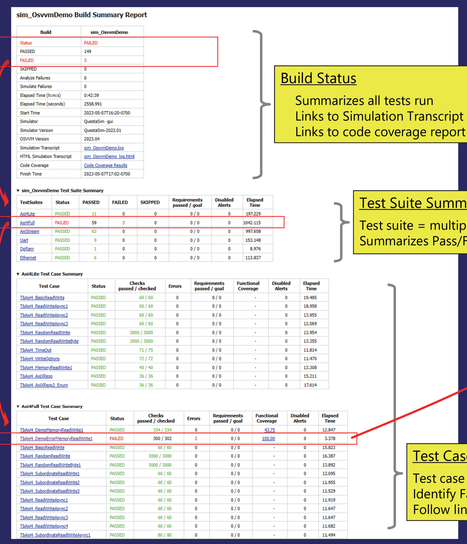
Debug VHDL Faster with OSVVM's Test Reports

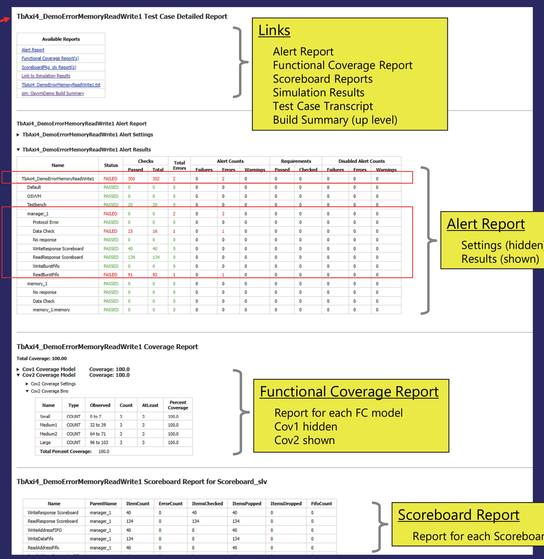
Step1: Review Build Summary (in simulator) – Shows Error Count

```
BuildError: Sim_Demo FAILED,  Passed: 149,  Failed: 3,  Skipped: 0,  Analyze Errors: 0,  Simulate Errors: 0,  Build Error Code: 0
```

Step 2: Review Build Summary Report (HTML)

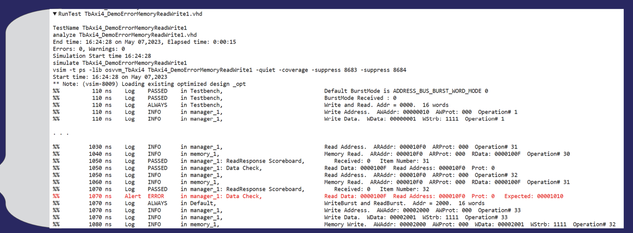


Step 3: Test Case Report



HTML'ized Transcript Shows Errors in Red

Rotate Triangle to Show Test Case Details



Simple Simulator Independent Scripts using OSVVM's *.pro

My Scripts before OSVVM (for Questa)

```
set DIR_SRC [file dirname [status file] ]

if {![file isdirectory ./VHDL_LIBS/osvvm_TbUart} {
  vlib  ./VHDL_LIBS/osvvm_TbUart
}

vcom -2008 -work $LIB_NAME ${DIR_SRC}/TestCtrl_e.vhd
vcom -2008 -work $LIB_NAME ${DIR_SRC}/TbUart.vhd
vcom -2008 -work $LIB_NAME ${DIR_SRC}/TbUart_SendGet1.vhd

vsim -lib ${LIB_NAME} TbUart_SendGet1
add wave -r /TbLedFlasher/*
run -all
```

With OSVVM *.pro Scripting (most sims)

Find Source Location

```
# Paths are automatically relative to script location
```

Activate Library

```
library  osvvm_TbUart
```

Compile

```
analyze  ./testbench/TestCtrl_e.vhd
analyze  ./testbench/TbUart.vhd
analyze  ./testbench/TbUart_SendGet1.vhd
```

Simulate & Run

```
simulate TbUart_SendGet1
```

Benefits of OSVVM *.pro Scripting

- Reads like a list of source files …
  - … Except it is an API on top of TCL
  - Get the power of TCL without the ugly parts.
- Settings such as library are remembered
- Paths relative to script location to facilitate moving pieces of projects

One Simulator Script API for

- Siemen's Questa or ModelSim
- Aldec's Active-HDL or Riviera-PRO
- Synopsys' VCS
- Cadence's Xcelium
- GHDL (Open Source – Free)
- NVC (Open Source – Free)

OSVVM

SynthWorks

- Poster is from "OSVVM's Test Reports and Simulator Independent Scripting" by Jim Lewis of SynthWorks
- More on OSVVM at Friday's Presentation "OSVVM in a Nutshell, VHDL's #1 Verification Methodology" also by Jim Lewis
- Open Source VHDL Verification Methodology, aka OSVVM, is Free Open Source licensed under Apache license
- Learn more at: OSVVM.org, osvvm.github.io, github.com/OSVVM, SynthWorks.com, Jim@SynthWorks.com

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