**ANNASAHEB DANGE COLLEGE**

**OF ENGINEERING AND TECHNOLOGY**

(An Autonomous Institute) Ashta, Maharashtra – 416 301



# **DEPARTMENT OF**

# **ARTIFICIAL INTELLIGENCE AND DATA SCIENCE**

**Cloud Deployment / Portfolio Management**

**Under The Subject**

**“Cloud Computing(1ADVS313)”**

**Submitted By**

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**ISE 1 Activity 2**

**Dashboard Creation**

**GitHub**

**1. Introduction**

This report presents an analysis of a cloud-based service using its free-tier offerings. The selected platform for this evaluation is **GitHub**, a popular web-based platform used for version control and collaborative software development. The service falls under the **Application** category, providing a comprehensive ecosystem for developers to host code, manage projects, and deploy workflows in the cloud.

**2. Cloud Platform Login**

* **Platform Name**: GitHub
* **Account Creation**:  
  Creating a GitHub account is straightforward.
* Users sign up with an email address, create a username and password, and verify their email.
* GitHub also allows users to sign up using Google or other SSO options.
* Once registered, users get access to free repositories, project boards, CI/CD via GitHub Actions, and collaboration tools.
* **Service Category Selected**: **Application**

**3. Detailed Analysis of Service Category**

* **Service Overview**:- GitHub provides developers with the tools needed to host and review code, manage projects, and build software alongside millions of other developers. Key features include Git-based version control, GitHub Actions for CI/CD automation, GitHub Pages for hosting static websites, and security tools like Dependabot.
* **Advantages**:
  + **Scalability**: Easily scales from small personal projects to large enterprise applications.
  + **Cost-efficiency**: The free tier is feature-rich and supports unlimited public/private repositories.
  + **Ease of Use**: User-friendly interface, integrated code editor, and seamless Git integration.
  + **Collaboration**: Enables multiple developers to work on the same project with tools like pull requests and issue tracking.
* **Disadvantages**:
  + **Limited Free Tier for CI/CD**: GitHub Actions usage is capped on free plans.
  + **Internet Dependency**: Full functionality requires constant internet access.
  + **Complexity for Beginners**: Git/GitHub learning curve can be steep for new users.
* **Uniqueness**: GitHub’s integration with Git, its marketplace of developer tools, and built-in automation make it unique. GitHub Copilot (AI-powered coding assistant) adds an advanced layer of support not commonly available on other platforms.
* **Other Similar Deployments**:
  + **GitLab**: Offers similar services with integrated DevOps pipelines.
  + **Bitbucket**: Known for better integration with Atlassian tools like Jira.
  + **SourceForge**: More focused on open-source community distribution.

**4. App Summary**

* **Name of Application**: GitHub
* **Description**:  
  GitHub is a cloud-based application enabling version control and collaborative development. It helps teams host and review code, track changes, and automate workflows.
* **Merits/Demerits**:
  + **Pros**:
    - User-friendly for experienced developers
    - Highly scalable for teams and enterprises
    - Offers CI/CD tools and free repository hosting
  + **Cons**:
    - Free tier has usage caps (e.g., GitHub Actions minutes)
    - Limited offline functionality
    - Not beginner-friendly initially
* **Uses**:
  + **Business**: Code collaboration, release management, DevOps pipelines.
  + **Education**: Learning Git, collaborative projects, open-source contribution.
  + **Personal Projects**: Code backup, portfolio hosting, static site hosting.
* **Privacy Policy**:
  + GitHub collects user information for account management and performance optimization.
  + Offers repository visibility controls (public/private).
  + Data is protected with industry-standard encryption.
  + GDPR-compliant data processing and deletion protocols.

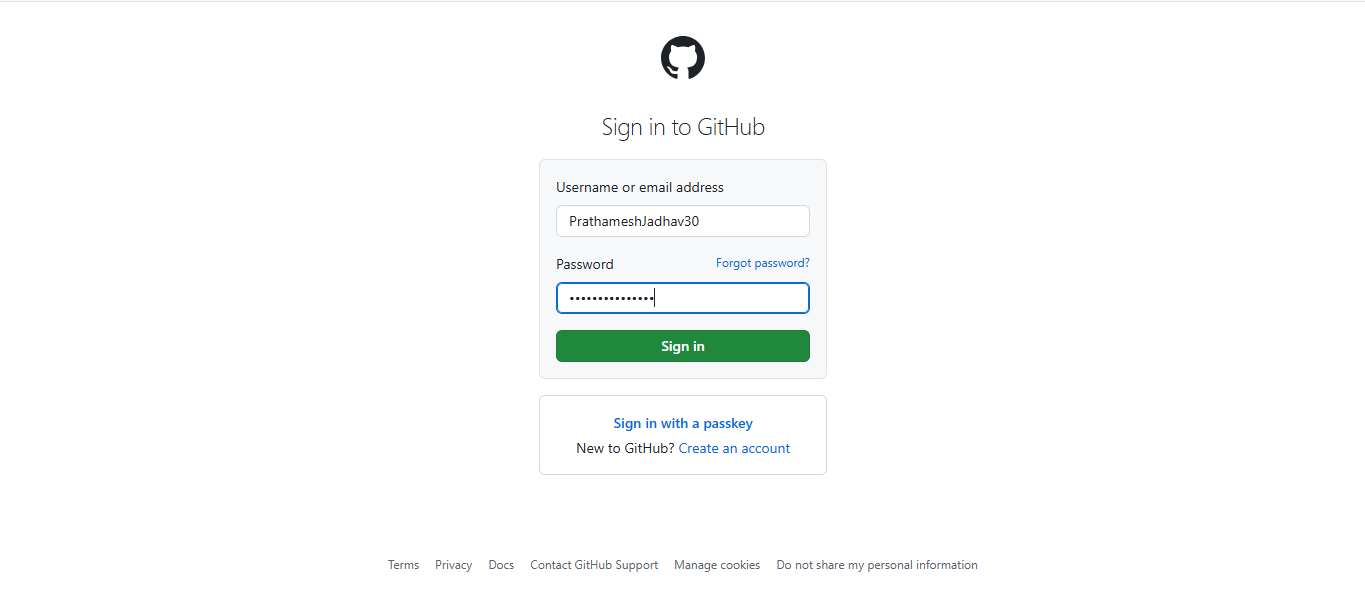
**5. Performance Measures Based on Service**

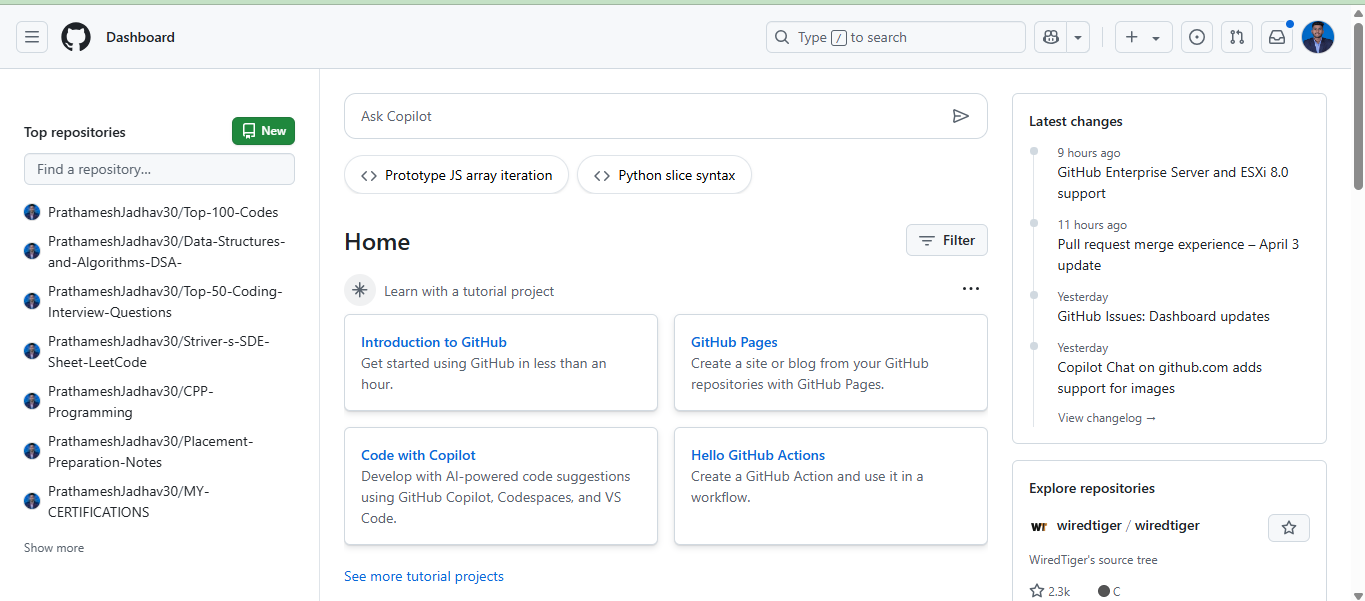
* **Storage**:  
  GitHub provides unlimited repositories with 500MB storage per repository (soft limit). Data retrieval is fast with globally distributed servers and caching.
* **Infrastructure**:  
  Hosted on Microsoft Azure’s cloud, GitHub has high uptime (>99.9%). Low latency due to CDN presence and optimized resource allocation.
* **Platform**:  
  GitHub Actions enable automated deployment pipelines with fast runtime, although the free plan has limited minutes per month.
* **Application**:  
  GitHub’s web app is highly responsive, with low load times and minimal downtime. Error rates are low, and user engagement is high due to collaborative tools and notifications.

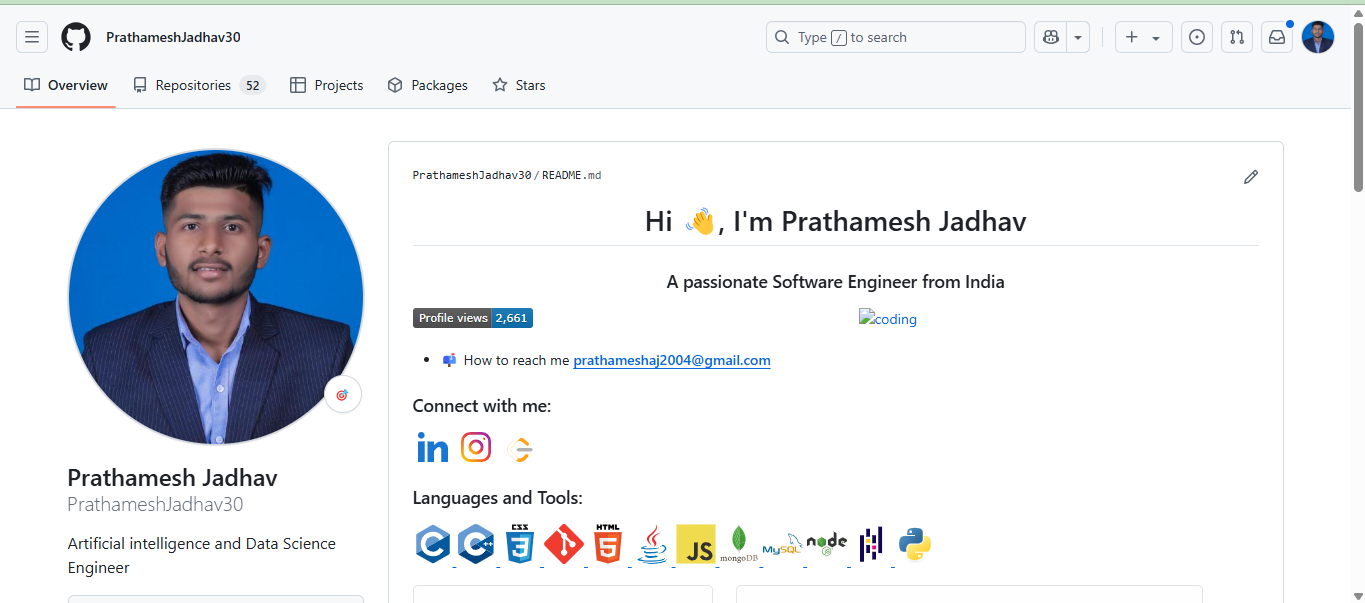
**6. Conclusion**

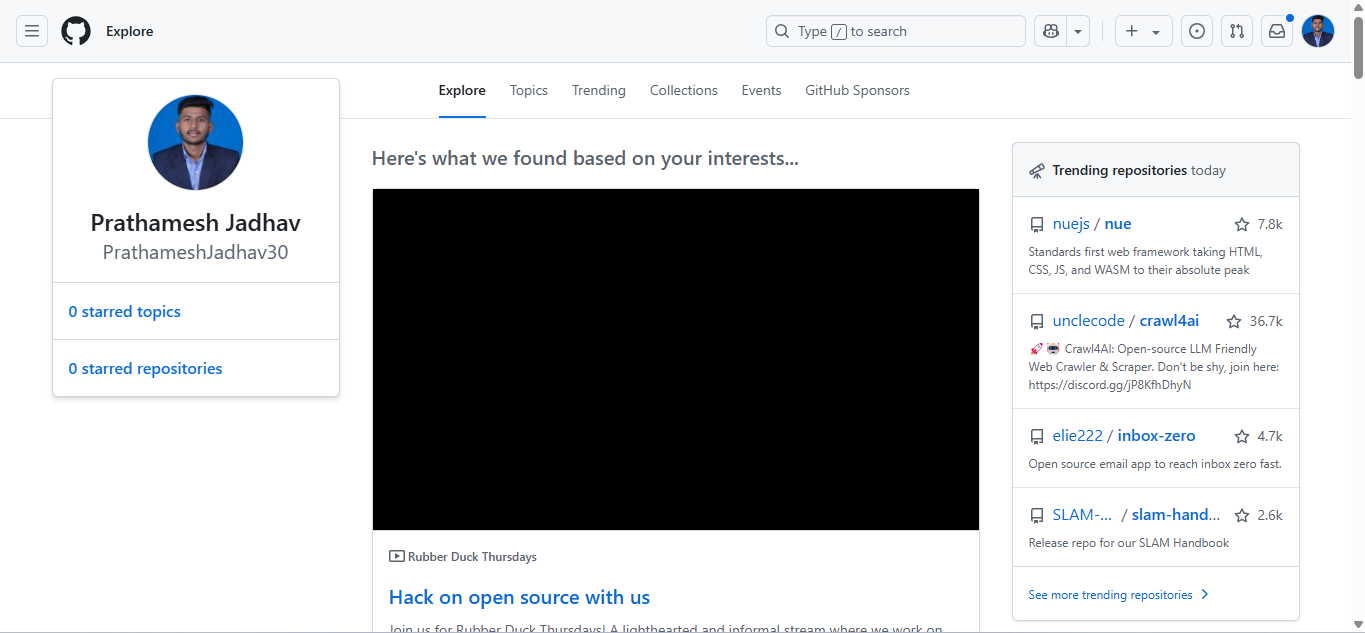
GitHub stands out as a robust cloud application platform with a generous free tier that supports individuals and teams alike. Its features cater to developers at all levels, providing tools for code hosting, automation, and project management. While it has some limitations in its free plan, GitHub remains one of the most powerful platforms for software development and collaboration in the cloud.

**7. Screenshots**

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