Wind River Studio Workflow Automation

Wind River® Studio enables workflow automation for development teams that want to get more done and spend less time maintaining their toolchain.

WHY WORKFLOW AUTOMATION?

Iterative development and deployment practices including agile, CI/CD, and DevSecOps are now commonplace for teams developing embedded software. Many organizations collect commercial and open source tools, assembling and integrating them into a bespoke CI/CD toolchain. But the cost of creating — and more importantly, maintaining — this toolchain is often vastly underestimated.

ACCELERATE YOUR PROJECTS AND PROTECT YOUR CODE

Wind River Studio is an all-in-one development environment that is purpose built for embedded teams practicing iterative methods to develop the next generation of intelligent systems.

Studio features a modern, cloud-native development platform that accelerates your ability to get more done with a powerful set of workflow automation capabilities that help improve the efficiency, quality, and security of your code.

FEATURES AND BENEFITS

- **Single integrated CI/CD toolchain custom built for embedded development:** Studio integrates popular open source tools and technologies from the cloud and from DevSecOps ecosystems. Technologies such as Jenkins, Git, Harbor, and MinIO are leveraged in Studio workflows.

- **Cloud-native development:** Studio incorporates cloud-native and cloud-scale technologies such as Kubernetes and cloud providers such as AWS and Azure.

- **Studio Pipeline Manager:** This customizable workflow automation framework supports creation, management, and running of custom-created embedded software development pipelines.

- **Studio Test Automation Framework:** Easy-to-use automated test plans using a curated collection of tests for Wind River embedded operating systems can be used to create, manage, and execute large numbers of automated tests.

How Satisfied Are You with Your Development Environment?

Eleven percent of software developers and DevOps professionals are completely satisfied with their development setups and workflows, while only 2% of nonmanagers say they're operating as well as they could be.

Developers and DevOps Professionals Face Frustrations

Nonmanagers are almost twice as likely to be dissatisfied with their development setup and workflow as managers (Garden, 2021). The three tasks most often cited as frustrating are:

- Waiting for pipelines to run (76%)
- Waiting for builds and tests (74%)
- Setting up, maintaining, and debugging pipelines/automation (71%)

Embedded Software Developers Are Increasingly Difficult to Find and Retain

Frustration and dissatisfaction with tools and workflows can lower employee satisfaction, making it harder for organizations to retain key employees.
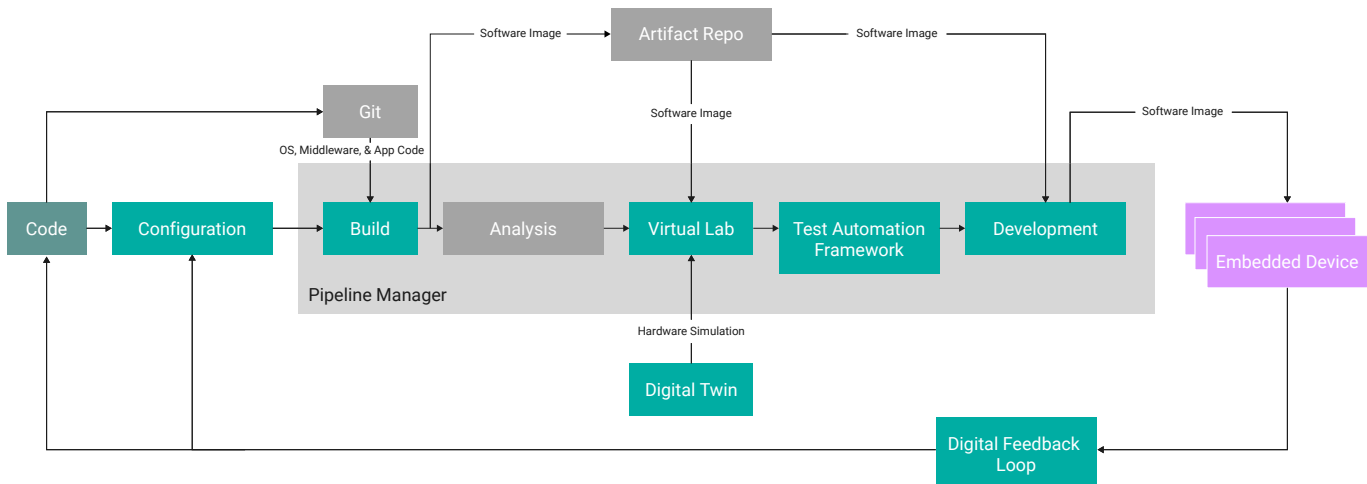
ARCHITECTURE

Figure 1. Wind River Studio architecture for test automation

- **Command-line interface and APIs:** In addition to a highly functional graphical user interface, Studio provides a robust command-line interface and published APIs to enable software teams to write scripts and run customized automation and integration with additional software tools.

- **Built on GitLab:** GitLab was built for Dev, Sec, Ops, and everyone else who cares about your code — including business teams and nontechnical stakeholders — to help them collaborate and keep moving projects forward. If your team uses another Git Repo, we can integrate with that, too.

- **Studio Gallery:** This curated collection of technologies and tools can extend Studio software development pipelines with customizable third-party components.

- **Application development environment:** Teams can produce application development SDKs for VxWorks® and Wind River Linux. Developers can use the popular Visual Studio Code environment and extensions to enable a simple, familiar, and customizable interface.

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