PIC Simulator IDE
External Modules Manual

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● General info

PIC Simulator IDE is an automation (ActiveX) server/client application. This feature enables communication with external simulation modules that can be developed by home developers and third parties using various Development Systems for Windows.

picsimulatoride.server

External client application can access PIC Simulator IDE server services by creating an ActiveX object using picsimulatoride.server class.

● Functions and procedures

Here is the list of functions and procedures available for external client applications:

- getpic

getpic() function with no arguments will return the selected PIC microcontroller model [string].

- getpath

getpath() function with no arguments will return the path of loaded HEX file [string].

- getflash

getflash(address) function will return the value in the flash memory location specified by 'address' argument [0-MaxAvailable].

- geteeprom

geteeprom(address) function will return the value in the eeprom memory location specified by 'address' argument [0-MaxAvailable].

- getpc

getpc() function will return the value in PC register.

- getw

getw() function will return the value in W register.

- getreg

getreg(address) function will return the value in one of the special function or general purpose registers specified by 'address' argument [0-511].

- setreg

setreg(address,value) procedure will set the new register value, 'address' argument [0-511], 'value' argument [0-255].

- setregbit

setregbit(address,bit,value) procedure will set the new value for the specified register bit, 'address' argument [0-511], 'bit' argument [0-7], 'value' argument [0-1].

- getstack

getstack(level) function will return the value stored in one of the stack levels [1-8].

- getcrystal

getcrystal() function with no arguments will return the clock frequency parameter.

- getclockcycles

getclockcycles() function with no arguments will return the number of clock cycles passed after the

start of the simulation. The last two functions will enable the external client application to develop a real time behavior if needed.

- getinst

getinst() function with no arguments will return the mnemonics of last executed instruction [string].

- getportstate

getportstate(address) function will return the real logic levels on the port 'address' argument [5(PORTA)-11(PORTG)].

- setpinstate

setpinstate(port,pin,state) procedure will set the logic level on the addressed pin, 'port' argument [5(PORTA)-11(PORTG)], 'pin' argument [0-7], 'state' argument [0-1].

- getanalog

getanalog(an) function will return the analog value on the analog input specified by 'an' argument [0-15].

- setanalog

setanalog(an,value) procedure will set the analog value on the addressed analog input, 'an' argument [0-15], 'value' argument [0-1023].

- extsimstart

extsimstart() procedure will start the simulation.

- extsimstop

extsimstop() procedure will stop the simulation.

- extsimstep

extsimstep() procedure will execute one simulation step if in Step By Step mode.

- extsimrate

extsimrate(rate) procedure will change the simulation rate, 'rate' argument [1(Step By Step)-6(Ultimate)].

● External client/servers

Full support and full synchronization is available for external applications with client/server capabilities. External server module should provide the following procedures:

- objectinit

objectinit() procedure will be called at the beginning of the simulation in PIC Simulator IDE. With this procedure external module should be initialized to a known initial state.

- objectrefresh

objectrefresh() procedure will be called after every simulated instruction.

- objectterm

objectterm() procedure needs to contain the code to terminate external module application (typically End statement).

External modules interface

The class name should be set using External Modules interface available from Tools menu of PIC Simulator IDE. External client/server applications will be started and terminated automatically with PIC Simulator IDE.