

Chapter 1: Quick! I Just Want to ...

This chapter is targeted to people who don't know anything about **UPS/UPD** (and want to keep it that way!) but want to access products in **KITS** and/or to get started quickly with **UPS/UPD** without having to read very much.

1.1 Install a Product from **KITS**; **UPS/UPD** Exists on Target Machine

In this section, we assume:

- **UPS/UPD** is installed and configured properly on the target machine, and the defaults are set appropriately
- you want to install a product from **KITS** into the standard **UPS** product area on the machine
- a product tar or zip file made for your OS exists in **KITS**, and is set as “current” so that you don't need to know the version or flavor, you just need the product name
- the product is configured in **KITS** such that it can be installed in a very straightforward manner

On your machine, first setup **UPD** and verify that the product you want is available from **KITS**. To do so, issue the following commands:

```
% setup upd
% upd list <product>
```

You should see output in the format:

```
DATABASE=/usr/upsII/ups_database/declared/oss
Product=xemacs Version=v20_4 Flavor=SunOS+5
Qualifiers="" Chain=current
```

If you get no output, either there's no instance of the product for the OS you're on, or there is one but it's not set to “current”. See 24.9 *upd list* for other options to include.

Let's assume the product is there and you're ready to install it. If you're curious about where **UPS/UPD** will install it, you may first run the command:

```
% upd install -sv <product>
```

which will not install it, but will output information about what it would do to install it. Look for the directory it would create for installing the product. Also look for the **ups(local) declare...** command; the argument to the **-z** options tells you the database **UPS** would use to declare the product.

A few notes:

- If **UPS/UPD** wants to install into AFS space, you can't do a "quick and dirty" install. Check with someone more **UPS**-savvy and/or AFS-savvy to see if this is the right destination for the product; if so, refer to Chapter 6: *Installing Products Using UPD* and section 9.3 *Installing Products into AFS Space*.
- If you want to check and see if there are multiple databases from which you can choose, echo \$PRODUCTS to see if there's more than one database path listed¹. If so, you can redefine \$PRODUCTS such that the one you want is first, then rerun the **upd install -sv <product>** command to see if the result would change.
- If you want the product in your own area, declared in your own database, again you'll have to know more. See Chapter 6: *Installing Products Using UPD* and section 12.8.2 *Adding a New Database and/or Products Area*.

Assuming the **upd install -sv** command output is agreeable to you, install the product. To do so, enter the command:

```
% upd install -G "-c" <product>
```

This installs the product such that when you want to use it, all you have to do is run **setup <product>**, then invoke it. If you're not sure what command name to use to invoke the product, look for the executable name under \$<PRODUCT>_DIR/bin/.

If you need more information, see Chapter 6: *Installing Products Using UPD*. There is a checklist in section 6.4 *Checklist for Installing a Product using UPD* and examples in section 6.5 *Examples*.

1.2 Install a Product from KITS; No UPS/UPD on Target Machine

In this section, we assume:

1. Keep in mind that \$PRODUCTS lists the UPS database(s), not the area(s) in which products are installed. Different databases may be associated with the same or different product areas.

- **UPS/UPD** is not installed on the target machine, and you don't plan to install it
- you want to install a product from KITS on the machine
- a product tar or zip file made for your OS exists in KITS
- you can determine the product name, version and flavor that you need

1.2.1 Download Areas in KITS

Products are arranged (via symlinks) in several different file hierarchies to make browsing easier:

- The `ftp://ftp.fnal.gov/products/` directory contains products organized by product name and version.
- The `ftp://ftp.fnal.gov/KITS/` hierarchy contains products organized by operating system.
- The `ftp://ftp.fnal.gov/pub/` hierarchy contains the FermiTools products which are available to the general public.

1.2.2 Register your Node

First, verify that your node is registered to obtain products from *fnkits*. If not, complete the product distribution registration form at http://www.fnal.gov/cd/forms/upd_registration.html. If you only want to access FermiTools products (which includes all products located under the `/pub` directory), registration is not required.

1.2.3 Download and Unwind a Product

If you go to one of the web pages listed above, and select a product/version/flavor, you will find yourself at the download page for that product. The files listed here generally include the archive file containing the product (e.g., `<product>_<version>_<flavor>.tar` or `zip`), the archive file of the product's `ups` directory (e.g., `<...>.ups.tar`), and a table file (e.g., `<product...>.table`), as shown here for **UPS**:

```
ups_v4_6_SunOS+5.table
ups_v4_6_SunOS+5.table.old
ups_v4_6_SunOS+5.tar
ups_v4_6_SunOS+5.ups.tar
```

Click on a file to download it. Download all three (the old table file is not needed). See section 8.3.4 *Unwind the Files into your Products Area* for information on unwinding them in the proper order.

Once they're unwound, list or open the table file in an editor. It should have a structure like the following:

```
File=Table
  Product=<product name>

  FLAVOR=<some flavor, e.g., SunOS+5.6>
  QUALIFIERS=" "

  ACTION=<SOME ACTION>
  ...
  ACTION=SETUP
    setupRequired(expect)
    setupRequired(mh)
  ...
  ACTION=UNSETUP
  ...
```

You'll need this for the next couple of sections.

1.2.4 Check for Required Secondary Products

To determine if the product depends on one or more other product(s) being installed (and accessible), look under the SETUP action in the table file for lines like:

setupRequired The product listed here must be installed and accessible

setupOptional The product listed here must be installed and accessible only to enable certain optional features of the main product; it is not required for basic operation of the main product

exeAccess The product listed here must be installed and accessible

Download and unwind these secondary products as necessary. These functions and others are described in Chapter 35: *Functions used in Actions*.

1.2.5 Configure the Product

Again look in product's table file. This time look for ACTION=CONFIGURE, e.g.,:

```
ACTION=CONFIGURE
sourceOptional(${UPS_UPS_DIR}/configure.${UPS_SHELL},UPS_ENV)
envSet(<VARIABLE>, <value>)
```

Figure out what you need to do. In this case, the `sourceOptional` function sources the `configure.sh` or `configure.csh` script, found in the `ups` directory of the product. The `envSet` function sets an

environment variable. You would need to find the script, and source it manually, and set the variable manually. To find information about a function, see Chapter 35: *Functions used in Actions*.

For each of the dependencies (the required secondary products), you will need to do the same.

1.2.6 Setup the Product for Use

Before you use the product each time, make sure you complete any actions listed in the product's table file under ACTION=SETUP, e.g.:

```
ACTION=SETUP
doDefaults([<ACTION>])
envSet(<VARIABLE>, <value>)
pathPrepend(<VARIABLE>, <value> [, <delimiter>])
```

Again, do the same for dependencies. You might want to include the commands you need to run for product setup in your \$HOME/.login or .profile file for just your use, or the /etc/login or profile for all users.

If you're not sure of the command to use to invoke the product, look for the executable name in the bin/ directory.

1.3 Install UPS/UPD in the Simplest Way

In this section, we assume:

- **UPS/UPD** is not installed on the target machine, but you want to install it using a simple, preset configuration
- you want to install products from KITS on the machine

If you have a new PC, you might want to consider installing the Fermilab-enhanced Linux OS via CD-ROM; the image includes **UPS/UPD**. Go to <http://www-oss.fnal.gov/projects/fermilinux/>.

Otherwise, you'll need to go to Chapter 14: *Installing UPS and UPD from Bootstrap* and follow the directions there. We recommend choosing one of the predefined **UPS/UPD** configurations, as described in 14.2.1 *Predefined Configurations for UNIX* or section 14.2.3 *Predefined Configurations for NT*.

