CASEVision™/ClearCase
Quick Reference Guide

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cleartool Subcommands

* command appears in *Basic cleartool Commands* section
† command appears in *Basic System Administration Commands* section

See page 19 for syntax summaries of these commands.

*†	**annotate**	annotate lines of text file with timestamps
*	**apropos**	extract manual page summaries, glossary definitions
*	**catcr**	display configuration record
*	**catcs**	display config spec
*	**cd**	change current working directory
*	**checkin**	create permanent new version of an element
*	**checkout**	create view-private, modifiable copy of a version
	chevent	modify comment string in existing event record
†	**chpool**	change the storage pool to which an element is assigned
†	**chtype**	change the type of an element / rename a branch
*†	**describe**	describe an object
*	**diff**	compare files or versions of an element
*	**diffcr**	compare configuration records
*	**edcs**	edit config spec
*	**find**	select objects from a directory hierarchy
*	**findmerge**	determine what files require a merge (and perform merge)
*	**help**	help on cleartool command usage
	ln	create VOB hard link or VOB symbolic link
†	**lock**	lock an object
*	**ls**	list VOB-resident objects and view-private objects
*	**lscheckout**	list checkouts of an element
*	**lsdo**	list derived objects
*	**lshistory**	list history of an element or other object
†	**lslock**	list locks
†	**lspool**	list storage pools
*	**lsprivate**	list view-private objects
†	**lsreplica**	list VOB replicas
†	**lstype**	list type objects
*†	**lsview**	list view registry entries
*†	**lsvob**	list VOB registry entries
*	**lsvtree**	list version tree of an element
*	**man**	display a ClearCase manual page
*	**merge**	merge versions of an element
*†	**mkattr**	attach an attribute to an object
†	**mkattype**	create an attribute type object
†	**mkbranch**	create a new branch in the version tree of an element
†	**mkbrtype**	create a branch type object
*	**mkdir**	create a directory element
*†	**mkelem**	create a file or directory element
†	**mkeltype**	create an element type object
†	**mkhlink**	attach a hyperlink to an object
†	**mkhltype**	create a hyperlink type object
*†	**mklabel**	attach a version label to a version
†	**mklbtype**	create a label type object
†	**mkpool**	create a storage pool or modify its scrubbing parameters

†	**mktag**	create a view-tag or VOB-tag
	mktrigger	attach a trigger to an element
	mktrtype	create a trigger type object
*†	**mkview**	create and register a view
*†	**mkvob**	create and register a versioned object base (VOB)
*†	**mount**	activate a VOB
	mv	move or rename an element or VOB link
†	**protect**	change permissions or ownership of an object
†	**protectvob**	change owner or groups of a VOB
	pwd	print working directory
	pwv	print working view
	quit	quit interactive *cleartool* session
†	**recoverview**	recover a view database
†	**reformatview**	update the format of a view database
†	**reformatvob**	update the format of a VOB database
†	**register**	create an entry in the VOB or view registry
	reserve	convert a checkout to reserved status
†	**rmattr**	remove an attribute from an object
†	**rmbranch**	remove a branch from the version tree of an element
	rmdo	remove a derived object from a VOB
†	**rmelem**	remove an element from a VOB
†	**rmhlink**	remove a hyperlink from an object
†	**rmlabel**	remove a version label from a version
	rmmerge	remove a merge arrow from versions
*†	**rmname**	remove the name of an element or VOB symbolic link from a directory
†	**rmpool**	remove a storage pool from a VOB
†	**rmtag**	remove a VOB-tag or view-tag from the tag registry
	rmtrigger	remove a trigger from an element
†	**rmtype**	remove a type object from a VOB
†	**rmver**	remove a version from the version tree of an element
†	**rmview**	remove a view storage directory
†	**rmvob**	remove a VOB storage directory
	rnpool	rename a VOB storage pool
	rntype	rename a type object
*	**setcs**	set the config spec of a view
*	**setview**	create a process that is set to a view
	shell	create a subprocess to run a shell or other program
	space	report on VOB disk space usage
*†	**startview**	start or connect to a *view_server* process
†	**umount**	deactivate a VOB
*	**uncheckout**	cancel a checkout of an element
†	**unlock**	unlock an object
†	**unregister**	remove a VOB or view from the object registry
	unreserve	change a checkout to unreserved status
*	**winkin**	wink-in a derived object
*	**xdiff**	compare files or versions of an element graphically
*	**xlsvtree**	display an element's version tree graphically
*	**xmerge**	merge versions of an element graphically

ClearCase Commands

clearaudit	audited shell facility; create derived objects without *clearmake*
clearbug	create problem report for Atria Customer Support
clearcvt_ccase	copy or move ClearCase data to a different VOB
clearcvt_dsee	convert dsee files/elements to ClearCase
clearcvt_rcs	convert rcs files to ClearCase
clearcvt_sccs	convert sccs files to ClearCase
clearcvt_unix	convert unix files to ClearCase
cleardiff	compare or merge files
clearlicense	report on status of Atria product licenses
clearmake	maintain, update, and rebuild groups of programs
clearprompt	prompt for user input
cleartool	ClearCase user-level commands (character interface)
export_mvfs	export/unexport MVFS file systems to NFS clients
init.d/atria	ClearCase start/stop script (IRIX-5, SunOS-5, OSF/1)
mvfscache	control and monitor MVFS caches
mvfslog	set or display MVFS console error logging level
mvfsstat	list MVFS statistics
mvfsstorage	list data container pathname for MVFS file
mvfstime	list MVFS timing statistics for a command
mvfsversion	list MVFS version string
rc.atria	ClearCase start/stop script (HPUX-9, SunOS-4)
rgy_passwd	set the VOB-tag registry password
scrubber	clean VOB storage pools; run from root *crontab*
view_scrubber	delete DO data containers from view storage
vob_scrubber	clean events in VOB database; run weekly by root *crontab*
xclearcase	ClearCase graphical user interface
xcleardiff	compare or merge files graphically
xlsvtree	display an element's version tree graphically

Non-Command Manual Pages

General

config_record	bill-of-materials for *clearmake* build or audited shell
config_spec	rules to filter element versions for a view
ct_funcref	summary of *cleartool* commands
ct_permissions	access permissions for *cleartool* commands
derived_object	file built by *clearmake*; has an associated CR
env_ccase	ClearCase environment variables
errorlogs_ccase	ClearCase error log files
events_ccase	ClearCase operations and event records
fmt_ccase	format strings for *cleartool* command output
makefile_ccase	target description file for *clearmake* builds
pathnames_ccase	pathname resolution and extended namespace
query_language	ClearCase query language syntax and usage
type_manager	programs for managing element data
user_profile	*cleartool* user profile
version_selector	ClearCase version selector syntax
view	view storage directory description
vob	VOB storage directory description
wildcards_ccase	pattern-matching characters for pathnames

Building Software

bldhost	build hosts file; lists hosts for use by *clearmake –J*
bldserver.control	controls a host's use as a distributed build server
clearmake.options	build options specification file
makefile_ccase	target description file for *clearmake* builds

System Administration

bldhost	build hosts file; lists hosts for use by *clearmake –J*
bldserver.control	controls a host's use as a distributed build server
cc.magic	ClearCase file typing rules
config_ccase	ClearCase configuration files
crontab_ccase	ClearCase crontab scripts
ct_permissions	access permissions for *cleartool* commands
env_ccase	ClearCase environment variables
errorlogs_ccase	ClearCase error log files
exports_ccase	list of VOBs for access by non-ClearCase hosts
license.db	ClearCase network-wide license database
registry_ccase	ClearCase registries for VOBs and views
softbench_ccase	ClearCase Encapsulation for SoftBench
tooltalk_ccase	ClearCase Encapsulation for ToolTalk
type_manager	programs for managing element data

Graphical Interface (*xclearcase*)

cc.icon	ClearCase icon database
cc.magic	ClearCase file typing rules
schemes	X Window System resources

ClearCase Servers

abe	audited build executor (started as req'd by *clearmake*)
albd_server	location broker daemon; starts other servers
db_server	VOB database server
vob_server	VOB data storage server
vobrpc_server	VOB database server
promote_server	derived object data storage server
view_server	server process for a view
db_dumper	dump VOB database (invoked by *reformatvob*)
db_loader	load VOB database (invoked by *reformatvob*)
lockmgr	database access arbitrator

Basic *cleartool* Commands

Getting On-Line Help

display ClearCase manual page	**cleartool man** *command*
extract data from *whatis* database for ClearCase	**cleartool apropos** [**–glossary**] *string* | '*regexp*'
display *cleartool* subcommand syntax	**cleartool help** *cleartool-command*

Creating a Private VOB

1) create VOB mount point 2) create the VOB 3) mount the VOB	**mkdir** *mount-over-dir* **cleartool mkvob –tag** *VOB-tag VOB-storage-dir* **cleartool mount** *VOB-tag*

Working with Views and Config Specs

list registered views	**cleartool lsview "***pattern***"**
create a new view	**cleartool mkview –tag** *view-tag storage-dir*
set an existing view	**cleartool setview** *view-tag*
check the working view	**cleartool pwv**
activate a view	**cleartool startview** *view-tag*
display the current config spec	**cleartool catcs**
set config spec to default	**cleartool setcs –default**
set config spec to a file	**cleartool setcs** *file-of-config-rules*
edit current config spec	**cleartool edcs**

Working with File and Directory Elements

checkout a file	**cleartool checkout** *element-pathname* **cleartool co** *element-pathname*
checkin a file	**cleartool checkin** *element-pathname* **cleartool ci** *element-pathname*
cancel a checkout	**cleartool uncheckout** *element-pathname* **cleartool unco** *element-pathname*
list checked-out files	**cleartool lsco** [**–all**] [**–long**] [**–cview**] *pathname*
convert a file to an element	1) **cleartool co .** 2) **cleartool mkelem** *view-private-file* 3) **cleartool ci .**
create a directory element	1) **cleartool co .** 2) **cleartool mkdir** *newdir* 3) **cleartool ci .**
copy data from another view to current directory	**cp /view/***view-tag***/***full-pathname* **.**
list files and directories	**cleartool ls** [**–short**] [*pathname*]
display an element's version tree	**cleartool lsvtree** *element-pathname* **cleartool xlsvtree** *element-pathname*
remove an element name from a directory version	1) **cleartool co /vobs/src** 2) **cleartool rmname /vobs/src/foo.c** 3) **cleartool ci /vobs/src**
create a branch	**cleartool mkbranch branch1 foo.c**
label a version	**cleartool mklabel LABEL1 foo.c**
attach an attribute to an object	**cleartool mkattr Tested ′ "Yes" ′ foo.c** **cleartool mkattr TestLevel 3 foo.c**
change checkin comment	**cleartool chevent –c "add lib.h" ** **foo.c@@/main/23**

Comparing and Merging Elements

compare version with preceding version	**cleartool** [**x**]**diff –pred** *pathname*
find elements that need to be merged into versions in your view	**cleartool findmerge** *dir-names* [**–whynot**] **** { **–ftag** *view-tag* | **–fver** *version-selector* | **–flatest** } **** **–print**
merge changes	**cleartool** [**x**]**merge –to** *target-version other-versions* **cleartool findmerge** *dir-name* {**–ftag** *view-tag* | **–fver** *version-selector* | **–flatest** } **** {**–**[**x**]**merge** | **–**[**x**]**okmerge** | **–exec cmd** | **–ok cmd** }

Working with Derived Objects (DOs) and Configuration Records (CRs)

DO-ID format:	**lib.o@@14–Sep.09:54.418** **/vobs/proj/src/util.o@@03–Jan.23.33.8989**
display CR contents	**cleartool catcr** [**–flat**] [**–recurse**] **lib.o**
compare CRs	**cleartool diffcr lib.o ** **lib.o@@14–Apr.10:43.7465**
list DOs	**cleartool lsdo** [**–stime**] [**–me**] **cleartool lsdo** [**–zero**] [**–long**] **lib.o**

Examining and Describing ClearCase Objects

display an element's version tree	**cleartool** [**x**]**lsvtree** *element-pname*
list event history	**cleartool lshistory** [**–minor**] [**–all**] [*element-pname*]
list DOs	**cleartool lsdo** *DO-IDs*
describe an object	**cleartool describe** [**–long**] *objects*
list view-private objects	**cleartool lsprivate** [**–tag** *view-tag*]
examine annotated version of a text file	**cleartool annotate –out – –rm –long** *filename*
list registered views	**cleartool lsview '***pattern***'**
list registered views	**cleartool lsvob** [**–host** *hostname*]

Using View-Extended Pathnames (see pathnames_ccase manual page)

Use a view-extended pathname to access a version that is visible in another active view.

/view/*view-tag***/***full-pathname*

/view/mainview/vobs/src/util.c

Using VOB-Extended Pathnames (see *pathnames_ccase* and *version_selector* manual pages)

Use extended naming to access a version of an element that is not visible in your current view. Use a VOB-extended name to access any specific branch or version of any element.

element	**util.c@@**	
branch	**util.c@@/main/rel_3.2_branch**	
version	**util.c@@/main/4**	*version-ID*
	util.c@@/REL3	*version label*
	util.c@@/main/gopher_port/LATEST	*special label*
derived object	**util.o@@14–May.16:10.3546**	*DO-ID*
hyperlink	**Merge@1234@/vobs/src**	*hyperlink-ID*

Building Software with *clearmake*

clearmake Command-Line Syntax

clearmake [**–f** *makefile ...*] [**–ukinservdp**] [**–OTFUVMN**]
[**–C** *mode*] [**–J** *num*] [**–A** *BOS-file*] ... [*macro*=*value*] ...
[*target_name*] ...

Command-Line Options (see *clearmake* manual page)

–f *file*	without –f, search for *makefile*, then *Makefile*
–u	unconditionally rebuild all targets on command line
–k	quit failed entry; continue on targets that don't depend on it
–i	ignore error codes returned by commands
–n	no execute; just list scripts for targets that need rebuilding
–s	silent
–e	environment variables override macros in makefile
–r	ignore built-in rules in */usr/atria/etc/builtin.mk*
–v	verbose
–d	debug
–p	list all target descriptions and all macro definitions
–C *mode*	compatibility mode: **sgismake**, **sgipmake**, **sun**, **gnu**, **std**
–O	compare only names and versions (not build scripts or build options)
–T	disable configuration lookup; rebuild based on time-modified stamps
–F	like –T, but also suppress CR creation
–U	unconditional build for goal targets, but not subtargets
–V	disable wink-ins from other views; restrict configuration lookup to this view
–M	check makefile dependencies only
–J *num*	set maximum concurrency level; *num*=1 means "distributed, but serial"
–N	disable default BOS file processing per *clearmake.options*
–A *spec-file*	add to or replace (combine with –N) default BOS files; see also clearcase_bld_options_specs and *clearmake.options*

Environment variables read by *clearmake* (see *clearmake* and *env_ccase* manual pages)

makeflags	clearmake command options with no arguments
clearcase_bld_audit_tmpdir	temporary workspace (default: */tmp*)
clearcase_bld_conc	concurrency level; overridden by –J
clearcase_bld_host_type	build hosts file in home directory: *.bldhost*.$clearcase_bld_host_type
clearcase_bld_options_specs	colon-separated list of BOS files (use with –A)
clearcase_bld_shell_flags	options passed to build script subshell
clearcase_bld_verbosity	*umask* for newly created DOs
clearcase_bld_umask	0=default 1=–v 2=–d;
clearcase_make_compat	compatibility mode; overridden by –C

Parallel Building
(see *bldhost* and *bldserver.control* manual pages)

start parallel build	1. Set **clearcase_bld_host_type** 2. Create build hosts file in your home directory 3. Use –J to set maximum concurrency level

Makefile Usage (see makefile_ccase manual page)

target/ dependency line	*target* **...** **:** [*dependency* **...**] [*ar-lib***(***object-module***) ...**] *NOTE:* VOB-extended and view-extended pathnames are not allowed; wildcards are allowed in targets and dependencies
make macro definition	*macro***=***string*
make macro expansion:	**$(***macro***)** **or $(***macro***:***str1***=***str2***)** *NOTE:* Macros are allowed anywhere in makefile; EVs are allowed in build scripts only

Build Options Spec (BOS) Files
(see *clearmake.options* manual page)

macro assignment	*macro_name* **=** *string* *target-list* **:=** *macro_name* **=** *string* *macro_name* **:sh=** *shell-command*
special targets	**.no_config_rec:** *tgts* **.no_cmp_script:** *tgts* **.no_wink_in:** *tgts* **.no_cmp_non_mf_deps:** *tgts*
include file facility	**include** *BOS-file* **sinclude** *BOS-file*

Configuration Records (see *config_record* manual page)

examine derived object's config rec	**cleartool catcr** *options derived-object-identifier ...*

Internal Macros (see *clearmake* manual page)

$*	(inference rule only) filename (no suffix) of inferred dependency
$@	full target name of current target
$<	(inference rule only) filename of implicit dependency
$?	(explicit makefile rule only) out-of-date dependencies list
$$@	(target/ dependency line only) filename of current target
$%	(library target only) target object module in library
makefile	(top-level makefile only) current makefile or most recently parsed makefile

Other Important Macros (see *clearmake* manual page)

vpath	colon-separated list of directory search paths for targets
clearcase_bld_umask	set DO permissions ("002" recommended)

Configuring Views with Config Specs

Standard Config Spec Rule

scope *pattern* *version-selector* [*optional-clause*]

NOTE: Rule must occupy a single physical line (no backslash continuation).

Standard Rule (see *config_spec* manual page)

scope

element
element –file
element –directory
element –eltype *element-type*

pattern

***** ***.c** ***[0–5].h**	any ClearCase wildcard; see *wildcards_ccase* man page)
src/util.c	any *util.c* element in any directory named *src*
/vobs/incl/util.h	full pathname of an element
src/.../util.c	any *util.c* element under any *src* directory
src/.../*.[ch]	any *.c* or *.h* element under any *src* directory
src/...	all file/dir elements in any *src* subtree

Restrictions: No view-extended pathnames; relative pathname must start below VOB-tag; full pathname must be in some VOB.

version-selector

CHECKEDOUT	checked-out version in your view
.../bugfix/3	version-ID (branch/version-number)
.../bugfix/REL2	branch pathname and version label
REL3	version label
/main/LATEST	most recent version on element's principal branch
{QA_level>3}	query
{Tested == "Yes"}	query

Special version-selectors:

–config *do-pathname* [**–select** *do-leaf-pattern*] [**–ci**]
–none
–error

optional-clause

–nocheckout
–mkbranch *branch-type*
–time *date-time* (affects latest versions only)
*date-time***:=** *date***.***time* | *date* | *time* | **now**
*date***:=** *day-of-week* | *long-date*
*day-of-week***:= today** | **yesterday** | **Sun** | **...** | **Sat**
*long-date***:=** *d*[*d*]**–***month*[**–**[*yy*]*yy*]
*month***:= January** | **...** | **December** | **Jan** | **...** | **Dec**
*time***:=** *h*[*h*]**:***m*[*m*][**:***s*[*s*]] (24–hour format)

Special Rules

time *date-time* (see –time above)

include *config-spec-pathname*

Sample Config Spec

work on *bugfix* branch, based on *rel2* version label	**element * CHECKEDOUT** **element * .../bugfix/LATEST** **element * REL2 –mkbranch bugfix**

ClearCase Query Language

A *query* reports names of elements, branches, versions, and/or VOB links.

Query in Version-Selector

A version-selector query must be enclosed in braces **{** ... **}**. It matches the most recent version on the specified branch. If no branch is specified, it matches a most recent version on any branch.

cleartool subcommand with –version option	**cleartool describe –version \ '/main/{attype(QAlvl)}' util.c**
config spec rule	**.../rel2.1/{QAlvl==5}**
version-extended pathname	**cat util.c@@/{hltype(published_article.12,<–)}** *NOTE:* A branch pathname and a query cannot both be used in a version-extended pathname.

Query in *find* and *findmerge* subcommands

find: –element, –branch, and –version options	**cleartool find –avobs –version 'QAlvl==5' –print** **cleartool find . –ver \ 'created_by(ann) && hltype(spec,<–)' –ok \ 'cleartool mklabel –nc SPEC $clearcase_xpn'**
findmerge: –element option	**cleartool findmerge /vobs/src \ -element 'created_by(drp)' -merge**

Query Primitives

attribute with specified value on object	*attr-type compare-op value* *compare-op*: **== != < <= > >=**
attribute with specified value on object or subobject	**attr_sub(***attr-type***,***compare-op***,***value***)**
attribute on object	**attype(***attr-type***)**
attribute on object or subobject	**attype_sub(***attr-type***)**
object associated with branch of particular type	**brtype(***branch-type***)**
user who created object	**created_by(***login-name***)**
creation time	**created_since(***date-time***)** (see page 9 for *date-time* syntax)
element of particular type	**eltype(***element-type***)**
has hyperlink of particular type	**hltype(***hlink-type***)** **hltype(***hlink-type***, –>)** **hltype(***hlink-type***, <–)**
has particular version label	**lbtype(***label-type***)**
version label on object or subobject	**lbtype_sub(***label-type***)**
select elements with merge arrow	**merge(***from-location***,***to-location***)**
select elements assigned to pool	**pool(***pool-name***)**
select elements with particular attached triggers	**trtype(***trigger-type***)**
select version(s)	**version(***version-selector***)**

Logical Operators

( ) **!** **<** **<=** **>** **>=** **=** **!=** **&&** **||**

higher precedence → lower precedence

Report-Writing with *–fmt*

Conversion Specification Syntax

%[*min*][**.***max*][*modifier-chars*]*keyletter*

Keyletters and Modifiers

%n		name of object
	%En	element name
	%Ln	leaf name
	%Sn	short name
	%Vn	version-ID
	%Xn	extended name
	%PVn	predecessor's version-ID
	%PS	predecessor's short name
%c		comment string from object's event record
	%Nc	comment string without trailing <nl>
%d		date-time
	%Sd	(short) date only
	%Vd	(very long) day of week, date, and time
	%DAd	age in days
	%MAd	age in months
	%BAd	age as a bar graph (longer bar = more recent)
	%OAd	age as a bar graph (longer bar = older)
%h		hostname, as reported by *uname -n*
%l ("el")		labels: parenthesized, comma-separated list
	%Cl	field width spec = max number of labels to display
	%Nl	space-separated list — no commas or parentheses
%a		attributes: comma-separated list of *attr=value* pairs
	%Sa	value only (instead of *attr=value*)
	%Na	space-separated list — no commas or parentheses
	%[*attype*]**a**	attribute name only — no value
%m		object kind (element, branch, version, label type, etc.)
%e		event kind ("create version", "destroy element", etc.)
%u		user login name
	%Fu	user's full name
	%Gu	user's group name
	%Lu	*user-ID***.***group-ID*
%o		operation kind (see *events_ccase* manual page)
%%		percent character

Escape Sequences

\t	tab
\n	newline
*****nnn*	octal character code
\'	single-quote character
****	backslash character

Field-Width Specifier Rules

A single number is interpreted as a minimum width (for example, **%8En**)

To supply only a maximum width, precede the number with a decimal point (**%.10En**) or with a zero and decimal point (**%0.10En**).

To specify a constant display width, set the minimum and maximum widths to the same value (**%20.20c**).

Values shorter than the specified minimum width are right justified. A negative minimum width value (**%–20.20c**) left justifies short values.

Values longer than the specified maximum width are truncated from the right. A negative maximum width value (**%15.–15Sn**) truncates long values from the left.

A maximum width specifier has special meaning when used with **%Cl**. For example, **%.5Cl** prints a version's first five labels only, followed by **...** .

Examples

```
cleartool lshistory \
      –fmt "OBJ–NAME: %–20.20n\tCOMMENT: %c\n" foo.c

cleartool annotate –fmt "%Sd %–8.8u | " foo.c

cleartool lshistory \
      –fmt '%d     %Fu (%u@%h)\n  %e "%n"\n "%Nc”\n’ util.c
```

ClearCase Graphical Interface

Commands

xclearcase	start ClearCase graphical user interface
xcleardiff	compare or merge files graphically
xlsvtree	compare or merge files graphically
clearprompt	prompt for user input

Configuration

cc.icon	ClearCase icon database
cc.magic	ClearCase file typing rules
schemes	X Window System resources

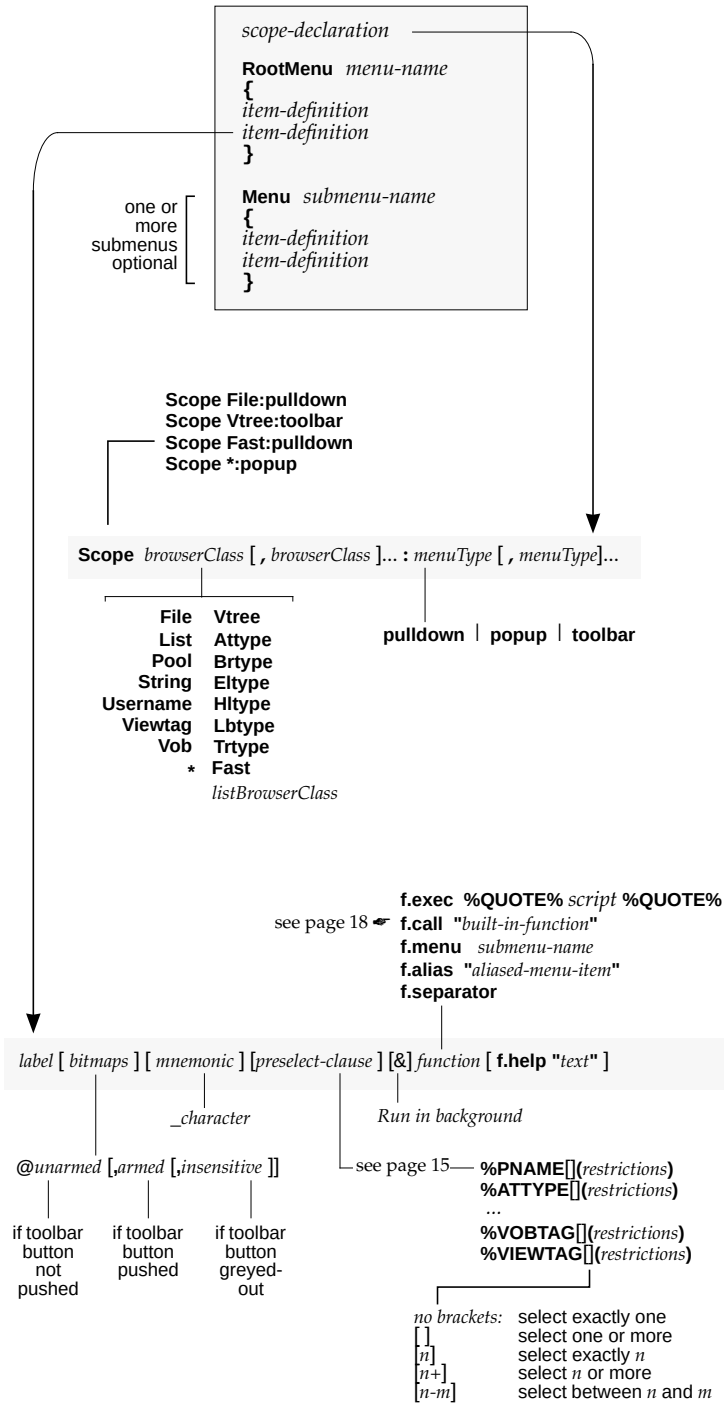
Basic Pointer Actions

select item	**click *leftMouse***
select region	**drag *leftMouse***
extend-select (discontiguous)	**<Ctrl>-leftMouse**
extend-select (range) (for textual, not graphical, dir list)	**<Shift>-leftMouse**
display “pop-up help” for an *enabled* menu item	Toolbar: ***rightMouse* on button** other menus: **click *leftMouse*** to post menu, then ***rightMouse*** over item
change working directory	***doubleClick*** on directory icon *or* edit directory text input box
List directory history	**press**
display pop-up menu	***rightMouse*** in browser
exit *xclearcase*	***Exit*** option on ***File*** menu

Menu Navigation

post (“pin up”) a pull-down menu; ...using mnemonic (underlined char)	**click leftMouse** on menu *or* ***AltKey-mnemonicChar***
cycle through posted menu options	**upArrow** **downArrow**
post submenu	***mnemonicChar*** *or* ***rightArrow***
cycle through menus left-to-right	**rightArrow** **leftArrow**
Invoke highlighted menu item	***<Return>*** *or* ***<Space>***

Group File Syntax



For preselect-count syntax, see page 14. Arguments lines include argument name, set of possible values, and default (if any).

%ATTYPE[*preselect-count* **](** *restrictions* **)** *preselector*
%ATTYPE[](** *prompt*,*restrictions*,*pname-in-VOB*,*keyboard* **) *macro*

(*also*: %BRTYPE, %ELTYPE, %HLTYPE, %LBTYPE, %TRTYPE)

Prompt for one or more attribute, branch, element, hyperlink, label, or trigger types

prompt	character string for user prompt	**Select *xxx* type(s)**
restrictions	**active** *or* **lock** *or* **obsolete**	any type object
pname-in-vob	pathname in any VOB	VOB containing working dir
keyboard	**enable**	not enabled

%DIR( ) *macro*

Return the pathname of the current browser's directory

no arguments

%ELEMENT(** *pathnames* **) *macro*

Strip any ClearCase annotations from pathnames, leaving standard pathname

pathnames	any pathname(s) (non-element pathnames are returned unchanged)

%ELEMSUFFIX(** *pathnames* **) *macro*

Append extended naming symbol (@@) to pathnames

pathnames	any pathname(s) (non-element pathnames are returned unchanged)

%HYPERLINK[*preselect-count* **]( )** *preselector*
%HYPERLINK[](** *prompt*,*browser* **) *macro*

Prompt for one or more hyperlink objects

prompt	character string for user prompt
browser	**vtree** *or* **vtree** *element-pname*

%LIST[*preselect-count* **]( )** *preselector*
%LIST[](** *prompt*,*title* **) *macro*

Prompt for data from a named list browser

prompt	character string for user prompt	
title	title of list browser to use	

%LISTOUT(** *title*,*class*,*persistence*,*width*,*height* **) *macro*

Redirect output to a list browser (named or unnamed)

title	character string	
class	character string	class of active browser when macro invoked
persistence	**transient**	browser stays up until user closes it
width	1-32 (window width in inches)	8
height	1-32 (window height in inches)	4

%MOUNT(** *pathnames* **) *macro*

Return the VOB mount points (VOB-tags) of specified pathnames

pathnames	any pathname(s) within one or more VOBs

%NAME( ) *macro*

Return the name associated with the current browser

no arguments

%PNAME[*preselect-count* **](** *restrictions* **)** *preselector*
%PNAME[](*prompt*,*restrictions*,*browser*,*keyboard* **)** *macro*

Prompt (with file or vtree browser) for one or more pathnames

prompt	character string for user prompt	**Select pathname(s)**
restrictions	**dir** *or* **ndir**	don't care
	elem *or* **nelem**	don't care
	dobj *or* **ndobj**	don't care
	invob *or* **ninvob**	don't care
	checkout *or* **ncheckout**	don't care
	reserved *or* **nreserved**	don't care
browser	**file** *or* **file** *dir-pname* *or* **vtree** *or* **vtree** *element-pname*	file browser prompts for file in current directory
keyboard	**enable**	not enabled

%POOL[*preselect-count* **](** **)** *preselector*
%POOL[](*prompt*,*pname-in-vob*,*keyboard* **)** *macro*

Prompt for one or more storage pool names

prompt	character string for user prompt	
pname-in-vob	pathname in any VOB	VOB containing working dir
keyboard	**enable**	not enabled

%RELATIVE(*pathnames*,*dir* **)** *macro*

Convert full or relative pathnames into pathnames relative to directory

pathnames	any pathname(s)
dir	directory to which the converted pathnames are to be relative

%REMOVE(*var-name* **)** *macro*

Delete a persistent temporary variable created with %SAVE

var-name	name of temporary variable

%RESTORE(*var-name* **)** *macro*

Retrieve the value of a temporary variable created with %SAVE

var-name	name of temporary variable

%SAVE(*var-name*,*string*,*persistence* **)** *macro*

Save string into named temporary variable (see also %RESTORE)

var-name	name of temporary variable	
string	character string to be stored in variable	
persistence	**keep**	variable removed afte this f.exec completes

%SELECTION( ) *macro*

Return the current data selection(s) from the current browser

no arguments

%SETVIEW(*pathnames* **)** *macro*

Convert pathnames to view-extended pathnames, based on the current set view

pathnames	any pathname(s)

%SORT(***pathnames*** **)** *macro*

Sort pathnames

pathnames	any pathname(s)

%STRING[*preselect-count* **]( )** *preselector*
%STRING[](***prompt*,*default* **) *macro*

Prompt for one or more text lines

prompt	character string for user prompt	**Enter string**
default	character string; pre-fills text input area	

%TEXTOUT(***title*,*default-text*,*width*,*height* **) *macro*

Redirect standard output to read-only text-display window

title	title of text browser	
default-text	character string	
width	1-32 (window width in inches)	8
height	1-32 (window height in inches)	4

%TMPFILE( ) *macro*

Create a temporary file and return its pathname

no arguments

%USERNAME[*preselect-count* **]( )** *preselector*
%USERNAME[](***prompt*,*keyboard* **) *macro*

Prompt for one or more usernames

prompt	character string for user prompt	**Select user name(s)**
keyboard	**enable**	not enabled

%VERMOD(***pathnames* **) *macro*

Convert standard pathnames to version-extended pathnames

pathname	any pathname(s) (non-element pathnames are returned unchanged)

%VIEWTAG[*preselect-count* **](***restrictions* **)** *preselector*
%VIEWTAG[](***prompt*,*restrictions*,*keyboard* **) *macro*

Prompt for one or more view-tags

prompt	character string for user prompt	**Select viewtag(s)**
restrictions	**active** *or* **inactive**	don't care
keyboard	**enable**	not enabled

%VOBTAG[*preselect-count* **](***restrictions* **)** *preselector*
%VOBTAG[](***prompt*,*restrictions*,*keyboard* **) *macro*

Prompt for one or more VOB-tags

prompt	character string for user prompt	**Select vobtag(s)**
restrictions	**mounted** *or* **nmounted**	don't care
keyboard	**enable**	not enabled

%WHICH(***path-ev*,*filename* **) *macro*

Search specified path for the first occurrence of filename

path-EV	any environment variable that stores a directory search path (typically, grp_path)
filename	Any valid file name (a shell script or executable)

%WILD(***pathnames* **) *macro*

Expand wildcards in pathnames

path-expr	pathname with one or more of these wildcard characters: ~ * ?

xclearcase Built-In Function Calls

***xx*type** *pname*	bring up type browser for VOB identified by *pname*
close	close current browser
file *directory-pname*	bring up file browser on *directory-pname*
file_disp_date	enable/disable size and date modified display
file_disp_owner	enable/disable owner and permissions display
file_disp_rule	enable/disable config spec rule display
file_disp_type	enable/disable object type information display
file_disp_version	enable/disable version information display
file_sort_by_checkout	enable (disable by-rule and by-type)/disable sort-by-checkout for file system objects in file browser
file_sort_by_rule	enable (disable by-checkout and by-type)/disable sort-by-rule for file system objects in file browser
file_sort_by_time	enable/disable “minor” sort-by-time
file_sort_by_type	enable (disable by-rule and by-checkout)/disable sort-by-type for file system objects in file browser
force	force update of current browser
graphic	disable/enable graphic (icon) display mode
keyboard	enable/disable the keyboard input box for the current browser
list_delete_selected	delete selected items from current list browser
pool *pname*	bring up pool browser on VOB identified by *pname*
print *output-pname* [*pagesize*] [*scale*]	send PostScript image of vtree to *output-pname* *pagesize* := a0 | a1 | a2 | a3 | a4 | a5 | **letter** | legal *scale* := **scale_to_page** | *percentScalingFactor* *percentScalingFactor* := integer; default = 100
quit	quit *xclearcase*
setview *view-tag*	set process’s current working view to *view-tag*
showtrans	bring up the transcript pad
type_disp_active	enable/disable display of active objects
type_disp_locked	enable/disable display of locked objects
type_disp_obsolete	enable/disable display of obsolete objects
update	update any browsers marked for update — by default, browsers are updated when a GUI command completes, or whenever 15 seconds elapse without any GUI activity
username	bring up username browser
viewtag	bring up view-tag browser
vobtag	bring up VOB-tag browser
vtree *element-pname*	bring up vtree browser on *element-pname*
vtree_disp_all_label	enable/disable all labels display (if disabled: max=5)
vtree_disp_all_ver	enable/disable display of all versions (if disabled: show “significant” versions only — branch points, labeled versions, and hyperlink endpoints)
vtree_disp_checkout	enable/disable display of checked-out versions
vtree_disp_merge	enable/disable merge arrow display

cleartool Subcommand Syntax

annotate [**–all** | **–rm**] [**–rmfmt** *format*] [**–nco**] [**–out** [**dir–**] *pname*]
[**–short** | **–long** | **–fmt format**[**,***hdr-format*[**,***elide-format*]]]
[**–nheader**] [**–ndata** | **–force**] *pname ...*

catcr [**–recurse** | **–flat** | **–union** | **–check** [**–union**] | **–makefile**]
[**–select** *do-leaf-pattern*] [**–ci**] [**–type** {**f** | **d** | **l**}...]
[**–element_only**] [**–view_only**] [**–name** *tail-pattern*]
[**–zero**] [**–wd**] [**–nxname**] [**–long** | **–short**] *do-pname ...*

catcs [**–tag** *view-tag*]

cd [*dir-pname*]

checkin | **ci** [**–keep** | **–rm**] [**–from** *source-pname*] [**–cr**] [**–ptime**]
[**–identical**] [**–c** *comment* | **–cq** | **–cqe** | **–nc**] *pname ...*

checkout | **co** [**–reserved** | **–unreserved**] [**–branch** *branch-pname*]
[[**–out** *dest-pname*] | **–ndata**]
[**–c comment** | **–cq** | **–cqe** | **–nc**] *pname ...*

chevent [**–c comment** | **–cq** | **–cqe** | **–nc**] [**–append** | **–insert** | **–replace**]
{**–event** [**–vob pname–in–vob**] *event-selector ...*
| **–eltype** | **–brtype** |**–attype** | **–hltype** | **–lbtype** | **–trtype** |
–rptype} [**–vob** *pname-in-vob*] *type-name ...*
| **–pool** [**–vob** *pname-in-vob*] *pool-name ...*
| **–vreplica** [**–vob** *pname-in-vob*] *replica-name ...*
| **–hlink** *hlink-selector ...*
| **–vob** *pname-in-vob*
| *pname ...* }

chpool [**–force**] [**–c** *comment* | **–cq** | **–cqe** | **–nc**] *pool-name pname ...*

chtype [**–force**] [**–c** *comment* | **–cq** | **–cqe** | **–nc**] *type-name pname ...*

describe [**–long** | **–short** | **–fmt** *format*]
{ [**–cview**] [**–version** *version-selector* | **–ancestor**]
[**–aattr** {*attr-type-name*[**,** ...] | **–all**}]
[**–ahlink** {*hlink-type-name*[**,** ...] | **–all**}]
[**–alabel** {*label-type-name*[**,** ...] | **–all**}]
[**–predecessor**] *pname ...*
| **–type** [**–vob** *pname-in-vob*] *type-name ...*
| **–pool** [**–vob** *pname-in-vob*] *pool-name ...*
| **–vreplica** [**–vob** *pname-in-vob*] *replica-name ...*
| **–hlink** *hlink-selector ...*
| **–vob** *pname-in-vob*
}

diff [**–tiny** | **–window**] [**–serial_format** | **–diff_format** | **–columns** *n*]
[**–options "***pass-through-opts***"**] [**–predecessor**] *pname ...*

diffcr [**–recurse** | **–flat**] [**–select** *do-leaf-pattern*] [**–ci**]
[**–type** { **f** | **d** | **l** }...] [**–element_only**] [**–view_only**] [**–wd**]
[**–name** *tail-pattern*] [**–nxname**] [**–long** | **–short**] *do-pname do-pname*

edcs [**–tag** *view-tag*] [*pname*]

find *pname ...* [**–name '***pattern***'**] [**–depth**] [**–follow**] [**–nrecurse**] [**–cview**]
[**–user** *login-name*] [**–group** *group-name*] [**–type** { **f** | **d** | **l** }...]
[**–nxname**] [**–element** *query*] [**–branch** *query*] [**–version** *query*]
{**–print** | **–exec** *command-invocation* | **–ok** *command-invocation* } ...

find [*pname ...*] **–all** [**–visible** | **–nvisible**] *find-options*

find –avobs [**–visible** | **–nvisible**] *find-options*

Environment variables set by *find* (for use in *–exec* or *–ok* commands):

CLEARCASE_PN	element pathname
CLEARCASE_PN	element pathname
CLEARCASE_XN_SFX	extended naming symbol (@@ by default)
CLEARCASE_ID_STR	pathname of branch, or version ID (no @@)
CLEARCASE_XPN	version-extended pname of branch or version

findmerge {**–avobs** | *pname ...* | [*pname ...*] **–all**}
{**–ftag** *view-tag* | **–fversion** *version-selector* | **–flatest**}
[**–depth**] [**–follow**] [**–nrecurse**] [**–name '***pattern***'**]
[**–type** { **f** | **d** | **fd** }] [**–user** *login-name*] [**–group** *group-name*]
[**–visible**] [**–element** *query*] [**–nzero**] [**–nback**] [**–whynot**]
[**–c** *checkout_comment* | **–cq** | **–cqe** | **–nc**]
[**–abort** | **–qall**] [**–serial**] [**–log** *log_pname*]
{ **–print** [**–long** | **–short** | **–nxname**] |
{**–merge** | **–okmerge**} | {**–xmerge** | **–okxmerge**} |
–exec *command-invocation* | **–ok** *command-invocation* } ...

Environment variables set by *findmerge* (for use in *–exec* or *–ok* commands):

CLEARCASE_PN	element pathname
CLEARCASE_XN_SFX	extended naming symbol (**@@** by default)
CLEARCASE_ID_STR	version-ID of "to" version
CLEARCASE_XPN	version-extended pathname of "to" version
CLEARCASE_F_ID_STR	version-ID of "from" version
CLEARCASE_FXPN	version-extended pathname of "from" version
CLEARCASE_B_ID_STR	version-ID of base contributor version

help [*command-name*]

ln [**–slink**] [**–c comment** | **–cq** | **–cqe** | **–nc**] *pname target-pname*

ln [**–slink**] [**–c comment** | **–cq** | **–cqe** | **–nc**] *pname* [*pname ...*] *target-dir-pname*

lock [**–replace**] [**–nusers** *login-name*[**,**...] | **–obsolete**]
[**–c** *comment* | **–cq** | **–cqe** | **–nc**]
{ {**–eltype** | **–brtype** | **–attype** | **–hltype** | **–lbtype** | **–trtype** | **–rptype** }
[**–vob** *pname-in-vob*] *type-name ...*
| **–pool** [**–vob** *pname-in-vob*] *pool-name ...*
| **–vob** { *pname-in-vob* | *vob-storage-dir-pname* }
| *pname ...* }

ls [**–recurse** | **–directory**] [**–long** | **–short**] [**–vob_only** | **–view_only**]
[**–nxname**] [**–visible**] [*pname ...*]

lscheckout | **lsco** [**–long** | **–short** | **–fmt format**] [**–cview**]
[**–brtype branch–type**] [**–me** | **–user** *login-name*]
[**–recurse** | **–directory** | **–all** | **–avobs** | **–areplicas**] [*pname ...*]

lsdo [**–recurse**] [**–me**] [**–long** | **–short** | **–fmt** *format*] [**–zero**]
[**–stime** | **–sname**] [*pname ...*]

lshistory [**–long** | **–short** | **–fmt** *format*] [**–eventid**]
[**–minor**] [**–nco**] [**–since** *date-time*] [**–user** *login-name*]
[[**–recurse** | **–directory** | **–all** | **–avobs**] [**–branch** *branch-type*]
pname ...
| {**–eltype** | **–brtype** | **–attype** | **–hltype** | **–lbtype** | **–trtype**
| **–rptype**} [**–vob** *pname-in-vob*] *type-name ...*
| **–vreplica** [**–vob** *pname-in-vob*] *replica-name ...*
| **–pool** [**–vob** *pname-in-vob*] *pool-name ...*
| **–hlink** *hlink-selector ...*
| **–vob** *pname-in-vob*
]

lslock [**–long** | **–short** | **–fmt** *format*] [**–obsolete**]
[{**–eltype** | **–brtype** | **–attype** | **–hltype** | **–lbtype** | **–trtype** | **–rptype**}
[**–vob** *pname-in-vob*] *type-name ...*
| **–pool** [**–vob** *pname-in-vob*] *pool-name ...*
| **–vob** {*pname-in-vob* | *vob-storage-dir-pname*}
| [**–all**] *pname ...*
]

lspool [**–long** | **–short** | **–fmt** *format*] [**–obsolete**]
[**–vob** *pname-in-vob*] [*pool-name ...*]

lsprivate [**–tag** *view-tag*] [**–vob** *pname-in-vob*] [**–long** | **–short**] [**–co**]

lstype {**–eltype** | **–brtype** | **–lbtype** | **–attype** | **–hltype** | **–trtype** | **–rptype**}
[**–long** | **–short** | **–fmt** *format*]
[**–obsolete**] [**–vob** *pname-in-vob*] [*type-name ...*]

lsview [**–short** | **–long**] [**–host** *hostname*] [**–region '***region-pattern***'**]
[**'** *view-tag-pattern***'** ... | **–storage** *view-storage-dir-pname ...*]

lsvob [**–short** | **–long**] [**–host** *hostname*] [**–region '***region-pattern***'**]
[**'***vob-tag-pattern***'** ... | **–storage** *vob-storage-dir-pname ...*]

lsvtree [**–nrecurse**] [**–short**] [**–all**] [**–merge**] [**–nco**]
[**–branch** *branch-pname*] *pname ...*

man [*command-name*]

merge {**–out** *output-pname* | **–to** *contrib-and-result-pname*}
[**–base** *pname* | **–insert** | **–delete**] [**–ndata** | **–narrows**] [**–replace**]
[**–abort** | **–qall**] [**–c** *comment* | **–cq** | **–cqe** | **–nc**]
[**–tiny** | **–window**] [**–serial_format** | **–diff_format** | **–col** *n*]
[**–options "***pass-through-options***"**]
{**–version** *contrib-version-selector ...* | *contrib-pname ...*}

mkattr [**–replace**] [**–recurse**] [**–version** *version-selector*]
[**–c comment** | **–cq** | **–cqe** | **–nc**]
{ *attribute-type-name value* | **–default** *attribute-type-name*} *pname ...*

mkattr –hlink [**–replace**] [**–c** *comment* | **–cq** | **–cqe** | **–nc**]
{ *attribute-type-name value* | **–default** *attribute-type-name* }
hlink-selector ...

mkattr [**–replace**] [**–c** *comment* | **–cq** | **–cqe** | **–nc**]
[**–select** *do-leaf-pattern*] [**–ci**] [**–type** { **f** | **d** } ...]
[**–name** *tail-pattern*] **–config** *do-pname*
{ *attribute-type-name value* | **–default** *attribute-type-name* }

mkattype [**–replace**] [**–vpelement** | **–vpbranch** | **–vpversion**] [**–omaster**]
[**–vtype** {**integer** | **real** | **time** | **string** | **opaque**}]
[[**–gt** *low-value* | **–ge** *low-value*]
[**–lt** *high-value* | **–le** *high-value*] | **–enum** *value*[**,**...]]
[**–default** *default-value*] [**–c** *comment* | **–cq** | **–cqe** | **–nc**]
[**–vob** *pname-in-vob*] *type-name ...*

mkbranch [**–version** *version-selector*] [**–nco**]
[**–c** *comment* | **–cq** | **–cqe** | **–nc**] *branch-type-name pname ...*

mkbrtype [**–replace**] [**–pelement**] [**–vob** *pname-in-vob*]
[**–c** *comment* | **–cq** | **–cqe** | **–nc**] *type-name ...*

mkdir [**–nco**] [**–c** *comment* | **–cq** | **–cqe** | **–nc**] *dir-pname ...*

mkelem [**–eltype** *elem-type-name*] [**–nco** | **–ci**]
[**–c** *comment* | **–cq** | **–cqe** | **–nc**] *element-pname ...*

mkeltype [**–replace**] **–supertype** *elem-type-name* [**–manager** *mgr-name*]
[**–ptime**] [**–attype** *attr-type-name*[**,** ...]] [**–vob** *pname-in-vob*]
[**–c** *comment* | **–cq** | **–cqe** | **–nc**] *type-name ...*

mkhlink [**–unidir**] [**–ttext** *to-text*] [**–ftext** *from-text*] [**–c** *comment* | **–cq** | **–cqe** | **–nc**]
hlink-type-name from-obj-pname [*to-obj-pname*]

mkhltype [**–replace**] [**–attype** *attr-type*[**,** ...]] [**–vob** *pname-in-vob*]
[**–omaster**] [**–c** *comment* | **–cq** | **–cqe** | **–nc**] *type-name ...*

mklabel [**–replace**] [**–recurse**] [**–version** *version-selector*]
[**–c** *comment* | **–cq** | **–cqe** | **–nc**] *label-type-name pname ...*

mklabel [**–replace**] [**–c** *comment* | **–cq** | **–cqe** | **–nc**]
[**–select** *do-leaf-pattern*] [**–ci**] [**–type** { **f** | **d** } ...]
[**–name** *tail-pattern*] **–config** *do-pname label-type-name*

mklbtype [**–replace**] [**–pbranch**] [**–omaster**] [**–vob** *pname-in-vob*]
[**–c** *comment* | **–cq** | **–cqe** | **–nc**] *type-name ...*

mkpool –source [**–ln** *pool-dir-pname*] [**–vob** *pname-in-vob*]
[**–c** *comment* | **–cq** | **–cqe** | **–nc**] *pool-name ...*

mkpool {**–derived** | **–cleartext**} [**–ln** *pool-dir-pname*]
[**–size** *max-kbytes reclaim-kbytes* [**–age** *hours*] [**–alert** *command*]]
[**–vob** *pname-in-vob*] [**–c** *comment* | **–cq** | **–cqe** | **–nc**] *pool-name ...*

mkpool –update [**–size** *max-kbytes reclaim-kbytes*] [**–age** *hours*]
[**–alert** *command*] [**–vob** *pname-in-vob*]
[**–c** *comment* | **–cq** | **–cqe** | **–nc**] *pool-name ...*

mktag –view –tag *view-tag* [**–tcomment** *tag-comment*] [**–replace**]
[**–region** *network-region*] [**–nstart**]
[**–host** *hostname* **–hpath** *local-stg-path* **–gpath** *global-stg-path*]
view-storage-pname

mktag –vob –tag *vob-tag* [**–tcomment** *tag-comment*] [**–replace**]
[**–region** *network-region*] [**–options** *mount-options*]
[**–public** [**–password** *tag-reg-password*]]
[**–host** *hostname* **–hpath** *local-stg-path* **–gpath** *global-stg-path*]
vob-storage-pname

mktrigger [**–ninherit** | **–nattach**] [**–recurse**] [**–force**]
[**–c** *comment* | **–cq** | **–cqe** | **–nc**] *trigger-type-name element ...*

See also *Trigger-Related Environment Variables* on page 24.

mktrtype –element [**–global**] [**–replace**] { **–preop** | **–postop** } *opkind*[**,**...]
[*restriction-list*] [**–nusers** *login-name*[**,**...]]
{ **–exec** *command* | **–mklabel** *label-type* | **–mkattr** *attr-type***=***value*
| **–mkhlink** *hltype***,to=***pname* | **–mkhlink** *hltype***,from=***pname* } ...
[**–print**] [**–c** *comment* | **–cq** | **–cqe** | **–nc**]
[**–vob** *pname-in-vob*] *type-name ...*

restriction-list := one or more of:

–attype *attr-type*[**,...**]	or	**–attype –all**
–brtype *branch-type*[**,...**]	or	**–brtype –all**
–eltype *elem-type*[**,...**]	or	**–eltype –all**
–hltype *hlink-type*[**,...**]	or	**–hltype –all**
–lbtype *label-type*[**,...**]	or	**–lbtype –all**
–trtype *trigger-type*[**,...**]	or	**–trtype –all**

On this *opkind*...	These *restrictions* are checked before firing...
MODIFY_ELEM	
checkout	element type, branch type
uncheckout	element type, branch type
reserve	element type, branch type
unreserve	element type, branch type
MODIFY_DATA	
chevent	element type, branch type
mkelem	element type
mkbranch	element type, branch type
checkin	element type, branch type
rmelem	element type
rmbranch	element type, branch type
rmver	element type, branch type
rmname	N/A
chtype	all type objects
lock	element type, branch type
unlock	element type, branch type
MODIFY_MD	
chevent	restrictions on type of affected object
mklabel	element type, label type, branch type
mkattr	element type, attribute type, branch type
mkhlink	element type, hyperlink type, branch type
mktrigger	element type, hyperlink type, branch type
rmlabel	element type, label type
rmattr	element type, attribute type, branch type
rmhlink	element type, hyperlink type, branch type
rmtrigger	element type, trigger type

See also *Trigger-Related Environment Variables* on page 24.

mktrtype –type [**–replace**] { **–preop** | **–postop** } *opkind*[**,**...] *inclusion-list*
[**–nusers** *login-name*[**,**...]] **–exec** *command* [**–print**]
[**–c** *comment* | **–cq** | **–cqe** | **–nc**] [**–vob** *pname-in-vob*] *type-name ...*

inclusion-list := one or more of:

–attype *attr-type*[**,**...]
–brtype *branch-type*[**,**...]
–eltype *elem-type*[**,**...]
–hltype *hlink-type*[**,**...]
–lbtype *label-type*[**,**...]
–trtype *trigger-type*[**,**...]

Type trigger *opkinds*:

MODIFY_TYPE
mktype, **rmtype**, **rntype**, **lock**, **unlock**, **chevent**

mkview –tag *view-tag* [**–tcomment** *tag-comment*] [**–tmode** { **unix** | **msdos**}]
[**–region** *network-region*] [**–ln** *link-storage-to-dir-pname*]
[**–host** *hostname* **–hpath** *host-stg-path* **–gpath** *global-stg-path*]
view-storage-pname

mkvob –tag *vob-tag* [**–c** *comment* | **–cq** | **–cqe** | **–nc**] [**–tcomment** *tag-comment*]
[**–region** *network-region*] [**–public** [**–password** *tag-reg-password*]]
[**–options** *mount-options*]
[**–host** *hostname* **–hpath** *host-stg-path* **–gpath** *global-stg-path*]
vob-storage-dir-pname

mount { [**–options** *mount-options*] *vob-mount-tag* | **–all** }

mv [**–c** *comment* | **–cq** | **–cqe** | **–nc**] *pname target-pname*

mv [**–c** *comment* | **–cq** | **–cqe** | **–nc**] *pname* [*pname ...*] *target-dir-pname*

protect [**–chown** *login-name*] [**–chgrp** *group-name*] [**–chmod** *permissions*]
[**–file** | **–directory**] [**–recurse**]
[**–c** *comment* | **–cq** | **–cqe** | **–nc**] *pname ...*

protectvob [**–force**] [**–chown** *login-name*] [**–chgrp** *group-name*]
[**–add_group** *group-name*[**,**...]] [**–delete_group** *group-name*[**,**...]] *vob_storage_pname ...*

pwd

pwv [**–short**] [**–wdview** | **–setview**]

quit

recoverview [**–force**] [**–vob** *vob_uuid* | **–dir** *dir_object_id*]
{ **–tag** *view-tag* | *view-storage-pname* }

reformatview [**–dump** | **–load**] { **–tag** *view-tag* | *view-storage-pname* }

reformatvob [**–dump** | **–load**] [**–rm**] [**–force**] [**–to** *dumpfile_directory*]
[**–host** *hostname* **–hpath** *host-stg-path* **–gpath** *global-stg-path*]
vob-storage-dir-pname

register –view [**–replace**] [**–host** *hostname* **–hpath** *host-stg-path* **–gpath** *global-stg-path*]
view-storage-pname

register –vob [**–replace**] [**–host** *hostname* **–hpath** *host-stg-path* **–gpath** *global-stg-path*]
vob-storage-pname

reserve [**–c** *comment* | **–cq** | **–cqe** | **–nc**] *pname ...*

rmattr [**–version** *version-selector*] [**–c** *comment* | **–cq** | **–cqe** | **–nc**]
attribute-type-name pname ...

rmattr [**–c** *comment* | **–cq** | **–cqe** | **–nc**] { [**–version** *version-selector*]
{ *attribute-type-name pname ...* | **–hlink** *attribute-type-name hlink-selector ...* }

rmbranch [**–force**] [**–c** *comment* | **–cq** | **–cqe** | **–nc**] *pname ...*

rmdo *do-pname ...*

rmdo {**–all** | **–zero**} [*pname ...*]

rmelem [**–force**] [**–c** *comment* | **–cq** | **–cqe** | **–nc**] *pname ...*

rmhlink [**–c** *comment* | **–cq** | **–cqe** | **–nc**] *hlink-selector ...*

rmlabel [**–version** *version-selector*] [**–c** *comment* | **–cq** | **–cqe** | **–nc**]
label-type-name pname ...

rmmerge [**–c** *comment* | **–cq** | **–cqe** | **–nc**] *from-pname to-pname*

rmname [**–c** *comment* | **–cq** | **–cqe** | **–nc**] *pname ...*

rmpool [**–c** *comment* | **–cq** | **–cqe** | **–nc**] [**–vob** *pname-in-vob*] *pool-name ...*

rmtag { **–view** | **–vob** } [**–region** *network-region* | **–all**] *view-or-vob-tag ...*

rmtrigger [**–ninherit** | **–nattach**] [**–recurse**]
[**–c** *comment* | **–cq** | **–cqe** | **–nc**] *trigger-type-name pname ...*

rmtype {**–eltype** | **–brtype** | **–lbtype** | **–attype** | **–hltype** |**–rptype**
|**–trtype** [**–ignore**] } [**–rmall** [**–force**]]
[**–c** *comment* | **–cq** | **–cqe** | **–nc**] [**–vob** *pname-in-vob*] *type-name ...*

rmver [**–force**] [**–xbranch**] [**–xlabel**] [**–xattr**] [**–xhlink**] [**–data**]
[**–version** *version-selector* | **–vrange** *low-version high-version*]
[**–c** *comment* | **–cq** | **–cqe** | **–nc**] *pname ...*

rmview [**–force**] { **–tag** *view-tag* | *view-storage-pname* }

rmview [**–force**] [**–vob** *pname-in-vob*] **–uuid** *view_uuid*

rmvob [**–force**] *vob-storage-dir-pname ...*

rnpool [**–vob** *pname-in-vob*] [**–c** *comment* | **–cq** | **–cqe** | **–nc**]
old-pool-name new-pool-name

rntype {**–eltype** | **–brtype** | **–lbtype** | **–attype** | **–hltype** | **–trtype** |**–rptype**}
[**–vob** *pname-in-vob*] [**–c** *comment* | **–cq** | **–cqe** | **–nc**]
old-type-name new-type-name

setcs [**–tag** *view-tag*] {**–current** | **–default** | *pname* }

setview [**–login**] [**–exec** *command-invocation*] *view-tag*

shell [*command* [*args ...*]]

space [**–all**] { *pname-in-vob ...* | *vob-storage-dir-pname ...* |**–avobs**
| **–directory** *dir-pname ...* }

startview *view-tag ...*

umount { *vob-mount-tag* | **–all** }

uncheckout | **unco** [**–keep** | **–rm**] *pname ...*

unlock [**–c** *comment* | **–cq** | **–cqe** | **–nc**]
{ {**–eltype** | **–brtype** | **–attype** | **–hltype** | **–lbtype** | **–trtype** | **–rptype**}
[**–vob** *pname-in-vob*] *type-name ...*
| **–pool** [**–vob** *pname-in-vob*] *pool-name ...*
| **–vob** { *pname-in-vob* | *vob-storage-dir-pname* }
| *pname ...* }

unregister –vob {**–uuid** *uuid* | *vob-storage-dir-pname* }

unregister –view {**–uuid** *uuid* | *view-storage-dir-pname* }

unreserve [**–view** [*hostname:*] *view-storage-dir-pname*]
[**–c** *comment* | **–cq** | **–cqe** | **–nc**] *pname ...*

winkin [**–out** *output-pname*] *do-pname ...*

xdiff [**–tiny**] [**–hstack** | **–vstack**] [**–pred**] [**–options "***pass-thru-options***"**] *pname ...*

xlsvtree [**–all**] [**–nmerge**] [**–nco**] [**–options "***pass-through-options***"**] *pname ...*

xmerge {**–out** *output-pname* | **–to** *contrib-and-result-pname* }
[**–base** *pname* |**–insert** | **–delete**] [**–ndata** | **–narrows**] [**–replace**]
[**–abort** | **–qall**] [**–c comment** | **–cq** | **–cqe** | **–nc**] [**–hstack** | **–vstack**]
[**–tiny**] [**–options "***pass-through-options***"**]
{**–version** *contrib-version-selector ...* | *contrib-pname ...*}

Trigger-Related Environment Variables

This environment variable...	Is set by... (see also *mktrtype* manual page)
clearcase_attach	mktrigger, rmtrigger
clearcase_attype	all operations restrictable by attr type
clearcase_brtype	all operations restrictable by branch type
clearcase_ci_fpn	checkin
clearcase_comment	all operations that support comments
clearcase_eltype	all operations restrictable by element type
clearcase_ftext	mkhlink, rmhlink
clearcase_fvob_pn	mkhlink, rmhlink
clearcase_fxpn	mkhlink, rmhlink
clearcase_hltype	all operations restrictable by hlink type
clearcase_id_str	ci, co, mk/rmattr, mr/rmhlink, mk/rmlabel, mkbranch, rmver
clearcase_is_from	mkhlink, rmhlink
clearcase_lbtype	all operations restrictable by label type
clearcase_mtype	all
clearcase_new_type	rntype
clearcase_op_kind	all
clearcase_out_pn	checkout
clearcase_pn	all (element triggers only)
clearcase_pn2	lnname
clearcase_pop_kind	mkelem, mkslink, lnname
clearcase_ppid	all
clearcase_slnktxt	mkslink
clearcase_trtype	all operations restrictable by trigger type
clearcase_ttext	mkhlink, rmhlink
clearcase_tvob_pn	mkhlink, rmhlink
clearcase_txpn	mkhlink, rmhlink
clearcase_user	all
clearcase_val	all
clearcase_view_tag	all
clearcase_vob_pn	all
clearcase_vtype	mkattr
clearcase_xn_sfx	all
clearcase_xpn	all (element triggers only)

Non-*cleartool* Command Syntax

etc = **command lives in ${**atriahome**}/etc,** not **${**atriahome**}/bin**

clearaudit [*shell_cmd*]

clearbug [**–short** | **–s**]

clearcvt_ccase [**–l** *date-time* | **–s** *date-time*] [**–r**] [**–n**] [**–o** *script-dir-pname*]
[**–p** *file-pname*] [**–e** *file-pname*] [*source-name ...*]

clearcvt_dsee [**–l** *date-time* | **–s** *date-time*] [**–r**] [**–n**]
[**–o** *script-dir-pname*] [**–p** *file-pname*] [**–e** *file-pname*]
[**–T** *translation-file*] [*source-name ...*]

clearcvt_rcs [**–l** *date-time* | **–s** *date-time*] [**–r**] [**–n**]
[**–o** *script-dir-pname*] **–p** *file-pname*] [**–e** *file-pname*] [**–V**]
[**–T** *translation-file*] [**–S**] [*source-name ...*]

clearcvt_sccs [**–l** *date-time* | **–s** *date-time*] [**–r**] [**–n**]
[**–o** *script-dir-pname*] [**–p** *file-pname*] [**–e** *file-pname*]
[**–B** *branch-id*] [**–V**] [**–T** *translation-file*] [*source-name ...*]

clearcvt_unix [**–s** *date-time*] [**–r**] [**–n**] [**–L**] [**–i**]
[**–o** *script-dir-pname*] [**–t** *temp-dir-pname*] [**–p** *file-pname*]
[**–e** *file-pname*] [**–b** *target-branch* [**–v** *version-id*]] [*source-name ...*]

diff:

cleardiff [**–window** | **–tiny**]
[**–diff_format** | **–serial_format** | **–columns** *n*]
[**–headers_only** | **–quiet** | **–status_only**]
[**–blank_ignore**] *pname1 pname2 ...*

merge:

cleardiff –out *output-pname* [**–base** *pname*]
[**–qall** | **–abort**] [**–window** | **–tiny**]
[**–diff_format** | **–serial_format** | **–columns** *n*]
[**–headers_only** | **–quiet** | **–status_only**] [**–blank_ignore**] *pname1*
pname2 ...

clearlicense [**–product** *product-name*] [**–hostid** | **–release** { *username* | *user-ID* } ...]

clearmake [**–f** *makefile ...*] [**–ukinservdp**] [**–OTFUVMN**]
[**–C** *mode*] [**–J** *num*] [**–A** *BOS-file*] ... [*macro***=***value ...*]
[*target_name ...*]

prompt for text:

clearprompt text –prompt *prompt_string* **–outfile** *pname*
[**–multi_line**] [**–default** *string* | **–dfile** *pname*]
[**–prefer_gui**]

prompt for pathname:

clearprompt file –prompt *prompt_string* **–outfile** *pname*
[**–pattern** *match_pattern*] [**–default** *filename* | **–dfile** *pname*]
[**–directory** *dir_path*] [**–prefer_gui**]

prompt for continue-processing choice:

clearprompt proceed –prompt *prompt_string* [**–type** ***type***]
[**–default** *choice*] [**–mask** *choice*[**,***choice*]] [**–prefer_gui**]

choice := **proceed** | **abort**

prompt for yes/no choice:

clearprompt yes_no –prompt *prompt_string* [**–type** *type*]
[**–default** *choice*] [**–mask** *choice*[**,***choice*]] [**–prefer_gui**]

type := **ok** | **warning** | **error**
choice := **yes** | **no** | **abort**

cleartool *subcommand* [*options/args*]

determine cache status:

etc **mvfscache** [*cache_name*]

control cache operation:

etc **mvfscache** { **–e** *cache_list* | **–d** *cache_list* | **–f** *cache_list* }

etc **mvfslog** [**none** | **error** | **warn** | **info** | **stale** | **debug**]

etc **mvfsstat** [**–i**] [**–c**] [**–r**] [**–v**] [**–V**] [**–l**] [**–h**] [*time*] [*count*]

etc **mvfsstorage** *pname ...*

etc **mvfstime** [**–i**] [**–c**] [**–r**] [**–v**] [**–V**] [**–l**] [**–h**] *command* [*args*]

mvfsversion [**–r**] [**–s**]

etc **rgy_passwd** [**–password** *tag-registry-password*]

etc **scrubber** [**–e** | **–f** | **–o**] [**–p** *pool*[,...] | **–k** *kind*[,...]]
[**–a** | *vob-storage-dir-pname ...*]
etc **view_scrubber** [**–p**] [**–k**] [**–n**] [*DO-pname ...*]
etc **vob_scrubber** [**–stats_only**] [**–long**] [**–nlog**]
{ **–lvobs** | *vob-storage-dir-pname ...* }
xclearcase [**–file** | **–attype** | **–brtype** | **–eltype** | **–hltype** | **–lbtype** | **–trtype** | **–vtree** [**–all**] [**–nmerge**] [**–nco**] *pname ...*] [*X-options*]
diff:
xcleardiff [**–tiny**] [**–hstack** | **–vstack**] [*X-options*] *pname1 pname2 ...*
merge:
xcleardiff **–out** *output-pname* [**–force**] [**–base** *pname*] [**–tiny**]
[**–hstack** | **–vstack**] [**–qall**] [**–pause**] [*X-options*]
contrib-pname ...
xlsvtree [**–all**] [**–nco**] [**–nmerge**] [*X-options*] *pname ...*

ClearCase Directory Tree Structure

/usr/atria/	default install dir (atriahome overrides it)
bin/	symbolic link to *$arch**/bin***
config/	configuration files
clearmake/	C++ and miscellaneous build support
cron/	*crontab*(1) scripts, scrubber scripts
magic/	file-typing config file, *default.magic*
services/	Clearcase server configuration file
softbench/	SoftBench configuration files
tooltalk/	ToolTalk configuration files
ui/	graphical user interface utilities
Schemes/	X resource configuration files
bitmaps/	*xclearcase* browser icons
grp/	*xclearcase* group files (menu, toolbar defs)
icon/	default file type-to-bitmap mappings file
lib/	misc GUI libs (X11)
vob/	*vob_scrubber_params* file
default_config_spec	default configuration spec for all new views
doc	ClearCase documentation
man/	manual pages (*nroff* source format)
tutorial/	scripts and data files for ClearCase tutorial
etc/	symbolic link to *$arch/etc* (admin tools)
examples/	ClearCase usage examples
install/	ClearCase installation scripts
lib/	symbolic link to *$arch**/lib***
$*arch*	architecture-specific programs and data
bin/	user programs (*cleartool*, *clearmake*, etc.)
etc/	server-level (daemon) programs
sysgen/	kernel configuration files
lib/	additional server-level programs
mgrs/	element type managers
/usr/adm/atria/ *or* **/var/adm/atria/**	main ClearCase administration directory
log/	ClearCase log files (**_log*)
rgy/	registry directory (VOB and view registries)
cache/	run-time cache information
config/	*license_host* and other host configuration files

Basic System Administration Commands

VOBs

create and register a VOB	**cleartool mkvob –tag** *vob-tag* [**–public**] **** *vob-storage-dir*
list registered VOBs	**cleartool lsvob** [**–long**] [**–host** *hostname*]
describe a VOB in detail	**cleartool describe –long –vob** *pname-in-vob*
mount a VOB	**cleartool mount** *vob-tag*
show VOB disk usage	**cleartool space** *pname-in-vob*
chown/chmod an object	**cleartool protect –chown admin foo.c** **cleartool protect –chmod +r foo.c**
set VOB owner or group(s)	**cleartool protectvob –{add|delete}_group ** *vob-storage-dir* **cleartool protectvob –chown/chgrp ** *vob-storage-dir*
lock a VOB or an individual object	**cleartool lock** [**–obs**] [**–nusers**] *name*
list all locks in a VOB	**cleartool lslock –all –obsolete** *pname-in-vob*
unlock a VOB	**cleartool unlock –vob** *pname-in-vob*
1) create a new VOB-tag 2) private →public tag 3) new network region	**cleartool mktag –vob** *vob-tag vob-storage-dir* **mktag –vob** *tag* **–public –replace** *vob-stg-dir* **mktag –vob** *tag* **–region** *region vob-stg-dir*
reformat (dump/load) VOB database	**cleartool reformatvob** *vobtag-or-storage-dir*
take VOB out of service reregister the VOB	**cleartool unregister –vob** *vob-storage-dir* **cleartool register –vob** *vob-storage-dir*
remove a VOB-tag	**cleartool rmtag –vob** *vob-tag*
remove a VOB	1) **cleartool umount** *vob-tag* 2) **cleartool rmvob** *vob-storage-dir*

Storage Pools

list storage pools	**cleartool lspool** [**–long**] [**–vob** *pname-in-vob*]
list element's assigned pools	**cleartool describe –long** *element-pathname*
lock/unlock a storage pool	**cleartool** {**lock**|**unlock**} **–pool** *pool-name*
create a new storage pool	**cleartool mkpool –source** *pool-name* **cleartool mkpool –derived –size 10000 8000** *pool-name* **cleartool mkpool –cleartext –upd –age 48** *pool-name*
remove a storage pool	**cleartool rmpool** *pool-name*
change pool assignment	**cleartool chpool** *new-pool-name element-pathname*

Elements

lock/unlock elements	**cleartool** {**lock**|**unlock**} *element-pathname*
lock branch type for all users except *rkd*,*lea*	**cleartool lock –nusers rkd,lea –brtype beta2**
list existing element types	**cleartool lstype** [**–long**] **–eltype**
change an element's type	**cleartool chtype eltype** *element-pname*
change assigned storage pool	**cleartool chpool** *pool-name element-pathname*
remove an element name from a directory	**cleartool rmname** *element-pathname*
remove a version	**cleartool rmver** *version-specifier*

Meta-Data

list existing types	**cleartool lstype –***xx***type** [**–long**] **** [**–vob** *pname-in-vob*]
create an attribute type object; then attach attributes	1) **cleartool mkattype Tested** 2) **cleartool mkattr Tested ′ "no" ′ foo.c** 3) **cleartool mkattr –config lib.o –def Tested**
create a branch type object; then make a branch	1) **cleartool mkbrtype branch1** 2) **cleartool mkbranch branch1 foo.c**
create an element type object; then create an element of that type	1) **cleartool mkeltype –super text_file c_src** 2) **cleartool mkelem –eltype c_src foo.c**
create a hyperlink type object; then connect two objects with a hyperlink	1) **cleartool mkhltype HLINK1** 2) **cleartool mkhlink HLINK1 foo.c bar.c**
create a label type object, and then attach a version label	1) **cleartool mklbtype LABEL1** 2) **cleartool mklabel LABEL1 foo.c**
create a trigger type object; then attach a trigger to an element	1) **cleartool mktrtype –element –global ** **–postop checkin –nc –exec ** **′/vobs/scripts/test $clearcase_pn′ ** **checkin_trigger** 2) **cleartool mktrigger TRIG1 *.**[**ch**]
delete a type object	**cleartool rmtype –***xx***type** *type-name(s)*
delete a meta-data instance	**cleartool rmtype –attype** *attr-type-names* **cleartool rmhlink** *hlink-selector*
change an event comment	**cleartool chevent –c "Fix #324" foo.c**
change an event comment using *event-ID*	1) **cleartool lshistory –long –eventid util.c** 2) **cleartool chevent –c "for patch g12" ** **–append –event 45678**

Views

list registered views	**cleartool lsview** [**–long**] [**–host** *hostname*] **cleartool lsview ′*_integ′**
create a new view	**cleartool mkview –tag** *view-tag view-storage-dir*
enable view-extended pathname access to view	**cleartool startview** *view-tag*
remove a view-tag	**cleartool rmtag –view** *view-tag*
remove a view	**cleartool rmview** { **–tag** *view-tag* | *view-stg-dir* }
reformat for new release	**cleartool reformatview ** { **–tag** *view-tag* | *view-stg-dir* }
recover view database	**cleartool recoverview ** { **–tag** *view-tag* | *view-stg-dir* }
take a view out of service; reregister the view	**cleartool unregister –view** *view-storage-dir* **cleartool register –view** *view-storage-dir*

Starting/Stopping ClearCase Processing

SunOS 4 HP-UX 9	**/etc/rc.atria** { **start** | **stop** }
SunOS 5 IRIX 5	**/etc/init.d/atria** { **start** | **stop** }
OSF/1 Ver. 2	**/sbin/init.d/atria** { **start** | **stop** }

Glossary

Element	A version-controlled file or directory-that is, a file or directory for which ClearCase maintains a version tree.
Version	A specific instance of a file or directory element.
Merge	The combining of the contents of two or more files into a single new file. Typically, all the files involved are versions of a single file element.
VOB	Versioned Object Base. A VOB is a data repository that can be mounted as a file system of type MVFS. A VOB's mount point is called its VOB-tag.
View	Required to access a VOB. A view is a lens, or filter, which makes visible a version of each VOB element, yielding a work environment for a single developer or a closely coordinated group. Each view has a unique name, its view-tag.
Config Spec	A set of rules that specify which VOB element versions are visible in the view. Every view has a config spec.
Derived Object (DO)	A file created in a ClearCase build.
Configuration Record (CR)	An audit of the software build process. A configuration record uniquely identifies a derived object; it stores the file versions and build flags necessary to create the derived object. The build audit happens transparently.
Wink-in	To import, into a view, a derived object that was built in another view (by the current user or a different one).
Meta-Data	Data associated with VOB-resident objects-for example, event records, attributes, hyperlinks, labels, and triggers.
Type Object	A meta-data prototype object created with mkattype, mkbrtype, mkeltype, mkhltype, mklbtype, or mktrtype.
Trigger	A user-defined procedure that fires before or after a specific ClearCase operation. Triggers are used primarily to define and control the software engineering process.
VOB Database Object	An object with an entry in the VOB database: element branch version VOB symbolic link hyperlink derived object VOB storage pool replica type object: attribute type, branch type, element type, hyperlink type, label type, trigger type

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