tianocore

UEFI & EDK II Training

Continuous Integration (CI) Unit Test Framework for Developer Validation Lab

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See also LabGuide.md for Copy & Paste examples in labs

About

This lab will show how to build and run a unit test sample code in the host-based environment.

- Step by step guide for the Stuart CI build and run for the Sample Unit Test from `UnitTestFrameworkPkg`
- Steps to build for the Non-Stuart CI build and run
- Create a Host Unit Test Framework for a simple function
- Add a UEFI Shell Unit Test Framework using the `EmulatorPkg`

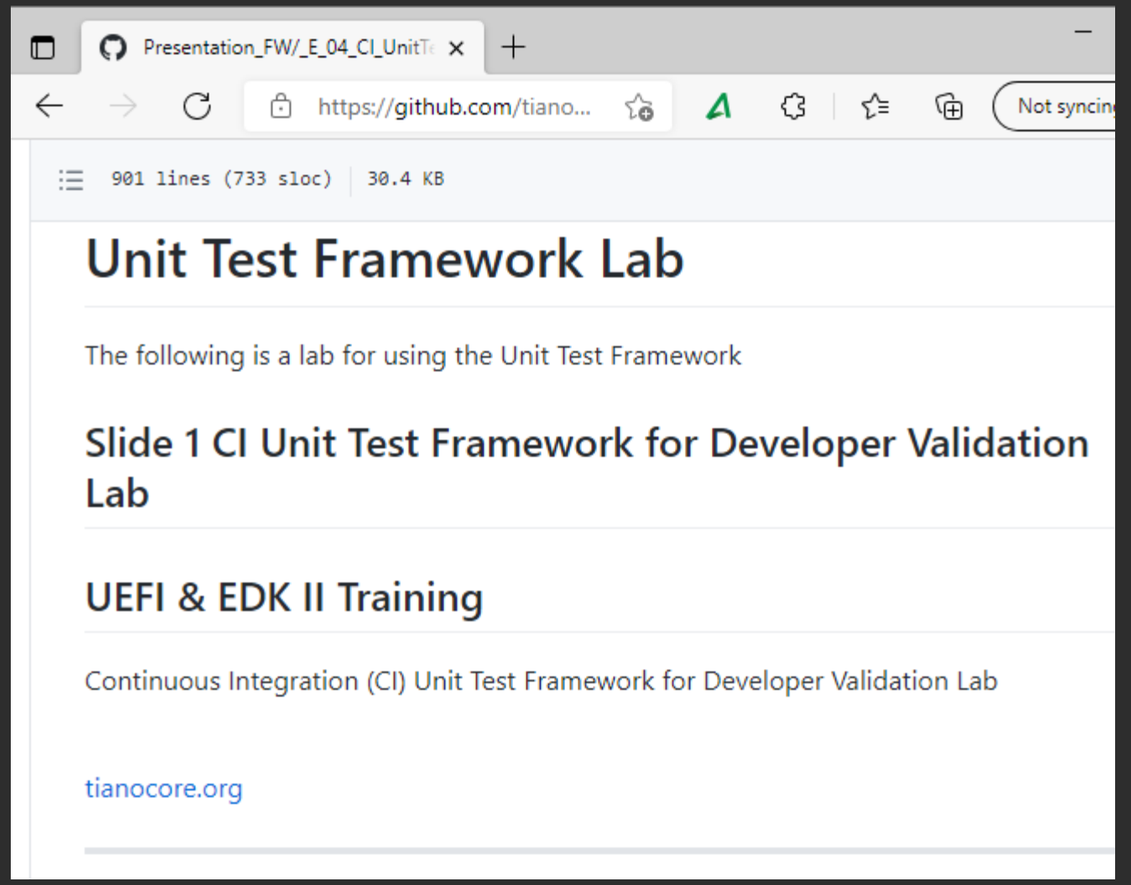
Prerequisites

- Windows 10:
  - Stuart CI - Visual Studio VS2017 or VS2019
  - Non-Stuart CI - Visual Studio VS2015, VS2017 or VS2019
  - Windows SDK (for rc)
  - Windows WDK (for Capsules)
- Ubuntu 18.04 or Fedora
  - GCC5 or greater
- Python 3.7.x or greater on Path
- Git on Path

Steps for this Lab

1. How to build
2. Build and Run for Stuart CI Locally
3. Or Build and Run for Windows / Linux Non-Stuart CI
4. Run the Host Unit test locally
5. Create and Add a unit test case to test a function
6. Add the Unit test case the UEFI Shell

Solutions: See in the LabMaterial_FW/FW/ /LabSampleCode/LessonU_Unit_Test

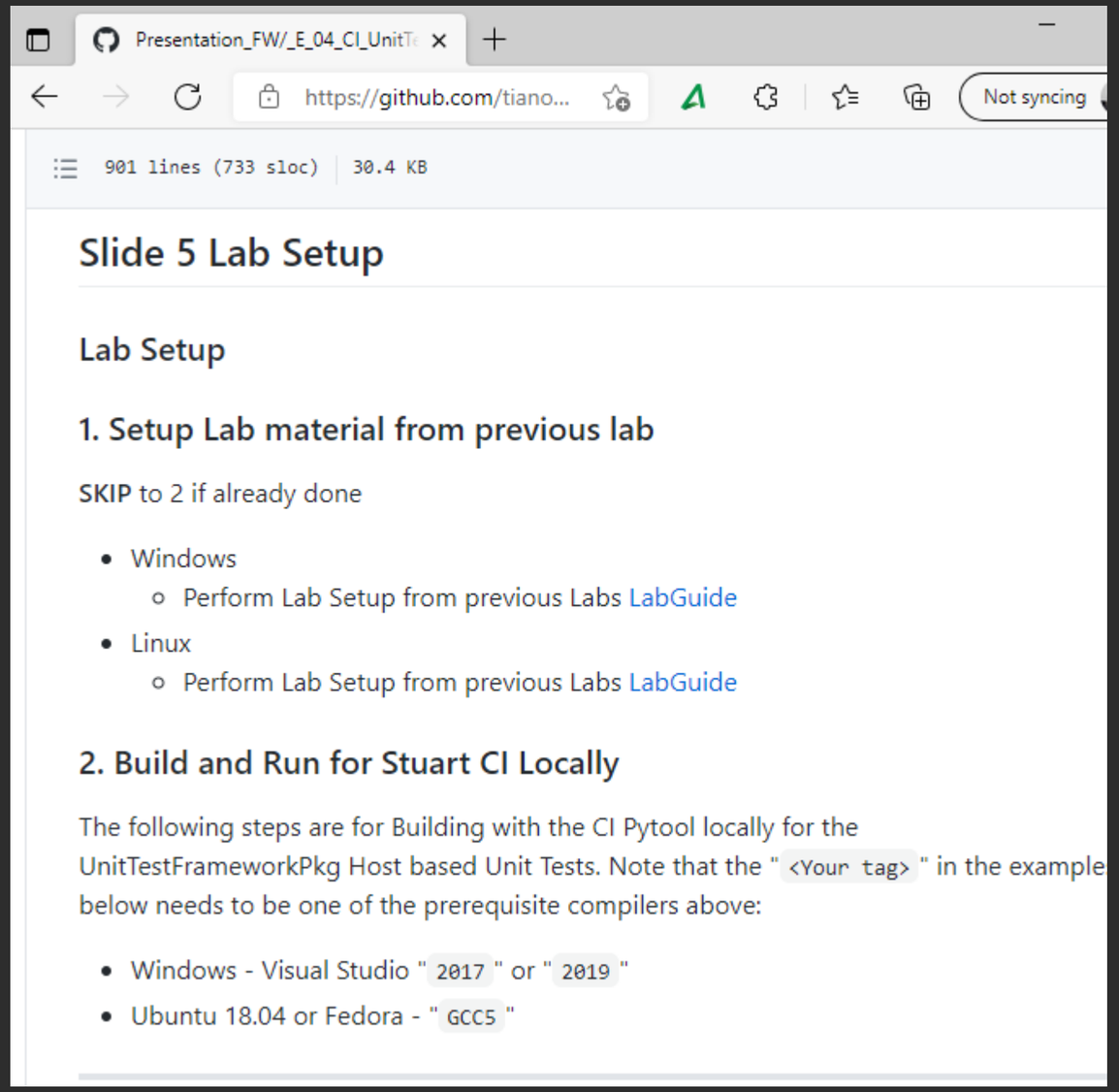


Lab Setup

Setup Lab material from previous lab

SKIP if already done

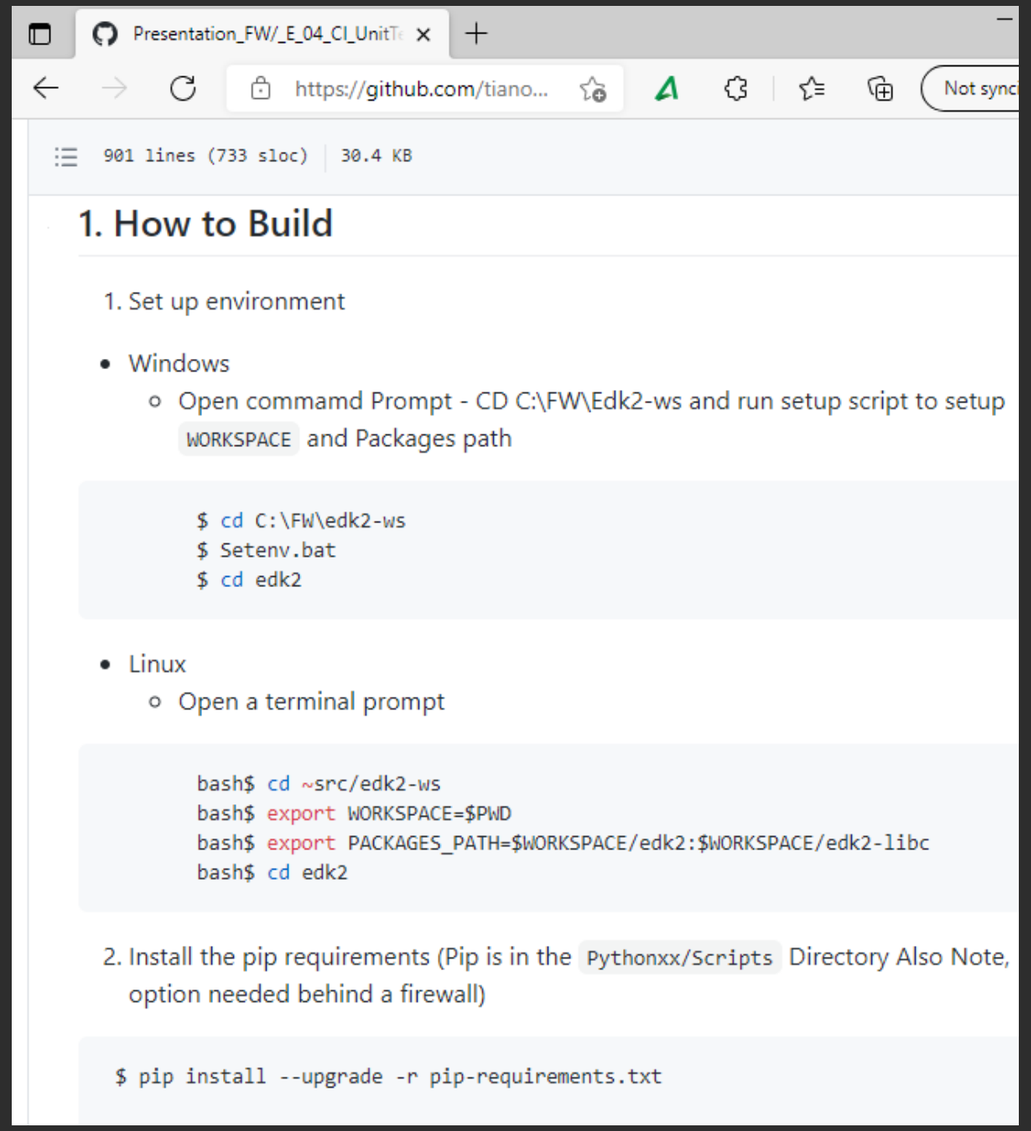
- Windows - Perform Lab Setup from previous Labs LabGuide
- Linux Perform Lab Setup from previous Labs LabGuide



How to Build Unit Tests

Continue following the Lab Guide Starting at How to Build

Build either Stuart CI or Non-Stuart CI



Resources

Unit Test Framework Package Overview – Link

Continuous Integration (CI) Configuring for Unit Tests – Link

Code Examples of Unit Test Cases

- Sample Unit Test
- BaseSafeIntLib Unit Test
- BaseLib Unit Test
- DxeResetSystemLib Unit Test
- MtrrLibUnitTest

- Cmocka Edk II Unit Test ChefCook example: link

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Questions?

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ACKNOWLEDGEMENTS