



School: Campus:

Academic Year: Subject Name: Subject Code:

Semester: Program: Branch: Specialization:

Date:

Applied and Action Learning

(Learning by Doing and Discovery)

Name of the Experiment : Store with IPFS – Decentralized file upload.

Objective/Aim:

- The primary objective of this project is to demonstrate and implement a decentralized file upload system using IPFS (InterPlanetary File System) via the Pinata service. This allows users to upload files to a distributed network, promoting data persistence and censorship resistance, rather than relying on a centralized server.

Apparatus/Software Used:

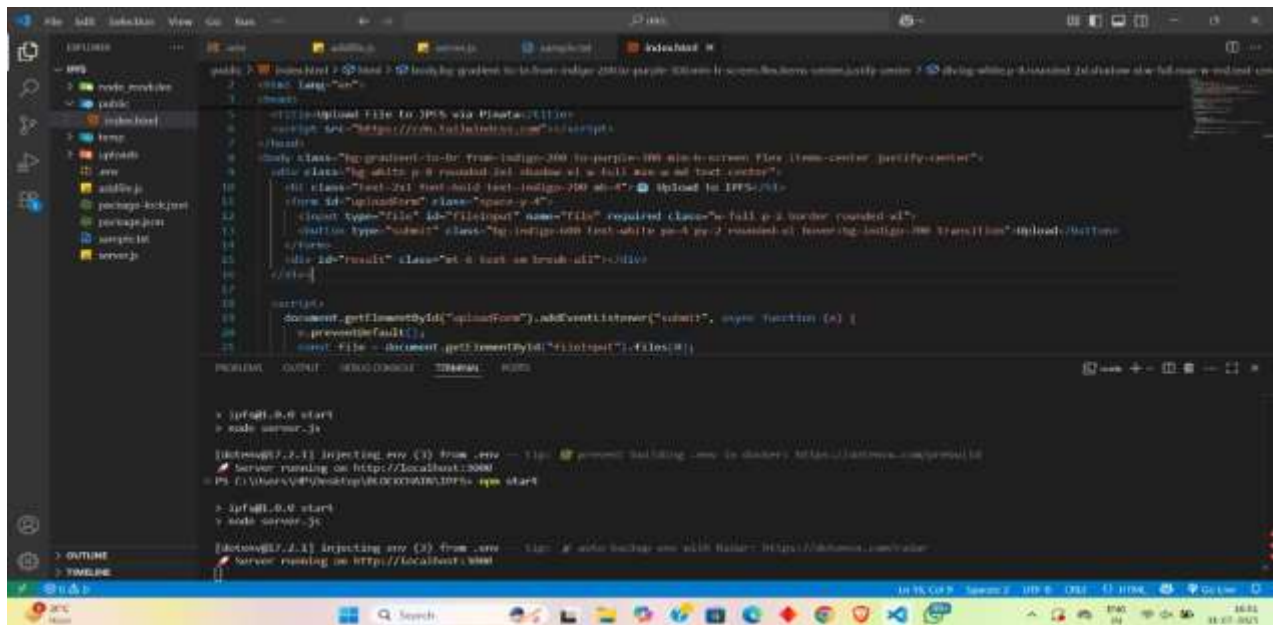
- Laptop/PC
- PowerPoint/Word for documentation
- Internet for research
- <https://pinata.cloud/>

Theory/Concept:

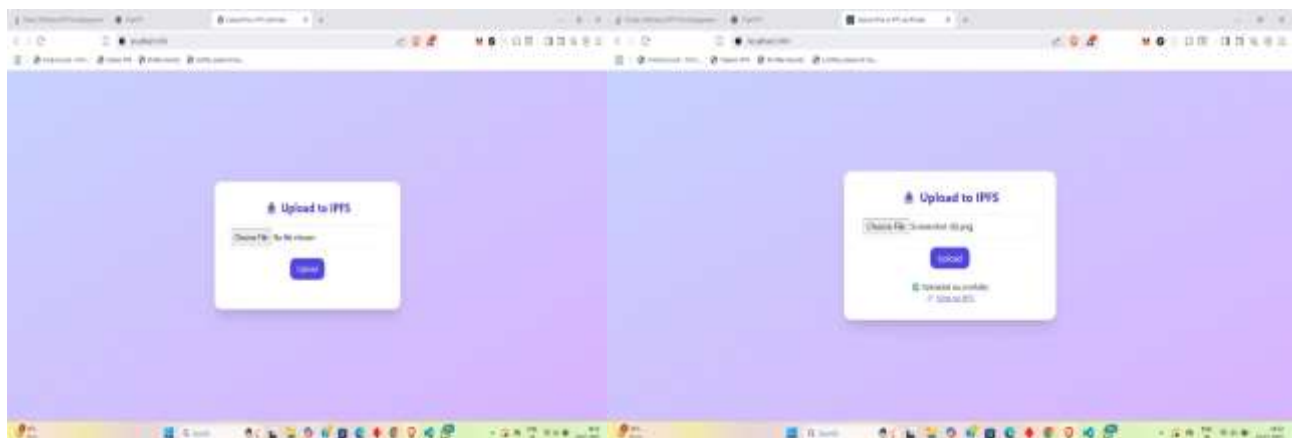
- IPFS: A peer-to-peer protocol for content-addressed, distributed file storage, offering decentralization, data integrity, and resilience against single points of failure.
- Pinata: A service that ensures persistent availability of IPFS-uploaded content by continuously "pinning" it on their infrastructure.
- Decentralization: Data is distributed across multiple nodes, enhancing reliability and resistance to censorship.

Procedure:

1. Access App: Navigate to the web application (e.g., localhost:3000).
2. Select File: Choose a file to upload using the "Choose File" button.
3. Upload: Click the "Upload" button.
4. Confirmation: The system displays "Uploaded successfully!" and a "View on IPFS" link upon completion.



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index.html
1 <!DOCTYPE html>
2 <html lang="en">
3 <head>
4 <title>Upload File to IPFS via Pinata</title>
5 <script src="https://cdn.jsdelivr.net/npm/ipfs-http-client"></script>
6 </head>
7 <body class="bg-gradient-to-br from-indigo-200 to-purple-100 min-h-screen flex items-center justify-center">
8 <div class="bg-white p-8 rounded-2xl shadow-xl w-full max-w-md text-center">
9 <h1 class="text-2xl font-bold text-indigo-200 mb-4">Upload to IPFS</h1>
10 <div id="uploadForm" class="space-y-4">
11 <input type="file" id="fileInput" name="file" required class="w-full p-2 border rounded-md">
12 <button type="submit" class="bg-indigo-600 text-white p-2 px-4 rounded-md hover:bg-indigo-800 transition">Upload</button>
13 </div>
14 <div id="result" class="mt-4 text-sm font-medium"></div>
15 </div>
16 </body>
17
18 <script>
19 document.getElementById("uploadForm").addEventListener("submit", async function (e) {
20 e.preventDefault();
21 const file = document.getElementById("fileInput").files[0];
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23 </script>
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```



Observation Table:

Test File Name	File Type	IPFS Hash (CID)	Status
test.png	Image	QmXyz...	Uploaded <input type="checkbox"/>
project.pdf	PDF	Qm123...	Uploaded <input type="checkbox"/>
network.docx	DOCX	Qm456...	Uploaded <input type="checkbox"/>

ASSESSMENT

Rubrics	Full Mark	Marks Obtained	Remarks
Concept	10		
Planning and Execution/ Practical Simulation/ Programming	10		
Result and Interpretation	10		
Record of Applied and Action Learning	10		
Viva	10		
Total	50		

Signature of the Faculty:

Signature of the Student:

Name :
Regn.No.