

# LzWorkBench™

When customers rehost legacy applications on modern platforms, they may need to modify or enhance them. The LzWorkBench solution provides an Eclipse-based environment for maintaining mainframe COBOL or PL/1 customer programs that have been rehosted on LzLabs Software Defined Mainframe®.

## LzWorkBench

### Product Overview

LzWorkBench is an Eclipse plug-in that works on any Eclipse-supported platform including Microsoft Windows, Apple MacOS or Linux workstation. It provides an interactive development environment (IDE) for mainframe COBOL and PL/1 customer programs, when running on LzLabs Software Defined Mainframe (SDM).

LzWorkBench enables mainframe developers to move seamlessly to a workstation-based IDE, maintaining many of the same mainframe application artefacts that they have historically maintained via Time Sharing Option (TSO) environments.

LzWorkBench is designed to become an integrated part of a customer's existing continuous integration/delivery (CI/CD) pipeline already used for x86-native applications (Java, etc.), using the same tools and bridging the gap between mainframe technologies and modern DevOps toolchains.

### Key Benefits

LzWorkBench provides customers with the following advantages:

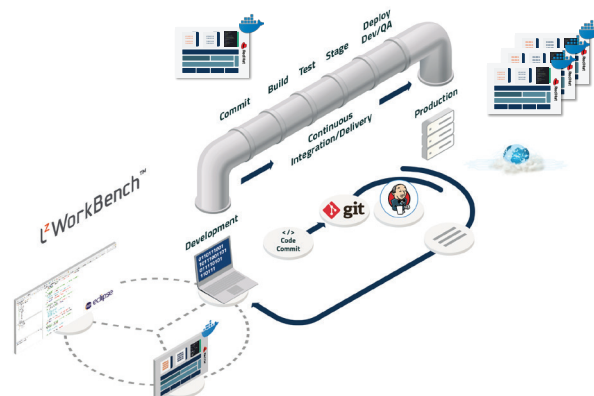
- Modern Eclipse-based workbench that can be incorporated into customers' CI/CD toolchain.
- Support for mainframe COBOL and PL/1 languages.
- Enables an incremental modernization approach to enhance individual programs within applications rehosted on SDM.
- Support for interactive editing, compiling, testing and debugging of re-hosted COBOL or PL/1 customer programs.
- Easy integration with modern agile development and DevOps environments using Git, Jenkins, and so on...
- Modernize applications by integrating with new programs written in Java or converting existing programs to Java. SDM preserves interoperability between all environments.

### Technical Benefits

- Assisted COBOL and PL/1 language syntax auto-completion and structure validation.
- Support for standard JCL and REXX editing and job submission. The same syntax auto-completion and structure validation capabilities are provided for these languages.
- Seamless integration with entire Eclipse ecosystem of plug-ins.

### Features Overview

- Maintain and enhance existing COBOL and PL/1 applications.
- Manage applications using a range of source code management tools from modern environments, such as GIT, subversion, etc., and using traditional mainframe source code products, such as CA-Endevor®.
- Program compilation is provided via a compile server which runs on the workstation.
- Remote, workbench-based interactive debugging for programs running on SDM.



**Fig1** LzWorkbench integrated in a Continuous Integration/Continuous Delivery (CI/CD) pipeline

## LzWorkBench

### Interactive Debugging

LzWorkBench provides an interactive debugger that can interact with programs running on SDM. This means developers can set break points and interrogate field values as the program executes. Features include:

- Start and stop (remote) execution.
- Step-by-step (step-in / step-out capabilities) mode with visualization of the corresponding source code.
- Breakpoint setup: fixed or conditional on exceptions, variable value and so on. A view is provided showing all the breakpoints currently defined.
- Interactive and formatted variable visualization in native mainframe encoding.

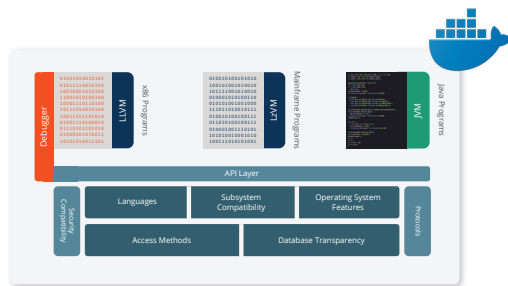


Fig2 Containerized execution architecture

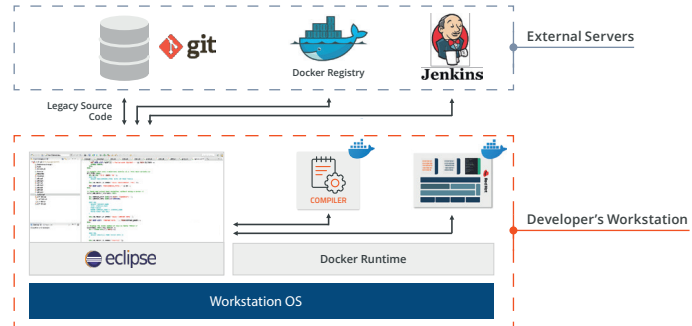


Fig3 Developer's workstation setup

### Integration with SDM Management Features

Developers using LzWorkBench get direct access from within Eclipse to many SDM job management and data visualization features. They can also:

- View and manipulate test data.
- Check output.

### About LzLabs

LzLabs is a software company that develops innovative solutions for enterprise computing customers, including its **LzLabs Software Defined Mainframe® (SDM)**. The company was founded in 2011 and is headquartered in Zürich, Switzerland. The SDM liberates and enables customer legacy applications to run unchanged on both Linux hardware and Cloud infrastructures. Thousands of mainframe transactions are processed per second, while maintaining enterprise requirements for reliability, availability, serviceability, and security. Our software solution provides unrivaled compatibility and exceptional performance, dramatically reducing IT costs. LzLabs' offices in Switzerland and the UK are home to highly-experienced mainframe experts and modern IT thought leaders from across the globe.

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