttyPS0,115200 root=/dev/mmcblk0p2 rw earlyprintk rootfstype=ext4 rootwait
                                                                                                                                                                 bootargs devtmpfs.mount=0
                                                                                                               cd <pr
                                                                       Build OS
                                                                                                                ~/zedboard_compile/linux-xlnx/scripts/dtc/dtc -I dts -O dtb -o xilinx.dtb xilinx.dts
                                                                                                                              REPO: git://git.xilinx.com/linux-xlnx.git
                                                                                                                   version / TAG: xilinx-v14.6.02
                                                                                                                              COMMIT: 3f7c2d54957e950b3a36a251578185bfd374562c
                                                                                   Xilinx Linux Kernel (ulmage)
                                                                                                                  make ARCH=arm xilinx_zynq_defconfig
                                                                                                                  make ARCH=arm UIMAGE_LOADADDR=0x8000 ulmage
                                                                                                                  cp arch/arm/boot/ulmage ../boot
                                                                                                       In Lubuntu VMWare
                                                                                                       sudo gparted
                                                                                   1. 50 MB FAT32, label=boot, flag=boot
                                                                                                     2. 4 GB EXT4, label=root
                                                                                                   insert sd-card, df -h, mount root partition to /media/root (sudo mount /dev/sdd2 /media/root)
                                                                                                   wget http://releases.linaro.org/13.07/ubuntu/raring-images/alip/linaro-raring-alip-20130723-440.tar.gz
                                                                                                   http://releases.linaro.org/13.10/ubuntu/raring-images/server/linaro-raring-server-20131021-529.tar.gz
                                                                                   ∖ Linaro 13.07
                                                                                                   http://releases.linaro.org/latest/ubuntu/utopic-images/server/linaro-utopic-server-20150220-698.tar.gz
                                                                                                   sudo tar -strip-components=1 -C /media/root -xzpf linaro-utopic-server-20150220-698.tar.gz
                                                                                                   sync; umount/media/root; sync
                                                                                                 Hit any key to stop autoboot
                                                                                                                   when not booting:
                                                                                                 boot command / env default -a
                                                                                                                 env print
                                                                                     UBOOT
                                                                                                                                                     zedboard-3: setenv ethaddr 00:0a:35:01:01:33
                                                                                                                                                     zc702-1: setenv ethaddr 00:0A:35:02:7B:9A
                                                                                                 mac address / setenv ethaddr xx:xx:xx:xx:xx:xx
                                                                                                                                                     zedboard-5: setenv ethaddr 00:0a:35:01:01:35
                                                                                                                                                     zedboard-7: setenv ethaddr 00:0a:35:01:01:37
                                                                                                                 env save
                                                                                     set date with: sudo date -s "Sat Feb 27 18:53:24 UTC 2015"
                                                                                                                        IF eth0 not there: ∫ ifconfig eth0 up
    Yet Another Guide to Running
                                                                                                                                            dhclient eth0
       Linaro Ubuntu Linux Desktop on
                                                                                                                                                  vi /etc/network/interfaces
       Xilinx Zynq on the ZedBoard
                                          Based on:
                                                                                                                       add automatic startup: / auto eth0
                                                                                                                                                 iface eth0 inet dhcp
Embedded Processor Hardware Design
                                                                                                         test IP ping 172.16.254.1 (nameserver)
                                                                                     network settings
                      dhclient eth0
                                                                                                                                        echo nameserver 172.16.254.1 > /etc/resolv.conf
                                                                                                         test dns /
                                                                                                                     setup dns server
                                                                                                                                        echo nameserver 192.168.2.1 >> /etc/resolv.conf
                                                                                                         vi /etc/hostname board-zedboard-3
                                                                                                                         127.0.0.1 localhost
                                                                                                         vi /etc/hosts
                                                                                                                        127.0.0.1 board-zedboard-3
                                                                                                          (restart with power off)
                                                                                                                                  power cycle
                                                                                                      adduser brugger
                                                                                                     usermod -a -G admin brugger
                                                                                                      usermod -a -G kmem brugger
                                                                                                     su brugger
                                                                                                     mkdir .ssh
                                                                                     user brugger
                                                                                                                                vi .ssh/authorized_keys
                                                                       Post-Install
                                                                                                                                AAAAB3NzaC1yc2EAAAABJQAAAQEAnDnRyYPmC092cfTldQiBC3zBRSvEjPuwcwIPDloysXbl03LVTSf4OM4bKgk5rvtM4e0vyxxLWs8CbWSSCTphvHYayOQf384pQb4/EHl8ziFD+H2155oENzf0L39uA67SmbWJFpExw5h3pBZwzP1SFPdGizB8TaaqAC4myKrvMnfuYkUG6iGmsDCWWeCJ2FTu7zuhzbnygZDK/LnPiOpBTXflAre8CKvBc+tugqsJVoUVTGBdjPyNhcS+ge1JKICYW3E2C8XMNfyj2kJuL4ULq6zUEQEObvI2Q3+InP/UGrI4Q7zBREp2OalCNHCFmIIbzPEUdtnxoYF9dJCWt8mFfw
                                                                                                                                == uni-kl-unix-laptop
                                                                                     userdel linaro rm -r /home/linaro
                                                                                                          vi /etc/apt/sources.list
                                                                                                          delete old entries
                                                                                     update packages
                                                                                                          deb http://old-releases.ubuntu.com/ubuntu/ raring main universe
                                                                                                          deb-src http://old-releases.ubuntu.com/ubuntu/ raring main universe
                                                                                                                     ssh-keygen -f /etc/ssh/ssh_host_rsa_key -N " -t rsa
                                                                                     apt-get install openssh-server
                                                                                                                      ssh-keygen -f /etc/ssh/ssh_host_dsa_key -N " -t dsa
                                                                                                                     ssh-keygen -f /etc/ssh/ssh_host_ecdsa_key -N " -t ecdsa
                                                                                                                   vi /etc/ssh/sshd_config
                                                                                                                   uncomment following line
                                                                                     disable ssh password login # Change to no to disable tunnelled clear text passwords
                                                                                                                   PasswordAuthentication no
                                                                                                          sudo apt-get install ntp
                                                                                                                            add before: server 0.ubuntu.pool.ntp.org
                                                                                                          vi /etc/ntp.conf
                                                                                                                            server ntp.rhrk.uni-kl.de
                                                                                     install timeserver
                                                                                                                         make sure current time is valid: datetime sudo date -s "Sat Feb 27 18:53:24 UTC 2015"
                                                                                                         if in trouble
                                                                                                                                               sudo /usr/sbin/ntpdate ntp.rhrk.uni-kl.de
                                                                                                                        manually sync date
                                                                                                                                              sudo /etc/init.d/ntp stop
                                                                                     packets basic sudo apt-get install vim
                                                                                                         sudo apt-get install git g++ make cmake
                                                                                                                                    ssh-keygen -t rsa
                                                                                     install zynqpricer / Add certificate to github
                                                                                                                                cat ~/.ssh/id_rsa.pub
                                                                                                         git clone git@git.rhrk.uni-kl.de:EIT-Wehn/finance.zynqpricer.hls.git
                                                                                                          sudo apt-get install ipython3 python3-scipy python3-mpi4py python3-tk python3-matplotlib openmpi-bin
                                                                                                          get from PyPI
                                                                                     install scikit-learn https://pypi.python.org/packages/source/s/scikit-learn/scikit-learn-0.14.1.tar.gz#md5=790ad23547bb7f428060636628e13491
                                                                                                          sudo apt-get install g++ python3-dev
                                                                                                          sudo python3 setup.py install
                                                                                                         sudo apt-get install gpicview
                                                                                                                          Generate bitstream in Vivado
                                                                                                                          cd <project>/<project>.runs/impl_1
                                                                      Dynamic Reconfiguration create bitstream file
                                                                                                                          promgen -b -w -p bin -data_width 32 -u 0 design_1_wrapper.bit -o design_1_wrapper.bit.bin
                                                                                                                          copy *.bin to zynq
```

Vivado Design Suite Tutorial: