

ISE TCL (Tool Command Language) Commands

TCL Command	Subcommands	Options		Function
Manage VHDL Libraries in ISE Project				
lib_vhdl	add_file	<Library name>	<File name>	Add file to a library
	Delete			Delete a library
	Get		<property name>	
			Name	Returns name of library if present
			Files	Returns files in a library
	new			Create new library
	properties			Returns list of library properties
Run and Manage process in ISE Project				
process	Run	<task>	[-instance <instance_name>] [-force rerun rerun_all]	Runs a specified task
Manage properties of ISE Project				
project	Archive	<archive_name.zip>		All files is current ISE are archived
	Clean			Removes all ISE generated files
	Close			Closes current project
	New	<project name.ise>		Creates new project in current location
	Open			Open ISE project
	save_as			Create ISE project with new name
	Set/get	<property_name>	<property_value>	Set/get device properties
		device	xc4vlx25	Set/get Device
		family	virtex4	Set/get device family
		package	ff668	Set/get device package
		speed	-10	Set/get speed grade
		top	<module_name> <instance_name>	Set/get as top module

Manage Source files in ISE Project				
xfile	Add	<file_name>	[-lib_vhdl <library name> [-view Simulation]	Add files in current directory
		*.vhd		Add all vhd files in current directory
		<path/*.vhd>		Add all vhd files from specified path
	Get	<file_name>	Timestamp	Get timestamp for the file
	properties			Returns available properties of file
	remove	<file_name>		Remove a specific file
		[search *.vhd -type file]		Remove all vhd files

[Bracket] is compulsory for search command in others [bracket] denote optional entries

Tasks

"Back-annotate Pin Locations"	"Generate IBIS Model"	"Generate Post-Synthesis Simulation Model"	"Implement Design"
"Check Syntax"	"Generate Post-Fit Simulation Model"	"Generate Post-Translate Simulation Model"	"Lock Pins"
"Check Design Rules"	"Generate Post-Map Simulation Model"	"Generate Post-Translate Formality Netlist"	"Map"
"Compile Design"	"Generate Post-Map Static Timing"	"Generate Primetime Netlist"	"Place & Route"
"Compile Test Vectors"	"Generate Post-Place & Route Simulation Model"	"Generate Target PROM/ACE File"	"Regenerate Core"
"Configure Target Device"	"Generate Post-Place & Route Formality Netlist"	"Generate Timing"	"Translate"
"Fit"	"Generate Post-Place & Route Static Timing"	"Synthesize"	
"Generate HDL Test Bench"	"Generate Programming File"	"Translate Test Vectors"	

Basic Commands

xtclsh	Open TCL terminal
cls	Clear screen
exit	Exit TCL terminal
env	Displays environment variables
set <variable name> <value>	Storing value in a variable
puts <name>	Similar to echo for printing name
puts \$<variable name>	Printing the value of the variable
pwd	Returns present working directory
mkdir <directory name>	Creating directory
cd ..	Jump to parent directory
cd <path>	Jumps to relative or absolute path
ls	Listing folder and file in pwd
notepad	Opens Notepad
ISE	Opens GUI for ISE
path	Display content of path environment variable
touch <file name>	Create file with specified name
ngc2edif <name1.ngc> <name2.edif>	Create edif file
netgen -ofmt <vhdl/verilog> <name.ngc>	Create VHDL/Verilog file from ngc file
Other Linux based commands are also supported	

To support more software's add their path to PATH environment variable

Simulation Commands

TCL Command	Subcommands		Options	Function
Adding wave				
wave add			<object name>	Add listed object to wave window
			/	Add all objects to wave window
			-r /	Add all objects in hierarchy to wave window
Providing Inputs				
isim force	add	<object_name>	<value>	Force value of object
			<value> -time <time>	Force value at specified time
			<value> -time <time1> -cancel <time2>	Force value at time1 and cancel at time2
			<value1> -time <time> -value<value2> -time <time > -repeat <time3> -cancel <time4>	Force value1 at time1 and value2 at time2 and repeat at every time3 interval and cancel at time4
	remove	<object name 1> <object name 2> <object name 3>		Remove specified objects from the wave window
Waveform File				
wcfg	new			Opening new waveform window
	save	<waveform file name>		Saving file with specified name
	open			Opening existing waveform file
Others				
step				Execute code step wise
restart				Restart wave form
quit				Exit Isim