

to run the build step before deploying the project. Once all the settings are configured, the final step is to deploy the project to Vercel. Vercel automatically builds and deploys the project, making it available on the internet. The deployment process typically takes just a few minutes. One of the benefits of deploying a Next.js project to Vercel is that Vercel automatically handles important aspects of deployment such as building and caching. This means that developers can focus on building their applications without having to worry about the underlying infrastructure. Additionally, Vercel offers a range of features that can help optimize the performance of Next.js applications. For example, Vercel automatically optimizes images and provides a global CDN for serving assets.

In conclusion, by using Vercel to host Next.js applications, developers can take advantage of powerful features and optimizations that can help improve the performance and user experience of their applications.

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USING CYPRESS TO AUTOMATE AND LOG GIVEN ACTIONS IN THE VISUAL WEB COMPONENT

Cypress is a popular tool for web automation testing. It is an open-source JavaScript framework designed to simplify and streamline the process of creating automated tests for web applications.

One of the key advantages of Cypress is its ability to provide fast, reliable tests that can run in real-time alongside the application being tested. The framework uses an architecture known as a «dashboard» that allows developers and testers to see the results of their tests and troubleshoot issues in real-time. This enables quick feedback and makes it easier to identify and fix bugs early on in the development process.

In this paper, we will consider two ways to use cypress – in the main Linux operating system (Ubuntu) and in docker container.

First you need to install packages and dependencies, to do this, run the command:

```
apt-get install libgtk2.0-0 libgtk-3-0 libgbm-dev libnotify-dev  
libgconf-2-4 libnss3 libxss1 libasound2 libxtst6 xauth xvfb
```

Immediately after that, when all system requirements are met, we use the command `«npm install cypress»` to install cypress.

Next, only two commands are needed to start the automation, which is written in the form of scripts on cypress.

```
npm install - install all necessary libraries and dependencies that use scripts for automation.
```

```
npm test - run cypress to execute scripts.
```

Next, as for running a similar configuration using docker, the most important thing here is to use the correct image. For this particular task, an image was selected from the official developer cypress `cypress/browsers:node18.6.0-chrome105-ff104`. This is an image based on the Debian GNU/Linux 11 operating system. In which node js, the necessary libraries and dependencies, cypress and headless chromedriver are already installed to emulate the visual component, provided there is no physical output device. For subsequent recording, saving and sending various types of logs in the form of screenshots and videos to the storage, from where it is easily possible to view the results of automated actions.

The full Dockerfile will look like this:

```
FROM cypress/browsers:node18.6.0-chrome105-ff104
COPY . /cypress
WORKDIR /cypress
RUN npm i
ENTRYPOINT [ "npm", "test" ]
```

The essence of this docker file is that only scripts, a file with package dependencies are copied to the container.json and the cypress configuration in the form of a `cypress.config file.js`, and then automation is started using the `npm test` command.

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DEVELOPMENT OF SOFTWARE ENVIRONMENTS FOR MANAGING REMOTE NETWORK DEVICES

To run project, you will need python3 and pip packages installed on your system. Pip is a package management system that simplifies installation and management of software packages written in Python such as those found in the Python Package Index (PyPI). To install python3 and pip, open terminal and put following command:

```
sudo apt-get install python3 python3-pip
```