

Experiment 11

Name	Roshan Bhagtani
Roll no.	4
Class	D15C
DOP	
DOS	
Grade	
Sign	

Aim: To use google Lighthouse PWA Analysis Tool to test the PWA functioning.

Theory:

Google Lighthouse :Google Lighthouse is a powerful tool for auditing Progressive Web Apps (PWAs) by evaluating various aspects of a web application, including performance, accessibility, best practices, and PWA-specific features. To implement Lighthouse for testing a PWA, you first need to ensure that your web app is PWA-compliant, which involves setting up a manifest file, service worker, and offline functionality. Once the PWA is ready, the Lighthouse audit can be run using Google Chrome's built-in Developer Tools or via the Lighthouse CLI. To do this, open your web app in Chrome, access the Developer Tools, and navigate to the Lighthouse tab, where you can select various audit categories such as Performance, PWA, Accessibility, and Best Practices.

The audit generates a detailed report highlighting scores for each metric. Performance is assessed based on loading speed, time to interactive, and content display. The PWA score evaluates the app's alignment with Google's PWA checklist, focusing on service worker implementation and offline capabilities. Accessibility is scored based on the app's compatibility with screen readers and other accessibility features, while the Best Practices score checks for secure and modern coding practices, such as HTTPS and avoiding deprecated elements.

Once the Lighthouse report is generated, review the findings to identify areas that need improvement, such as optimizing load times, enhancing offline functionality,

Output:



Conclusion:

The Lighthouse audit provides valuable insights into the performance and overall quality of your Progressive Web App (PWA). With a performance score of 86%, your app is performing well, but there are still opportunities to optimize load times and responsiveness. The audit's detailed recommendations, such as optimizing assets, improving caching strategies, and enhancing offline functionality, will guide you in making improvements. Regular use of Lighthouse audits ensures your app remains efficient, user-friendly, and aligned with best practices, ultimately providing a better experience for users and increasing the chances of your app being adopted as a reliable PWA.