

crossbuild-essential-armhf

crossbuild-essential-armhf is essentially a **convenience/meta-package** that installs the **appropriate cross-compilation components**.

What is installed

On Debian Bookworm, crossbuild-essential-armhf version 12.9 declares only these direct dependencies:

```
gcc-arm-linux-gnueabihf
g++-arm-linux-gnueabihf
dpkg-cross
```

The meta-package itself is tiny. Those direct dependencies pull in the actual compiler, linker, target C library, headers and C++ runtime. The significant transitive packages on a clean Bookworm installation include:

```
gcc-12-arm-linux-gnueabihf
g++-12-arm-linux-gnueabihf
cpp-arm-linux-gnueabihf
cpp-12-arm-linux-gnueabihf
binutils-arm-linux-gnueabihf

libc6-armhf-cross
libc6-dev-armhf-cross
linux-libc-dev-armhf-cross

libgcc-s1-armhf-cross
libgcc-12-dev-armhf-cross
libstdc++6-armhf-cross
libstdc++-12-dev-armhf-cross

libasan8-armhf-cross
libatomic1-armhf-cross
libgomp1-armhf-cross
libubsan1-armhf-cross
```

dpkg-cross also brings in Debian packaging support, including dpkg-dev, Perl modules and libdebiana-dpkgcross-perl. The exact complete transaction depends on which packages are already installed.

Importantly, crossbuild-essential-armhf does **not** install arbitrary target development libraries such as:

```
libssl-dev:armhf
```

```
libcurl4-openssl-dev:armhf  
libasound2-dev:armhf
```

Those must be installed separately through Debian multiarch or supplied by a target sysroot. Adding armhf as a foreign architecture is required for installing :armhf multiarch packages, but it is not required merely to install the cross-toolchain packages listed above.

Check what would be installed

To see exactly what APT would add on a particular Debian system without installing anything:

```
sudo apt update  
sudo apt install --simulate crossbuild-essential-armhf
```

To inspect the direct dependencies or recursively list dependencies:

```
apt-cache depends crossbuild-essential-armhf  
  
apt-cache depends \  
  --recurse \  
  --no-recommends \  
  --no-suggests \  
crossbuild-essential-armhf
```

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