

2. Check that the environment variable `MACHTYPE` exists on your system. It should exist on Unix/Linux. (And making this on non-Unix systems is beyond the scope of this README). The default `MACHTYPE` is often a long string: `"i386-redhat-linux-gnu"` which will not function correctly in this build environment. It needs to be something simple such as one of:
`i386 i686 sparc alpha x86_64 ppc etc ...`
with no other alpha characters such as: -
To determine what your system reports itself as, try the `uname` options: `'uname -m'` or `'uname -p'` or `'uname -a'` on your command line. If necessary set this environment variable. Do this under the bash shell as so:
`export MACHTYPE=something`
or under `tcsh` as so:
`setenv MACHTYPE something`
and place this setting in your home directory `.bashrc` or `.tcshrc` environment files so it will be set properly the next time you login. Remember to "export" it as show here for the bash shell.
3. Make the directory `~/bin/$MACHTYPE` which is where the (non-web) executables will go.
Add this directory to your path to access the built binaries.

```
ashlesha@ashlesha:~/kent$ uname -p
aarch64
ashlesha@ashlesha:~/kent$ echo $MACHINE
aarch64-unknown-linux-gnu
ashlesha@ashlesha:~/kent$
```

```
ashlesha@ashlesha:~/kent/src/lib$ mkdir ~/bin/$MACHTYPE
ashlesha@ashlesha:~/kent/src/lib$ export PATH="$~/home/ashlesha/bin:$PATH"
ashlesha@ashlesha:~/kent/src/lib$ export MACHTYPE=aarch64
ashlesha@ashlesha:~/kent/src/lib$ make
cc -O -g -std=c99 -Wall -Wformat -Wimplicit -Wreturn-type -Wuninitialized -D_FILE_OFFSET_BITS=64 -D_LARGEFILE_SOURCE -D_GNU_SOURCE -DMACHTYPE_aarch64 -DUSE_HIC -Wall -Wformat -Wimplicit -Wreturn-type -Wuninitialized -I../inc -I.././inc -I.././../inc -I.././.././inc -I.././.././../inc -I.././.././.././inc -I../htslib -I/include -I/usr/include/libpng16 -o htmshell.o -c htmshell.c
htmshell.c: In function 'htmlVaBadRequestAbort':
htmshell.c:714:28: error: invalid operands to binary != (have 'va_list' {aka '__va_list'} and 'void *')
    714 | if (format != NULL && args != NULL)
        |               ^~
make: *** [../inc/common.mk:472: htmshell.o] Error 1
```