*Chapter 5*

# Using Supplementary Menus

In some installation situations, it will be useful or even necessary to modify Inst operating parameters or change conditions on the target system to facilitate installation. This chapter describes how to use selections on the View Commands menu and the Administrative Commands menu to make these modifications. It also explains how to enter commands that are not offered on the active menu.

This chapter contains these sections:



## Giving Commands on Other Menus

From the Inst Main menu, you can execute commands on the View Commands menu and the Administrative Commands menu without switching menus. To do this, begin your entry with either the *view* or *admin* command, followed by the selection from the supplementary menu that you want to execute. For example:

```
Inst> admin date
Wed Feb 24 22:58:53 PDT 1993

Inst>
```

When the View or Administrative Commands menu is active, you can enter Main menu commands without switching menus. To enter a Main menu command from either the View or Administrative Commands menu, begin your entry with the *return* command, followed by the command from the Main menu that you want to execute. For example:

```
View> return remove ftn.man.relnotes
```

## Using the View Commands Menu

The View Commands menu allows you to change the default behavior of the *list* and *step* commands to adjust their output. By default, *list* and *step* post an alphabetical display of all software in the distribution. The size column reports a *delta size*, which is the difference in disk space requirements between the installed software and the software on the distribution. Items on the View Commands menu offer alternatives to these defaults.

To display the View Commands menu, enter the *view* command from the Main menu, as shown in Figure 5-1.

```
Inst> view
```

```
View Commands Menu

 1. distribution                Show only products on distribution
 2. target                      Show only products on target
 3. filter [setting]            Show or hide products by attribute(s)
 4. level [1,2,3]               View (1) product, (2) image or (3) subsystem
 5. sort [size,name]            Select sorting of product list
 6. sizes                       Show total product sizes instead of deltas
 7. deltas                      Show disk space deltas instead of total sizes
 8. filesystems [on,off,fs ..]  Show size/delta breakdown by filesystem
 9. show                        Show the current view settings
10. return                      Go to the Inst Main Menu

View>
```

**Figure 5-1** The View Menu

**Note:** The *set* command is a hidden selection on the View Commands menu; you can use *set* whenever the View Commands menu is posted to display and change Inst preferences. (See “Displaying Hidden Commands” on page 110 for more information on hidden commands and Chapter 8 for information on setting preferences.)

For instructions on using commands from other menus while the View Commands menu is active, see “Giving Commands on Other Menus” on page 65.

### The target and distribution Commands

The *target and distribution* items on the View Commands menu change the view between the distribution inventory and the target. When you change views, a message is displayed to notify you of the new view:

```
View> target
  View: target

View> distribution
  View: distribution
```

Any *list* or *step* command that you enter after changing the view contains software items from the specified location. Example 5-1 illustrates the effects on *list* output when the view is set to the target. In this example, the installed software on the target does not include patches.

```
View> target
View> return list
 View:      target
 Status:    I=installed, R=removed, ' '=not installed
 Selection: i=install, r=remove, k=keep, u=upgrade

 Subsystem Type(s)[bdrc]: b=reBoot needed, d=Default, r=Required,
                        c=client only
 u I 4DDN.sw.4DDN [bd]           2854 4DDN Software
 u I 4Dwm.sw.4Dwm [d]               3 Desktop Window Manager
 u I ViewKit_eoe.sw.base [d]        0 ViewKit Execution Environment, 1.1
```

**Example 5-1** A list Display From the Target View

Example 5-2 illustrates effects on *step* output when you reset the view to the distribution. Notice that this distribution contains patches.

```
View> distribution
View> return step
 View:      distribution
 Status:    N=new, U=upgrade, S=same, D=downgrade, P=patch upgrade
 Patches:   A=installable patch, X=uninstallable (missing base product)
 Selection: i=install, r=remove, k=keep

Subsystem Type(s) [bdrpc]: b=reBoot needed, d=Default, r=Required, p=Patch
                           c=Client only
Step commands: i,r,k,n,p,... Use ? for more step help.
i N 4DDN.man.4DDN [d] 146 4DDN Manual Pages
```

**Example 5-2** A step Display From the Distribution View

## The filter Command

By default, the output of *list* and *step* contains all subsystems that are available in the distribution inventory; when the view is set to the target, *list* and *step* output contains all software that is either installed or recorded in the installation history. The *filter* command on the View Commands menu alters the output of *list* and *step* by toggling off and on a specified subset of the display.

You can use any status designation, such as *new* (on distribution listings) or *installed* (on target listings), as the filter. You can also use the keywords *all*, *notinstalled*, and *rejected* as filters (see Inst online help for a complete description of filters).

For example, this *filter* command causes removed subsystems to be omitted from *list* and *step* displays of target software:

```
View> filter removed off
```

The command sequence in Example 5-3 illustrates a target listing before and after the previous *filter* command is entered (the *list* legend is omitted from this example):

```
View> .. list

   4DLT                     818 4DLT software 3.1
 R ClearCase              40653 CASEVision/ClearCase 2.0.1 BL1 (IRIX 5.3)
 R FDDIXPress              1012 FDDIXPress, 3.6
   InPerson                8273 InPerson Desktop Conferencing, 1.1
 R ViewKit_dev                0 ViewKit Development Environment, Version 1.1
 N cosmo                    246 Cosmo Compress Execution Environment 1.1
 N dba                        0 Database Accelerator, 5.3
   media_dev                  0 IRIS Digital Media Development Environment

View> filter removed off
View> return list

   4DLT                     818 4DLT software 3.1
   InPerson                8273 InPerson Desktop Conferencing, 1.1
 N cosmo                    246 Cosmo Compress Execution Environment 1.1
 N dba                        0 Database Accelerator, 5.3
   dmedia_dev                 0 IRIS Digital Media Development Environment
```

**Example 5-3** Effects of Using View Filters

## The level Command

By default, the *list* and *step* commands display the subsystem components of software on the distribution or target. Using the *level* command from the View Commands menu, you can change the output to a different component in the product hierarchy. The *level* command takes *product* (or *1*), *image* (or *2*), and *subsystem* (or *3*) as arguments.

Example 5-4 illustrates the effects of a *level* command on the first two products shown in Example 5-3 (the *list* legend is omitted from this example).

```
View> level image
View> return list

i N 4DDN.man              146+ 4DDN Documentation
i N 4DLT.sw               794+ 4DLT software3.1
i N InPerson.books          0  InPersonBooks
i N InPerson.man         2215+ InPersonDocumentation
i N InPerson.sw          5294+ InPersonSoftware
```

**Example 5-4** Effects of level on a list Display

## The sort Command

By default, *list* and *step* sort software alphabetically by product, image, or subsystem name. Using *sort*, you can switch between alphabetical listings of software and listings that are ordered by size.

Example 5-5 shows how the alphabetical listing in Example 5-4 is affected when the *sort* command is used to arrange by size (the *list* legend is omitted from this example).

```
View> sort size
View> return
Inst> list
```

```
i N InPerson.sw          5294+ InPersonSoftware
i N InPerson.books       2172+ InPersonBooks
i N 4DLT.sw               794+ 4DLT software3.1
i N 4DDN.man              146+ 4DDN Documentation
i N InPerson.man           43+ InPersonDocumentation
```

**Example 5-5** Effects of sort on a list Display

**Note:** When the *sort size* command is in effect, the ordering of a list is affected by the *sizes*, *deltas*, and *filesystems* command (see “The filesystems Command” below).

## The sizes and deltas Commands

By default, *inst* runs with the *deltas* command in effect; that is, *list* and *step* commands report the size of a product or its components as the difference (*delta)* in space requirements between the installed software on the target and the corresponding software in the distribution. You can display the absolute sizes of software, rather than the delta sizes, by using the *sizes* command on the View Commands menu. The *sizes* command remains in effect until you enter a *deltas* command.

Notice in Example 5-5 that a plus sign (+) follows each product size. The plus sign indicates that these products, which in this case are new, will require additional disk space on the target. At times, upgrade products contain a minus sign (-), indicating that the distribution version is smaller than the corresponding target version.

When the view is set to target software, delta sizes represent the change in disk space that occurs when the software is removed or replaced. In this case, the target contains a larger version of the software than the distribution.

## The filesystems Command

By default, *list* and *step* commands display all writable filesystems that are local to the target; disk space estimates reflect an aggregate of the software that is selected to be installed on all locally mounted filesystems. Using the *filesystems* command, you can change *list* and *step* output to report space requirements on individual filesystems, on read-only filesystems, and on NFS filesystems that are writable.

Most arguments to the *filesystems* command are paired:

| | |
|---|---|
| *on, off* | toggles space estimates to individual or aggregate filesystems |
| *local, nfs* | specifies whether space estimates reflect locally mounted filesystems (the default) or writable NFS filesystems |
| *readonly, all* | specifies whether space estimates reflect just read-only filesystems or writable and read-only filesystems |
| *filesystem_name* | Any filesystem specification |

Any *filesystems* command entry overrides the previous *filesystems* entry.

Example 5-6 illustrates how to display individual filesystems in a list display. Notice that the *sort* command from Example 5-5 is still in effect, so images are sorted by size on the root filesystem (/) first, then on */disk_2*, and finally on */disk_3*.

```
View> filesystems on
View> return list
                                /    /disk_2      /disk_3
  N  InPerson.sw             5294         0            0
  N  InPerson.books           217         0            0
i N  4DLT.sw                  794         0            0
i N  4DDN.man                 146         0            0
i N  InPerson.man              43         0            0
i N  WorkShop.sw                0     46927            0
  S  c++_dev.sw                 0      4173            0

Current free space          94358   487872       169735
- Selections net change      8449+   51100            0
- Temporary inst overhead     184+     328            0
= Minimum free during install 85725   436444       169735

Final projected free space    85909   436772       169735
```

**Example 5-6** Displaying Individual Filesystems

Example 5-7 shows how you can change the columns that are shown in list and step displays. Notice that */disk_2* software appears before / software, as specified by the order of *filesystems* command arguments, and the */disk_3* filesystem does not appear in the listing, since it is not specified as an argument. The *filesystems* command is abbreviated in this example.

```
View> fs /disk2 /
View> return list
                                 /disk2         /
i N  WorkShop.sw                  46927         0
  S  c++_dev.sw                    4173         0
  N  InPerson.sw                      0      5294
  N  InPerson.books                   0      2172
i N  4DLT.sw                          0       794
i N  4DDN.man                         0       146
i N  InPerson.man                     0        43

Current free space               487872     48787

- Selections net change           51100      8449+
- Temporary inst overhead           328       184+
= Minimum free during install    436444     85725

Final projected free space       436772     85909
```

**Example 5-7** Changing Column Order in list Displays

## Using the Administrative Commands Menu

The Administrative Commands menu extends your control over the installation process and over conditions on the target system by allowing you to take these actions:

- Set the preferences that tailor Inst and Software Manager behavior
- Execute specialized installation commands
- Execute IRIX commands

Enter this command from the Main menu to display the Administrative Commands menu:

```
Inst> admin
```

```
Administrative Commands Menu

 1. set [preferences]            List all preferences or set/clear a preference
 2. date [args]                  Display or set the system date
 3. files [names]                List files in subsystems
 4. space                        List disk usage information
 5. recalculate                  Recalculate space required for installation
 6. sh [cmd]                     Escape to a shell or run a command
 7. shroot [cmd]                 Escape to a chrooted shell or run a command
 8. movedir [fromdir] [todir]    List or relocate installation directories
 9. mount [fsname] [dir]         Show mounted filesystems or mount new ones
10. umount [fsname]              Unmount a filesystem
11. mkfs [blockdevice]           Make a new filesystem
12. sethostname                  Set name of current host, for networking
13. sethostipaddr                Set host ipaddr - Internet address
14. save filename                Save selection to file
15. load filename                Load selection from file
16. config [changed]             List all or modified config files
17. hardware                     List machine-specifiec hardware information
18. return                       Go to the Inst Main Menu

Admin>
```

**Figure 5-2** The Administrative Commands Menu

Information on Administrative commands is also available in Appendix A, "Inst Quick Reference" and from the Inst *help* command.

## The set Command

The *set* command controls inst(1M) operating parameters known as preferences. Please refer to Chapter 8, "Tailoring Installations," for a complete discussion of setting preferences.

## The date Command

The *date* command on the Administrative Command menu is identical to *date* (see the date (1) reference page), which time stamps system events. The correct date and time of installations is important since portions of the installation process use *make* (see the date (1) reference page), which relies on dates to determine whether certain commands should be executed. The correct date and time ensure that actions that are sensitive to file dates are performed correctly.

Use this command to display the date:

```
Admin> date
```

Use this command to set the date:

```
Admin> date mmddhhmmyy
```

The *mmddhhmmyy* argument is two characters each for month, day, hour (on the 24-hour clock), minutes, and year (optional).

## The files Command

When you are undecided about installing a subsystem, looking at its contents can help you decide. The *files* command on the Administrative Commands menu displays the names of the files and directories that a subsystem contains. Arguments to the *files* command are one or more subsystem, image, or product names.

Example 5-8 shows the format and output of the *files* command.

```
Admin> files eoe.sw.quotas

i U  eoe.sw.quotas          1  f etc/config/quotacheck
i U  eoe.sw.quotas          1  f etc/config/quotas
i U  eoe.sw.quotas             f etc/init.d/quotas
i U  eoe.sw.quotas          1  l etc/rc2.d/S10quotas
i U  eoe.sw.quotas        193  f usr/bsd/quota
i U  eoe.sw.quotas        145  f usr/etc/edquota
i U  eoe.sw.quotas        137  f usr/etc/quot
i U  eoe.sw.quotas        145  f usr/etc/quotacheck
i U  eoe.sw.quotas          1  l usr/etc/quotaoff
```

```
i U  eoe.sw.quotas          25  f usr/etc/quotaon
i U  eoe.sw.quotas         129  f usr/etc/repquota
i U  eoe.sw.quotas          28  f usr/sysgen/boot/quotas.o
```

**Example 5-8** Sample files Display

The first, second, and third columns are identical to the first three columns of *list* output. The installation status in the second column applies to the entire subsystem; it does not indicate whether an individual file is currently installed.

The fourth column shows the net change in disk space that the file will require if it is installed (the first column contains the letter i or is blank) or removed (the first column contains the letter r). The *files* list does not include the components of a currently installed subsystem that are not included in the new software, since these files are obsolete. For this reason, numbers in this column are not necessarily equivalent to the net disk space change shown by the *list* command.

The fifth column is a single character that tells the type of file:

*f* plain file

*d* directory

*b* block special file

*c* character special file

*l* symbolic link

*p* fifo (named pipe)

The sixth column displays the name of every file in every subsystem that matches the arguments specified in the *files* command.

To get a list of the files in an installed subsystem, use the *view* command on the Main menu to set the view to the target system. Then return to the Administrative Commands menu and enter this command:

Amin> **files** *names*

## The space Command

Disk space summaries are displayed at the end of the output from *list* and *step* commands. You can request a disk space summary at other times in the session by issuing the *space* command, as shown in this example:

```
Admin> space

Disk space summary (Kbytes):    /

Current free space               426132
- Selections net change            2853+
- Temporary inst overhead             2+
= Minimum free during install    424867

Final projected free space       424967
```

The *space* command does not force a recalculation of disk space (see the discussion of *recalculate*, which follows), so if you enter the space command before space calculation are performed, the net change amount is shown as 0 blocks, even if you have made installation or removal selections.

The output of space is affected by the *filesystems* command on the View Commands menu (see "The filesystems Command" on page 71) and by the *delayspacecheck* preference (see "Delaying Disk Space Checking" on page 112). For more information on space checking, see "Controlling Disk Space Checks and Reports" on page 111.

## The recalculate Command

If you use *sh* or *shroot* from Inst to modify files on the target system, Inst automatically updates disk space calculations. You can also enter the *recalculate* command from the Administrative Commands menu to request a new space check after making file modifications:

```
Admin> recalculate
```

This command always performs a detail space check, even when the *detailspacecheck* preference is off (see "Changing Detail Space Checking" on page 111). The output of the *recalculate* command is the same as the output of the *space* command (above). See "Controlling Disk Space Checks and Reports" on page 111 for more information.

## The sh and shroot Commands

During an Inst session, it is possible to invoke a shell, enter shell commands, and return to Inst without ending the session. This procedure is useful for removing user files to free disk space. Use either of these commands to invoke a shell from the Administrative Commands menu:

```
Admin> sh
Admin> shroot
```

The *sh* command invokes a regular shell and the *shroot* command invokes a *chroot*(1M) shell. By default, the shell is specified by the SHELL environment variable and is usually set to */bin/sh* or */bin/csh*. To invoke a different shell, use the *set* command to specify it:

```
Admin> set shell shell_path
```

**Note:** When you use the *sh* command during a miniroot installation, remember that the root and user filesystems are mounted as */root* and */root/user*. But if you use *shroot*, the root is changed to */root* and pathnames are unnecessary for most commands. For this reason, using *shroot* is usually preferable to using *sh*.

Miniroot installations impose some limits on what can be done with *sh* and *shroot*. Since the miniroot supports only a subset of IRIX commands, commands in */root* and */root/usr* might be unavailable or incompatible with the miniroot kernel. If you are installing from a local distribution source, you cannot use *sh* or *shroot* to access remote systems. If you are using a remote distribution source, you can access the distribution server.

## The mount and umount Commands

You can identify mounted filesystems by entering the *mount* (see the mount (1M) reference page) command with no arguments:

```
Admin> mount
```

If you are performing a miniroot installation, you can mount additional filesystems with this command:

```
Admin> mount filesystem mount_directory
```

Remember that during a miniroot installation, filesystems are mounted at */root* rather than /.

To unmount filesystems, you must be performing a miniroot installation. The *umount*(1M) command has this syntax:

```
Admin> umount filesystem
```

## The mkfs Command

During a miniroot installation, you can use the *mkfs* command to create an EFS or XFS filesystem. If you enter *mkfs* without arguments, the root filesystem (/), and the user filesystem (*/usr*) if it is present, are erased and recreated. After your entry, you are prompted to choose the filesystem type; if you choose an XFS filesystem, the block size for the new filesystem is set to 4096 bytes per block.

**Caution:** This command erases the entire contents of these filesystems, so do not use it if the target filesystem contains information that must be preserved.

Recreating the root filesystem (and */usr*, if it is present) has these effects on an installation:

- All local information in configuration files is lost.
- All information in the installation history database is lost.
- If you are using a remote installation server, you are required to enter the server's IP address when specifying the distribution source.

When you use this command to make filesystems other than root (/) and */usr*, you must specify the device special filename where the filesystem resides. For example, this command creates a filesystem on partition 0 of SCSI disk 2:

```
Admin> mkfs /dev/dsk/dks0d2s0
```

If you are creating an XFS filesystem, mkfs prompts you to choose the blocksize (512 or 4096) for the new filesystem. (See the mkfs(1M) and intro(7M) reference pages for more information on specifying devices.; see "IRIX Admin: Disks and Filesystems" for detailed information on creating filesystems.)

To access the newly created filesystem, *device*, create a directory mount point and mount the filesystem:

```
Admin> shroot
# mkdir mount_directory
# exit
Admin> mount device mount_directory
```

## The sethostname and sethostipaddr Commands

The *sethostname* (equivalent to *hostname*) and *sethostipaddr* (equivalent to *hostid*) commands set the network name and address of the target system; either of these commands restarts networking. You can only execute *sethostname* and *sethostipaddr* during a miniroot installation.

## The save and load Commands

The *save* command creates a selections file that contains the distribution location and the selections that are in effect when you enter the *save* command. In subsequent sessions, you can specify the selections file as an argument to the *load* command to automate the selections process. By default, selections files are saved in the directory in which you invoked Inst, but you can change the directory location by specifying an alternate directory in the filename specification (see the *-F* option of *inst*(1M)).

This sample entry creates a selections file in */usr/tmp* called *select.sav1*:

```
Admin> save
Save selections to file: /usr/tmp/select.sav1
```

The format of *select.sav1* is illustrated in Example 5-9. The first two lines identify the selections file to the Desktop. When users double-click the selections file icon, Software Manager starts, using the selection file. The remaining lines identify the distribution location and the selections to be made (an internal version number appears at the end of each selection item).

```
#!/usr/sbin/SoftwareManager -F
#Tag 000109B1
from easyboy:/d1/IRIX_6.2/dist

k license_eoe.man.license_eoe 1022130500
r license_eoe.man.relnotes 1022130500
i license_eoe.sw.license_eoe 1022130500
r netls_nodelock.man.relnotes 1022130500
i netls_nodelock.sw.netls_nodelock 1022130500
i netls_root.sw.hdr 1022130500
i netls_root.sw.lib 1022130500
```

**Example 5-9** Sample Selections File

### The config Command

The *config* command posts a list of configuration files that are present on the target. If there are differences in a newly installed configuration file and the previously installed version, an *m* is posted to the left of the filename in *config* output. If the previous version of a configuration was obsoleted by the installation, the obsoleted version is listed with a *.O* suffix. If a newly installed configuration file is available but not required by the new software, the newly installed version file is listed with a *.N* suffix. (See “Managing Configuration Files” on page 62 for details).

### The hardware Command

The *hardware* command lists information about target system components. This example shows *hardware* output for an Indy workstation target:

```
Admin> hardware
Hardware:

CPUARCH=MIPS2
CPUARCH=R4000
IP22
CPUBOARD=IP22
MODE=32bit
SUBGR=NG1
GFXBOARD=NEWPORT
```

## Using the Interrupt Menu

It might sometimes be necessary to interrupt Inst during a processing operation, such as reading the distribution or installing software selections. When an interruption is necessary, press <*Ctrl+C*> to suspend processing and display the Interrupt menu. Also, under certain error conditions, the Interrupt Menu is automatically invoked by Inst. The Interrupt menu contains selections to cancel the command in progress, change preferences, open an IRIX shell, and get help.

Figure 5-3 illustrates the Interrupt menu.

```
Error/Interrupt Menu

 1. stop                        Terminate current command
 2. continue                    Continue current command
 3. set [preferences]           List all preferences or set/clear a preference
 4. help [topic]                Get help in general or on a specific word
 5. sh [cmd]                    Escape to a shell or run a command
 6. shroot [cmd]                Escape to a chrooted shell or run a command

Interrupt>
```

**Figure 5-3** The Interrupt Menu

## Stopping an Installation

The *stop* command cancels the command in progress and suspends the installation. If you use *stop* while Inst is reading the installation history or distribution inventory, or while it is calculating dependencies, Inst discards the processing results. For this reason, Inst must repeat the readings or calculations before executing subsequent *list* commands, selection requests, or the *go* command.

If you use *stop* while Inst is installing and removing software, it makes a record of pending selections. At the next *go* command, Inst restarts the installation process on any uncompleted product installations; then it continues processing the remaining selections that were pending.

**Caution:** Using *stop* during installation can leave software in an inconsistent state that requires a removal and reinstallation of the affected product.

To resume the installation after issuing a *stop* command, use the *continue* command. The *continue* command resumes processing from the point at which it was interrupted.

## Using Other Interrupt Menu Commands

The *set*, *help*, *sh,* and *shroot* commands on the Interrupt menu are identical to those on the Administrative Commands menu. See “A Closer Look at Preferences” on page 115 for information on using the *set* command; see Table A-1 for a list of topics covered by the *help* command; and see “The sh and shroot Commands” on page 77 and “Using the Interrupt Menu” in Appendix A for details on using the *sh* and *shroot* commands.