

BSCpE - 3A

The screenshot displays the Quartus Prime Lite Edition IDE interface. The main window shows the Verilog source code for a multiplexer in the file `multplexer.vhd`. The code defines an entity `multplexer` with two 8-bit input ports `d` and `s`, and an 8-bit output port `f`. It implements a behavioral model where the output `f` is selected from the inputs `d` based on the value of `s` (0 to 7).

On the left, the **Entity/Instance** pane shows the project hierarchy with `Cyclone IV E: AUTO` and the `multplexer` entity. The **Tasks** pane shows the compilation process, with the **Compile Design** task selected.

On the right, the **IP Catalog** pane is visible, showing the **Installed IP** section with a search bar and a list of installed IP cores.

At the bottom, the **Messages** pane displays the compilation output, showing four messages indicating that the NativeLink simulation was launched successfully for the `multplexer` entity.

```

1 library IEEE;
2 use IEEE.STD_LOGIC_1164.ALL;
3 use IEEE.STD_LOGIC_ARITH.ALL;
4 use IEEE.STD_LOGIC_UNSIGNED.ALL;
5 entity multplexer is
6     port ( d : in  STD_LOGIC_VECTOR (7 downto 0);
7           s : in  STD_LOGIC_VECTOR (2 downto 0);
8           f : out  STD_LOGIC);
9 end multplexer;
10 architecture Behavioral of multplexer is
11 begin
12     f <= d(0) when s="000" else
13         d(1) when s="001" else
14         d(2) when s="010" else
15         d(3) when s="011" else
16         d(4) when s="100" else
17         d(5) when s="101" else
18         d(6) when s="110" else
19         d(7) when s="111";
20 end Behavioral;

```

Task: Compile Design

- Analysis & Synthesis
- Filter (Place & Route)
- Assembler (Generate program)
- Timing Analysis
- EDA Netlist Writer
- Edit Settings

Messages:

- 22036 Successfully launched NativeLink simulation (quartus_sh -t "c:/intel/fpga_lite/20.1/quartus/common/tcl/internal/nativeLink/qnativesim.tcl" --rtl_sim "multplexer" "multplexer")
- 22036 For messages from NativeLink execution see the NativeLink log file C:/intel/fpga_lite/20.1/multplexer/multplexer_nativeLink_simulation.rpt
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System (4) Processing (129)

