

# **WEEKLY REPORT AUTOMATION TOOL**

- **FIRST REVIEW**

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## **MOTIVATION AND OBJECTIVE**

To create a web automated tool to automate the IT work maintain weekly report of Dashboard. To develop script to export dashboard as a PDF for regular interval. To capture and crop screenshots of required graphs in dashboard page. To scrap the required data from dashboard page by web scraping. Designing the email and send automatically to the required person with the SMTP server.

## **INTRODUCTION**

We, at Norton LifeLock , designing a tool highly focus on Web Automation and Automated Mailing. This project is to create a Web Automated Tool to automate the IT work to maintain the weekly report of our Jira Dashboard. This project is to develop script to export the dashboard as PDF for regular interval. This tool is to capture and crop the screenshots of required graphs in the Dashboard page. We have to Scrape the required data from the Dashboard page by Web Scrapping. Once the required data is captured, it needs to be embedded in the email in specified format. This tool will send the Automated mail with the embedded contents where created above to the required persons.

## **PROJECT DOMAIN**

1. Web automation
2. Web Scraping
3. Mail Automation

## IMPLEMENTAION PLATFORM :

Code Editor - Visual Studio Code

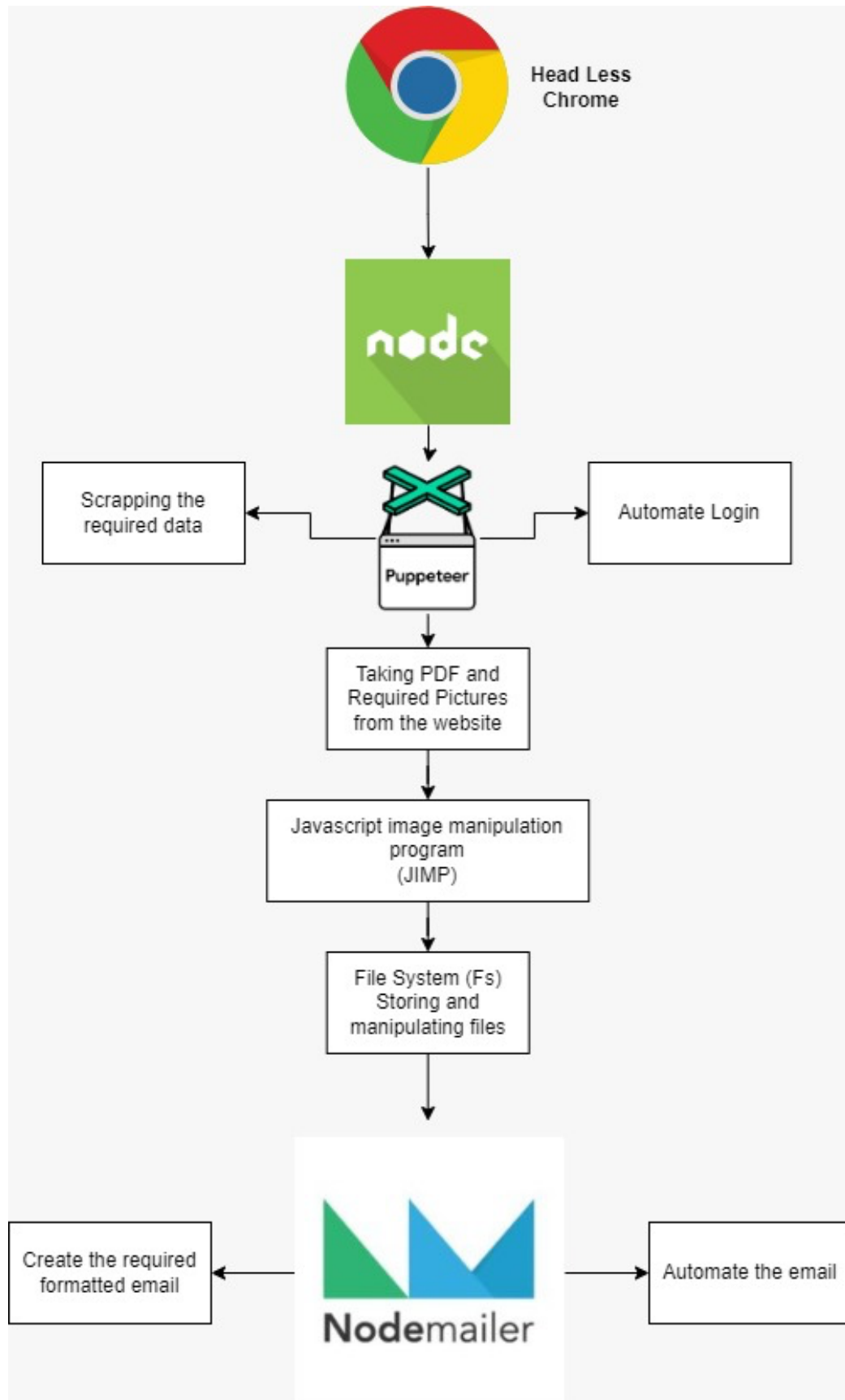
Language - Java Script

Environment - Node JS

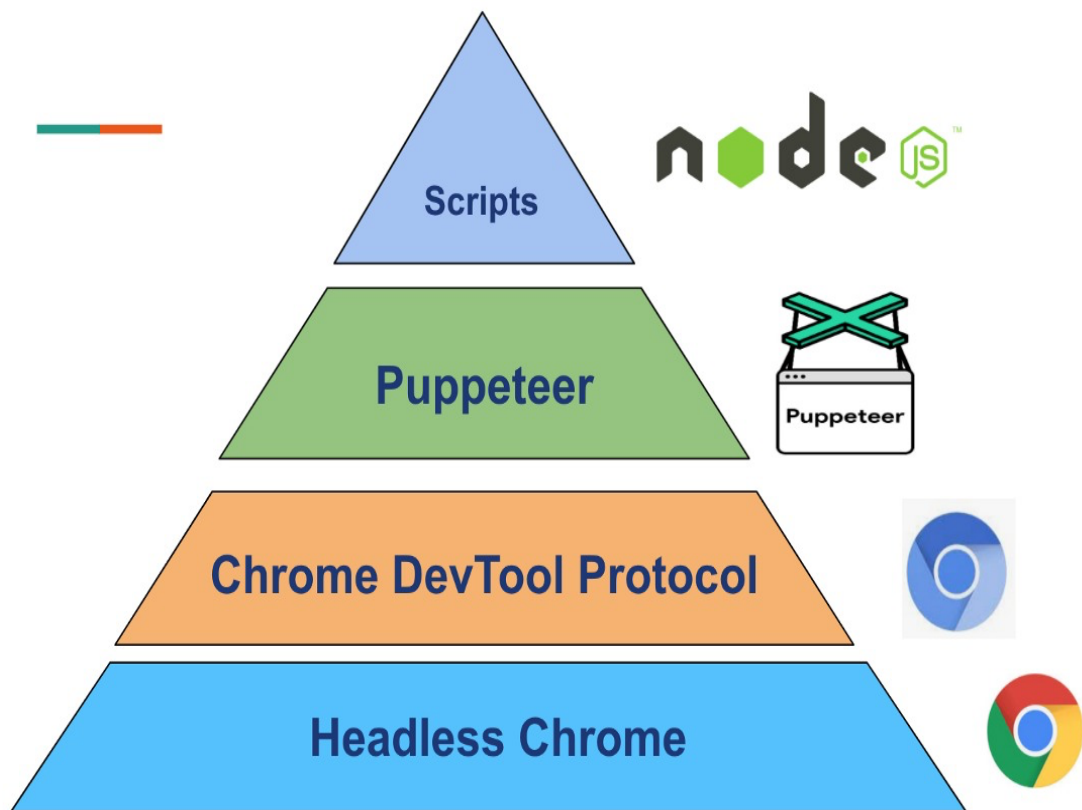
Major libraries used:

- **Puppeteer** - Puppeteer is a Node library which provide a high-level API to control headless Chrome or Chromium over the DevTools Protocol. It can also be configured to use Full (non headless ) Chrome or Chromium.
- **FS ( File System )** - The fs module provides a lot of very useful functionality to access and interact with the file system.
- **JIMP ( JavaScript Image Manipulation Program )** - Jimp is a node module used to do image processing which is provided by the npm installer. The Jimp – Javascript Image Manipulation Program is a library written entirely in JavaScript for Node, without any external or native dependencies.
- **Node Mailer** - NodeMailer is the most famous module used for sending and receiving emails from NodeJS applications. It is a zero dependency module for your NodeJS apps. You can easily send emails as plain text, HTML, or attachments (image, document, etc.).

## ARCHITECTURE DIAGRAM :



## PUPPETEER ARCHITECTURE :



## TOOLS & TECHNIQUES

Programming Language : JavaScript

Environment : Node Js

Major libraries will use :

- Puppeteer
- FS ( File System )
- JIMP ( JavaScript Image Manipulation Program )
- Node Mailer

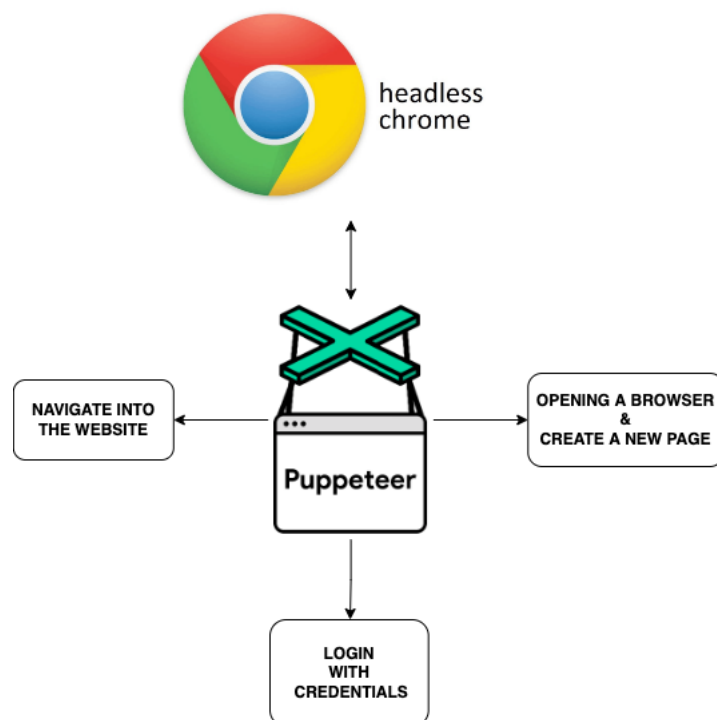
## LIST OF MODULES

1. Automate the Browser and Web pages
2. Scraping of Data
3. Capturing Snapshots and PDF
4. Image manipulation
5. File system management
6. Designing the Email
7. Automate the Email

## MODULES DESCRIPTION

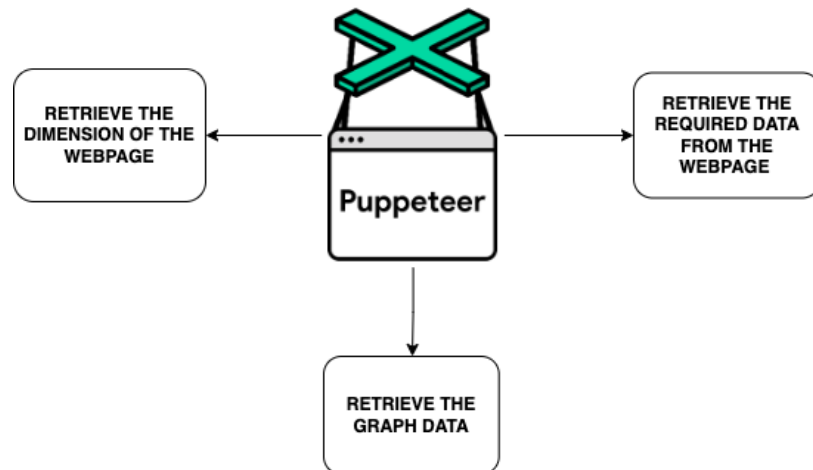
### AUTOMATE THE BROWSER AND WEB PAGES

Opening a headless chrome using the puppeteer and gets navigated using URL given inside the puppeteer. Login into the desired website with the secret credentials. Puppeteer is used to capture the entire webpage and be viewed as PDF



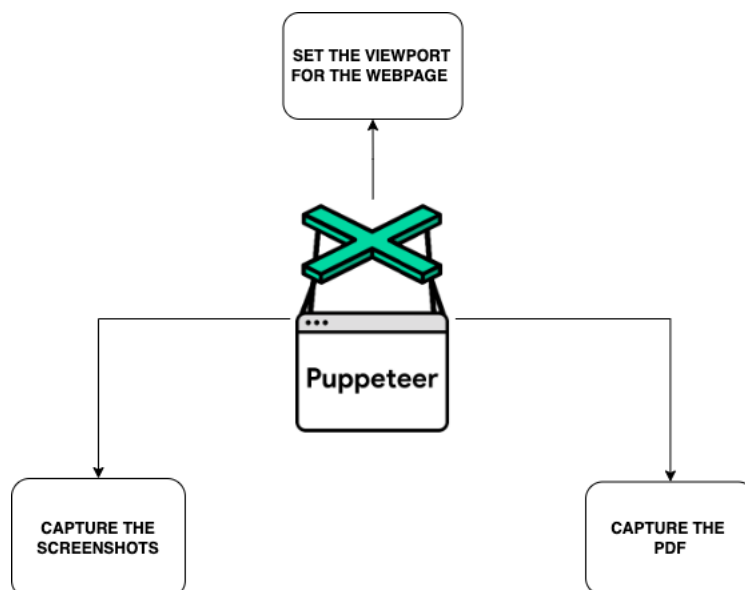
## SCRAPPING OF DATA:

The process of using automated code to extract the required content and data from a website by puppeteer. Automated method is to obtain large amounts of data from websites. To retrieve the height and width the webpage and to retrieve the graphs data and dimensions Using the Puppeteer



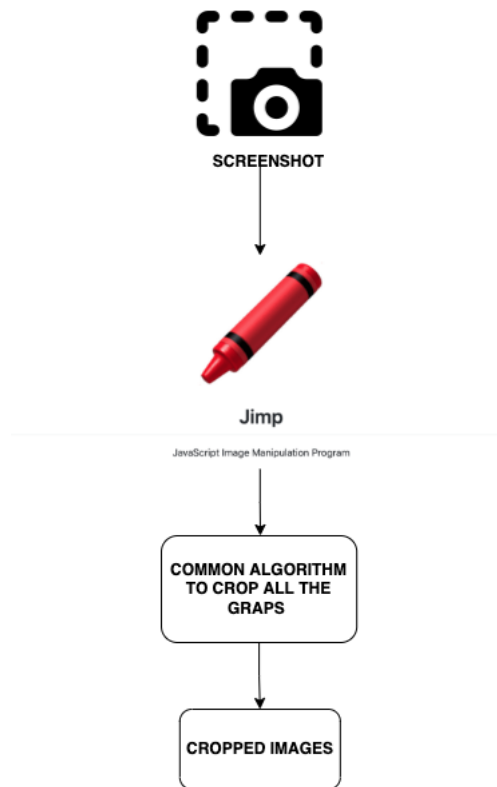
## CAPTURE THE SNAPSHOTS AND PDF

Calculate the size and dimension of the website. To set the Viewport of the webpage using the calculated size. To capture the snapshots and PDF using the Puppeteer



## IMAGE MANIPULATION:

By using the JIMP (JavaScript Image Manipulation Program) library crop the each and every graphs in the screenshots. To write the generalize function to crop all the graphs .

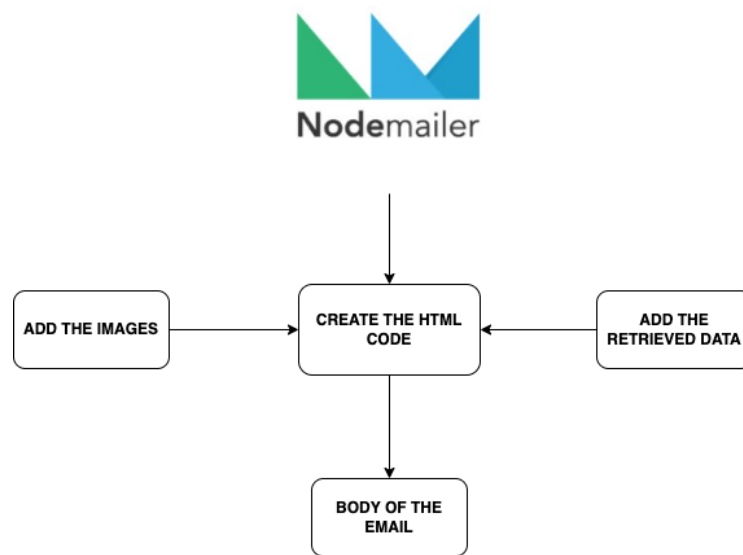


## FILE SYSTEM MANAGEMENT:

In this system, File Systems is used to manage directories, image files and text files. Create a new file and store the data collected from the web-pages. Read the text files and get data from them

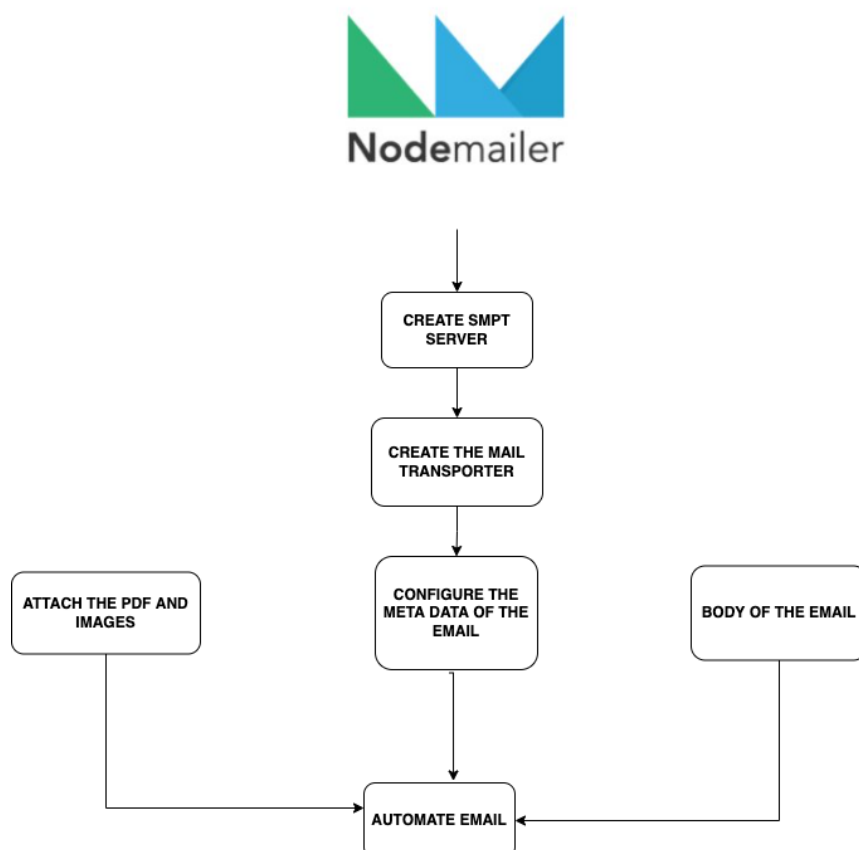
## DESIGNING THE EMAIL:

Create the body of the email in the required format. By using the Node Mailer, create the body of email as Html code. Attach PDF and the Snapshots in the email



## **AUTOMATE THE EMAIL:**

Provide the required data for the email such as Sender address, Receiver addresses , email subject. Create the SMPT server and then add information of the email and send it by using Node mailer





## REFERENCES :

- <https://www.nortonlifelock.com/us/en/>
- <https://nodejs.org/>
- <https://pptr.dev/>
- <https://nodemailer.com/about/>
- <https://www.npmjs.com/package/jimp>
- <https://github.com/oliver-moran/jimp>
- <https://nodejs.dev/learn/the-nodejs-fs-module>