

```
1: library STD;
2: library IEEE;
3: use IEEE.std_logic_1164.all;
4:
5: entity dff_reset is
6:   port(
7:     d       : in  std_logic;
8:     clk      : in  std_logic;
9:     reset    : in  std_logic;
10:    Gnd       : in  std_logic;
11:    q         : out std_logic
12:  );
13: end dff_reset;
14:
15: architecture structural of dff_reset is
16:
17:   component dff
18:   port(
19:     d       : in  std_logic;
20:     clk      : in  std_logic;
21:     q         : out std_logic
22:   );
23: end component;
24:
25:   component mux2_1
26:   port(
27:     in1      : in  std_logic;
28:     in2      : in  std_logic;
29:     sel       : in  std_logic;
30:     out1      : out std_logic
31:   );
32: end component;
33:
34:   signal mux_out : std_logic;
35:
36:   for mux : mux2_1 use entity work.mux2_1(structural);
37:   for dl  : dff use entity work.dff(structural);
38:
39: begin
40:
41:   mux : mux2_1 port map(d,      Gnd,  reset,  mux_out);
42:   dl  : dff    port map(mux_out, clk,  q);
43:
44: end structural;
```