

Building Outside The LK Tree

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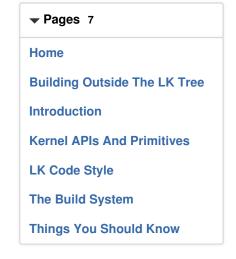
The build system provides a mechanism to overlay additional projects, targets, platforms, apps, libs, etc, from sibling directory hierarchies. This allows you to more easily build and maintain projects that are not part of the main lk tree.

For example, say you have LK checked out in an 1k directory, and next to that you have a mystuff directory (a checkout of your own source tree). It can contain your own projects, libraries, and apps, like so:

```
mystuff/project/toaster-oven.mk
mystuff/target/toaster-oven/{rules.mk, init.c, ...}
mystuff/app/toaster-ui/{rules.mk, main.c, ...}
mystuff/lib/cool-lcd/{rules.mk, lcddriver.c, ...}
mystuff/lib/pid-controller/...
```

If you copy lk/makefile to mystuff/makefile and create lk_inc.mk like so:

```
LOCAL_DIR := mystuff
```



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```
LKMAKEROOT := ..
LKROOT := lk
LKINC := $(LOCAL_DIR)
DEFAULT_PROJECT ?= toaster-oven
BUILDROOT ?= $(LOCAL_DIR)
```

You can then cd to mystuff and run make to build your project. You don't need to modify anything in the main lk tree, so it's easy to keep that up to date — no need to fork it, merge or rebase your changes, etc.

Details

LKMAKEROOT is the relative path from the overlay tree you're building in to the directory that's above the 1k directory and any overlay tree directories (you can have multiple of these if you like). This variable is the **only** one that can have ... path elements in it. Such elements used anywhere else will cause the build system to misbehave.

LKROOT is the path relative to LKMAKEROOT to LK itself

LKINC is the set of paths relative to LKMAKEROOT to overlay directories

DEFAULT_PROJECT does what it says — sets the project to build if another is not specified when make is invoked.

BUILDROOT is relative to LKMAKEROOT and is the directory where build-\$(PROJECT) will live, containing the build results.

You can also specify your TOOLCHAIN_PREFIX here to point at your chosen cross-compiler for this overlay.

Alternate Approach

If you'd rather run make from the top directory (that contains 1k and mystuff), you can copy

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lk/makefile and set up $lk_inc.mk$ there instead. Just change the value of lkmakeroot and buildroot both to . and you're all set.

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