

Continuous Integration for EDA Tools

Online Live

Power Workshop

Applicable Technologies	Requirements	Contact
Git, SmartGit, GitLab, Vivado®	Basic knowledge of using Vivado® block designs Basic knowledge of using a shell and shell scripting	Michael Schwarz P. +49 7664 91313-15 E. info@plc2.de
Fee (net per person)	Inclusive	Duration
OL € 2,800	Training material	5 days
PW € 3,250	Plus beverages during breaks Lunch	5 days

Workshop

Agile and collaborative software development flows are gaining popularity as they result in more builds, tests, and integrations as well as faster delivery and deployment. Hence, the code is in a »release-at-anytime« state, the scratch/issue-to-production time is drastically reduced.

Hardware and embedded system designers who also have a software background understand the need for such development style in the area of electronics hardware design. However, agile development is not available in EDA environments due to the lack of software support. In this live online training, a complete set-up to create agile and collaborative workflow for small and midsized design teams is presented.

There are three fundamental objectives:

Firstly, Git basics are repeated and extended. Secondly, the attendee will be capable of creating an agile and collaborative workflow in GitLab. This includes, that the attendees will comprehend how

to increase the code quality with the use of code reviews. Finally, a Vivado® example project will be fully embedded into a continuous integration flow. All tools and services used in this live training are well known and well tested such as cloud services. They enable ubiquitous access to the users. Moreover, these services can be installed in a protected intranet environment to provide full security control to the IT department, while utilizing state-of-the-art tools to the development teams.

VHDL coding and how to create assertion-based VHDL testbenches are not part of this training. Attendees should be familiar in understanding and writing VHDL testbenches as well as using VHDL simulators.

Due to accompanying exercises, the course offers in-depth and practice-oriented training. Attendees of the online live course will do the practical exercises in the afternoon on their own.

Agenda

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| <p>01. Git basics
Flashback for basic Git operations
Branching, merging</p> <p>02. GitLab
Flashback for GitLab basics
Issues, merge requests (pull requests), code review</p> <p>03. Advanced Git
Branching models and workflows
Submodules</p> | <p>04. CI basics
IT services and infrastructure
Pipeline descriptions in YAML
Jobs, artifacts, caching
Containers, docker, docker registry</p> <p>05. Continues workflows
Continues building/integration
Continuous testing
Continuous delivery/deployment
Continuous documentation</p> |
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