Dockerlive

Introduction

Dockerlive is a Visual Studio Code extension that aims to help developers who need to work with Dockerfiles. The extension continually builds an image using the Dockerfile that is currently being edited and offers several features that make Dockerfile development. You can find a list of the extension's features below.

Features

Static Analysis Errors

The Dockerfile is scanned and any syntax errors are marked with a red underline. Hovering over the underlined region will show additional information.

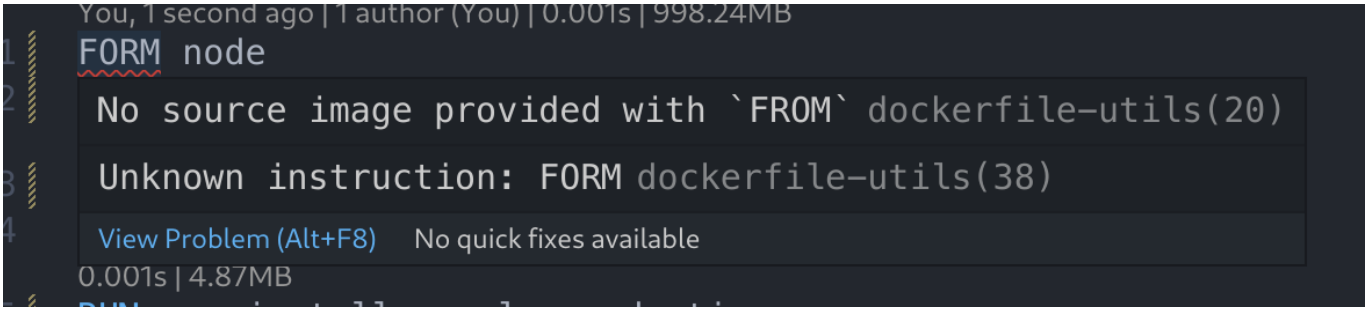
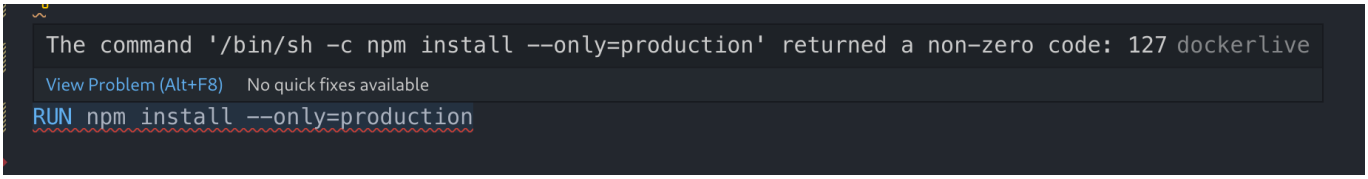


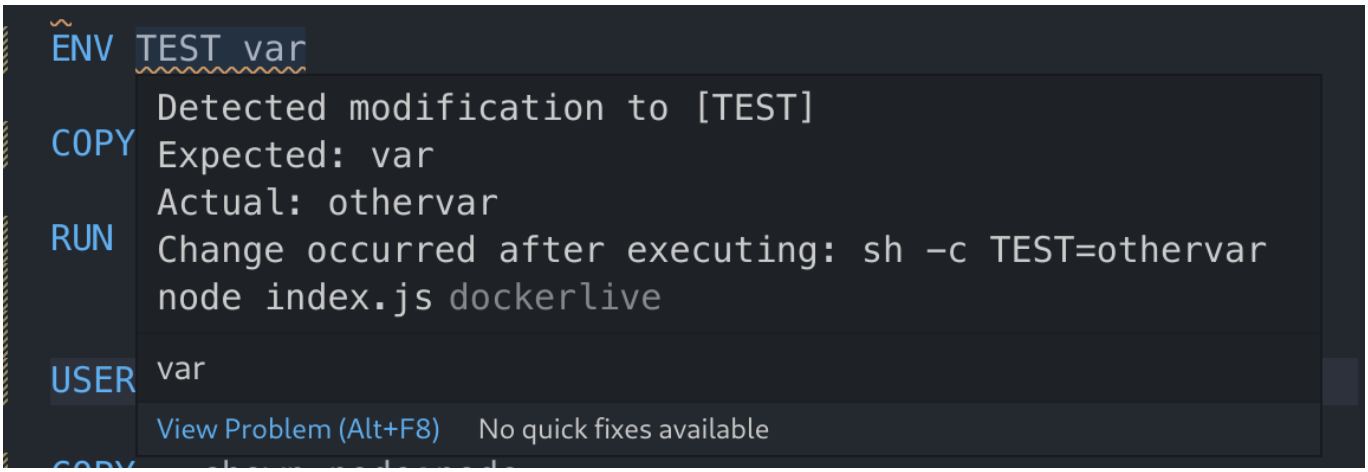
Image Build and Container Runtime Errors

If errors occur while building the image, the instruction responsible for the build failure is marked with a red underline. Hovering over the underlined region will show additional information.



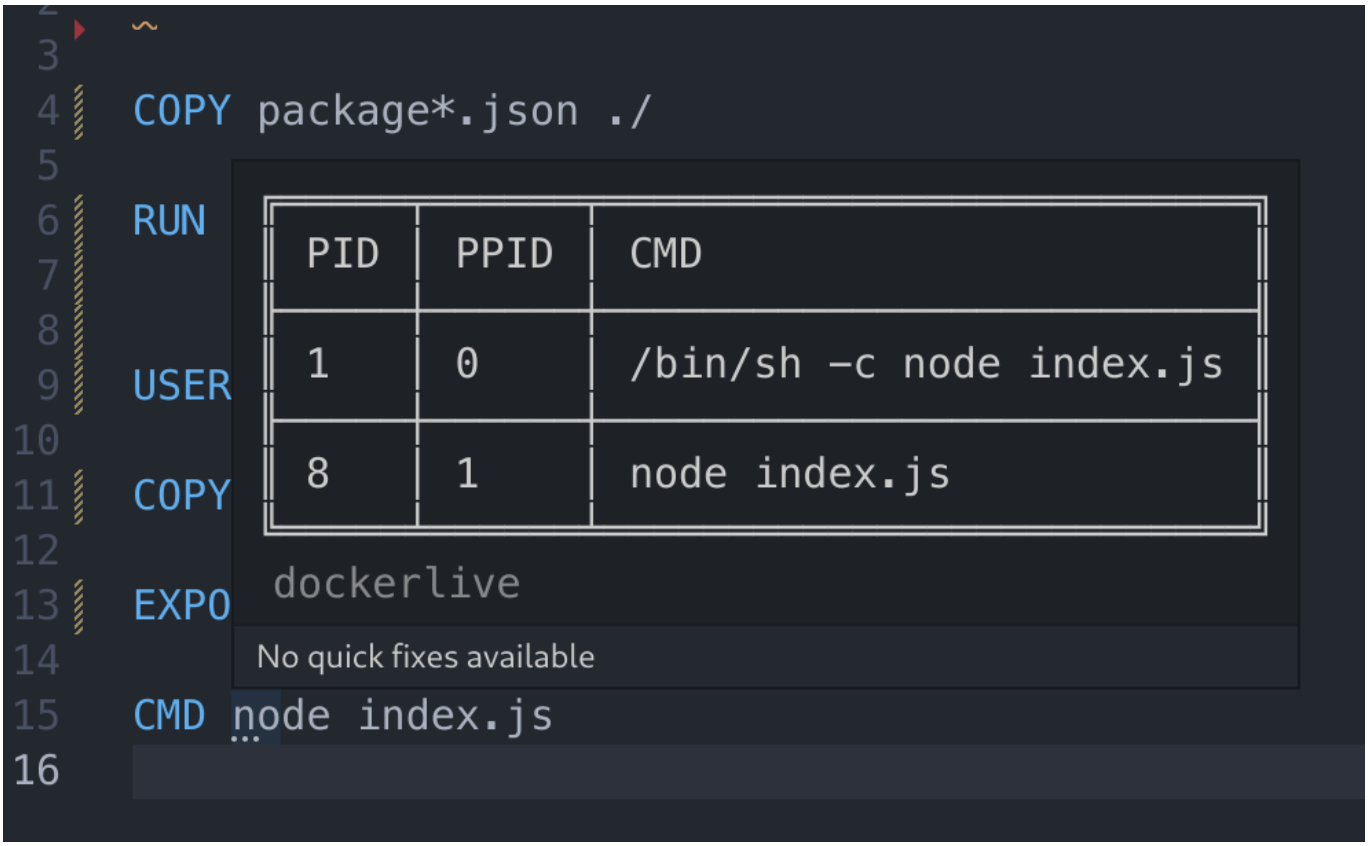
Changes to environment variables

If an environment variable's value is set in the Dockerfile but overwritten at runtime, the ENV instructions is marked with a blue underline. Hovering over the underlined region will show additional information.



Processes running in the container

By hovering over ENTRYPOINT/CMD instructions, the processes running inside the container are shown.



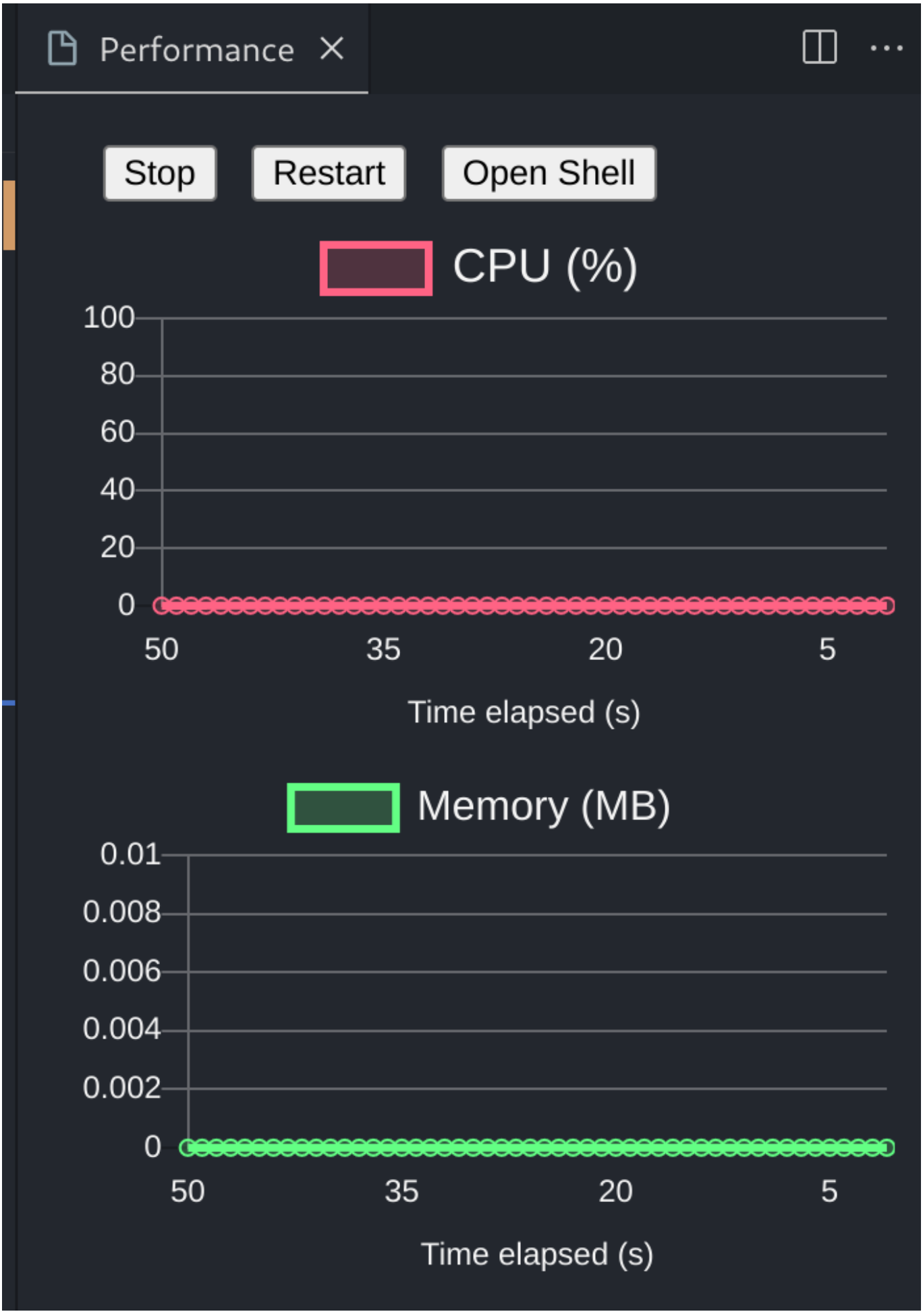
Container performance statistics

By clicking the "CPU" button located in the top-right corner of the editor, a new tab containing data about the container's performance statistics is open.

This tab contains graphs which showcase CPU and memory usage inside the container. The tab also has 3 buttons at the top:

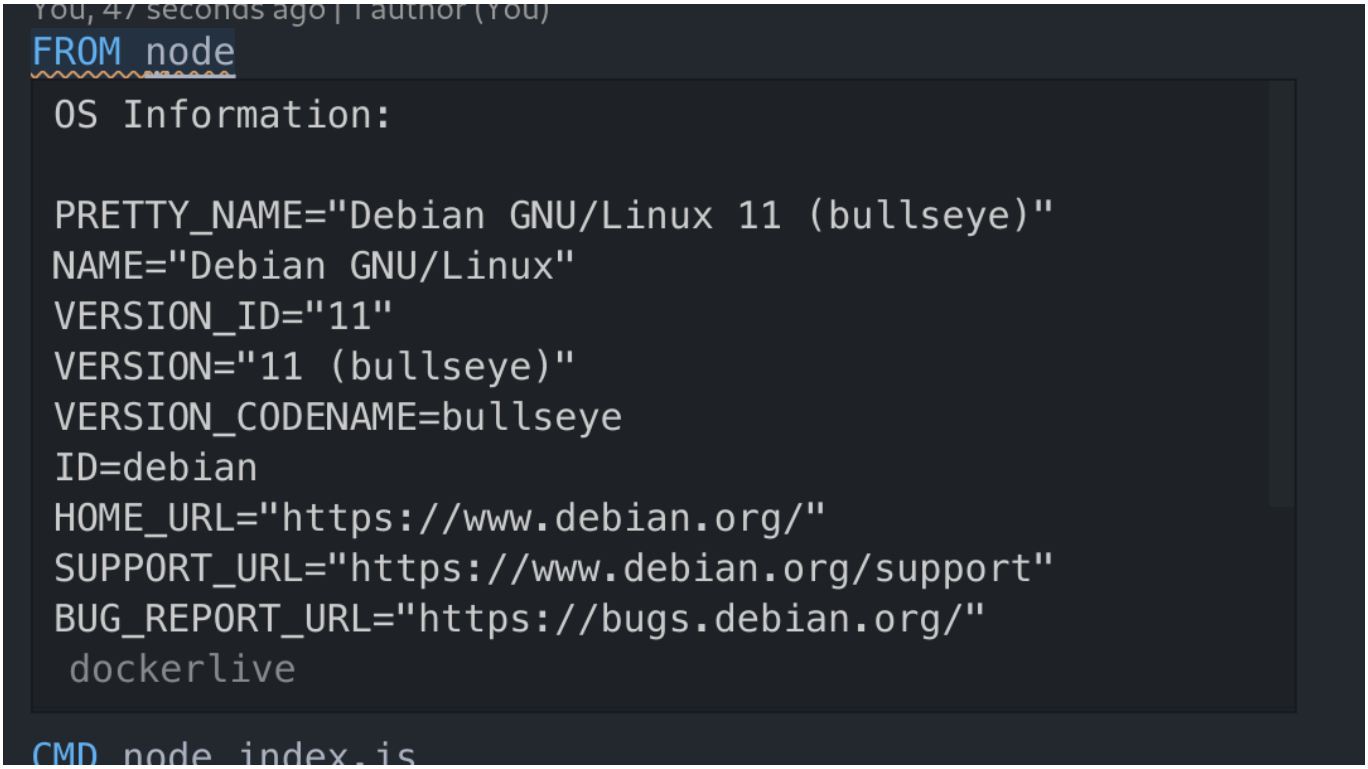
- Stop: stops the running container

- Restart: restarts the container
- Open Shell: opens an interactive shell inside the container



Base image OS information

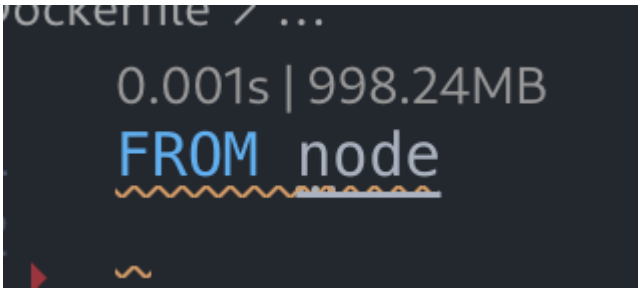
By hovering over the name of the image in the FROM instruction, it's possible to obtain information about the OS running inside the container.



Layer Size and Build Time

Above every instruction, some information is displayed about the layer that instruction corresponds to:

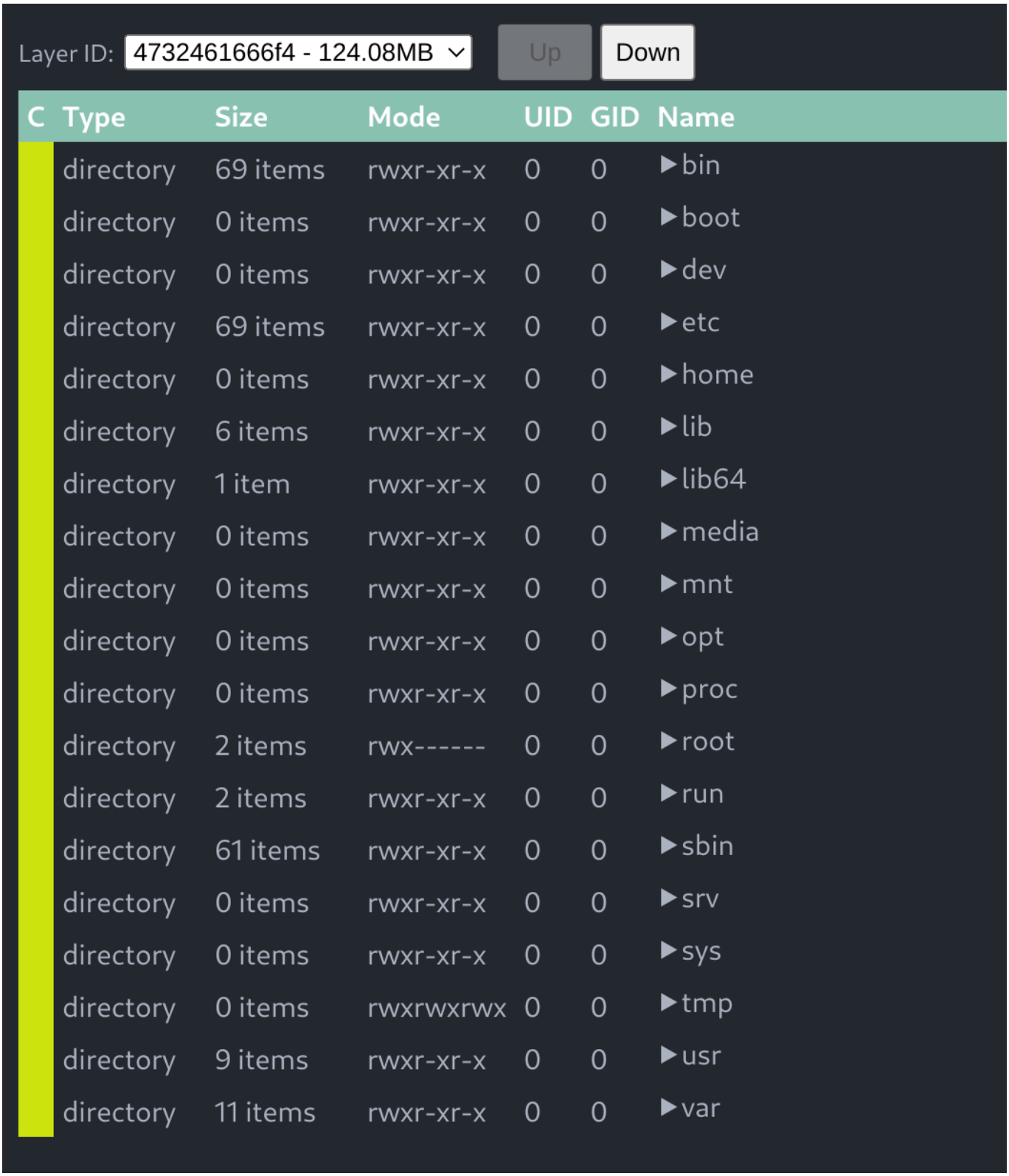
- The time it took to build that layer
- The size of that layer



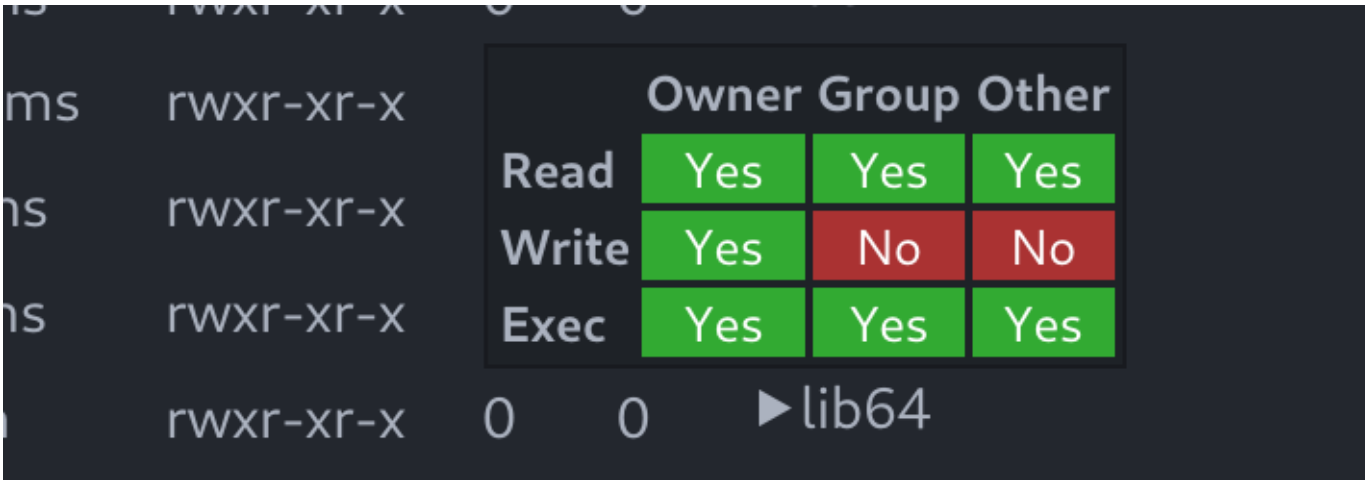
Explore each layer's filesystem

By clicking the "FS" button located in the top-right corner of the editor, a new tab containing information about the container's filesystem is open.

At the top of this tab there is a dropdown that allows a user to switch between the different layers of the image. The "Up" and "Down" buttons can also be used for this purpose. Files changed in that layer are marked with a yellow square. It's also possible to click directories to expand them.

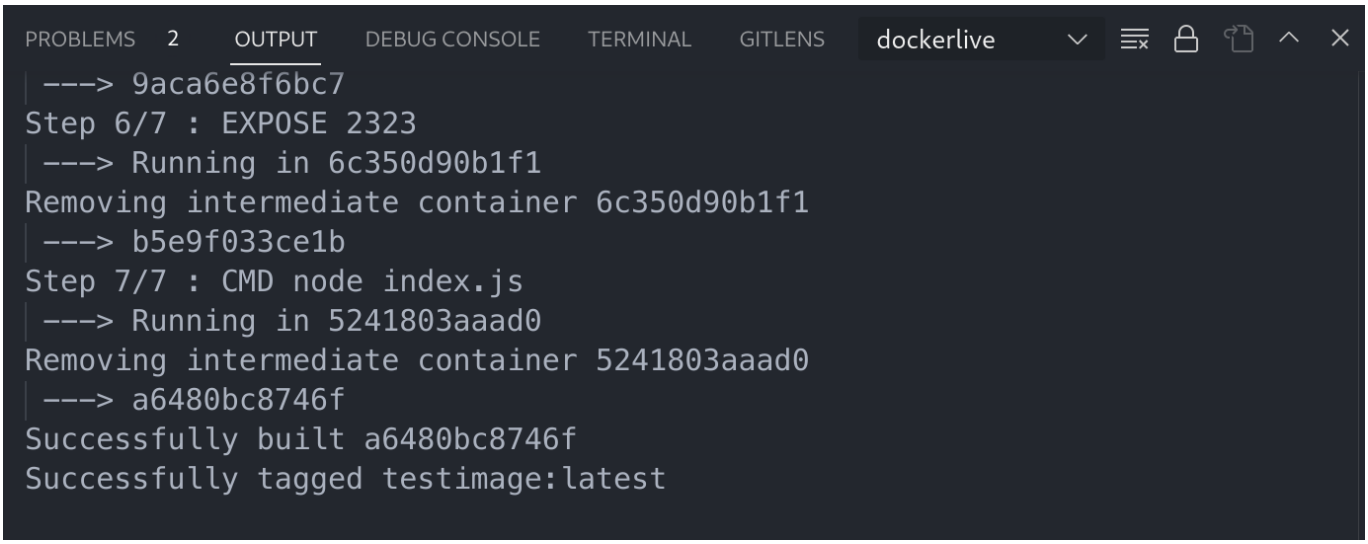


When hovering over an entry's permissions, a small table is shown to allow users to check the file's permissions in a more intuitive way.



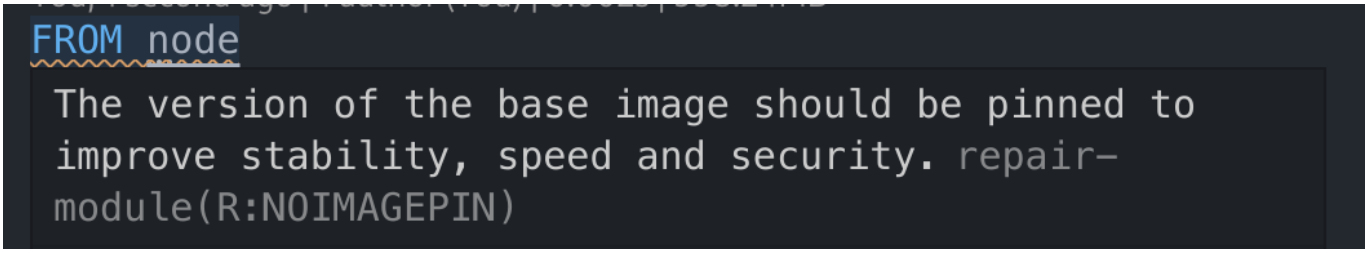
Container log output

The output of the `docker build` command and the output of the container itself are shown in the editor's output pane.

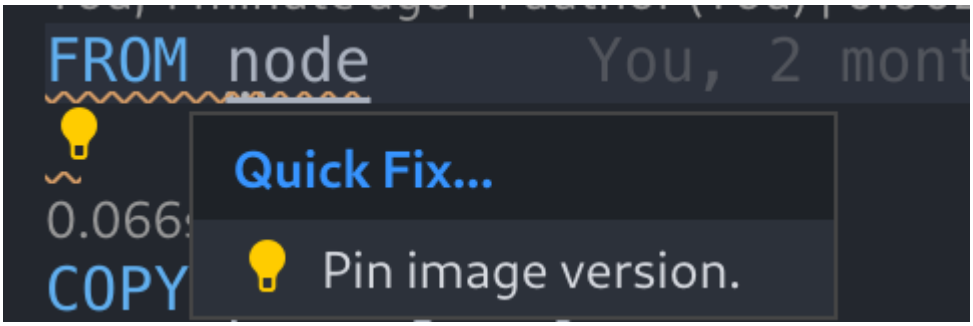


Repair Opportunities and Quick Fixes

When the extension detects problems that can be repaired, it marks them with a yellow underline (the environment variable problems are processed separately despite using an underline with the same color). Hovering over the underlined region will show additional information.



These problems have corresponding quick fixes that can be applied. Quick fixes can be displayed by clicking the flashlight icon (or the quick fix option in the hover window) or by using the quick fix keyboard shortcut (Ctrl/Cmd + .) while the cursor is in the underlined region. Afterwards, the fix can be applied by clicking it or pressing Enter while the fix is highlighted.



To detect some problems, the extension needs to generate an alternative Dockerfile in the background and compare it with the one being edited. This Dockerfile can be generated by clicking the crab icon in the top-right corner of the editor.

This process can take some time and the progress can be tracked in the bottom-right corner of the editor. After the generation is complete, more repair opportunities will be presented, if applicable.