"UVM: UVM Resource Sharing"

"Resource Sharing":-

- Interface is shared with config_db
- Transaction is shared along the classes using TLM_Ports
- Mailbox is like TLM_ports
- For Dynamic things we need to add the virtual keyword for it.

"Config_db":-

- It has two methods called set and gets
- Set is used in the testbench top to retrieve the data
- Get is used in the monitor to retrieve the data
- Let's see the arguments used in the set method and get the method

> Set(context,inst name,Key,Value)

- If {context + inst_name + Key} doesn't match for the get and set method, Then it gives a fatal error
- Context has two keywords they are "null and this "
  Eg:-

> set(null,"uvm_test_top.env.agent.mon.a","key",___);
> get(this,"a","key",___)

"Code Practising":-

```
module adder (
  input [3:0] a,b,
  output [4:0]y
);
  assign y=a+b;
endmodule
interface adder_if;
  logic [3:0] a;
  logic [3:0] b;
  logic [4:0] y;
endinterface
```

```
`include "uvm_macros.svh"
import uvm_pkg::*;
class drv extends uvm_driver;
  `uvm_component_utils(drv)
  virtual adder_if aif;
  function new(input string path = "drv", uvm_component parent = null);
    super.new(path,parent);
  endfunction
  virtual function void build_phase(uvm_phase phase);
  super.build_phase(phase);
    if(!uvm_config_db#(virtual adder_if)::get(this,"","aif",aif))//drv.aif
      `uvm_error("drv","Unable to access Interface");
  endfunction
  virtual task run_phase(uvm_phase phase);
    phase.raise_objection(this);
    for(int i = 0; i< 10; i++)
      begin
        aif.a <= $urandom;
        aif.b <= $urandom;
        #10;
      end
    phase.drop_objection(this);
  endtask
endclass
/////////////////////////////////////////////////////////////////////
module tb;
  adder_if aif();
  adder dut (.a(aif.a), .b(aif.b), .y(aif.y));
initial
  begin
    uvm_config_db #(virtual adder_if)::set(null, "uvm_test_top", "aif", aif);//uvm_test_top.aif
    run_test("drv");
  end
  initial begin
    $dumpfile("dump.vcd");
    $dumpvars;
  end
endmodule
```

"Fundamentals in TLM Ports":-

- TLM is commonly used in communication between the scoreboard and monitor