

## Working Demonstration Screenshots

```
*****Client.py*****
127.0.0.1 - - [22/May/2024 10:35:40] "GET / HTTP/1.1" 404 -
127.0.0.1 - - [22/May/2024 10:35:42] "POST /upload_chunk HTTP/1.1" 200 -
127.0.0.1 - - [22/May/2024 10:35:44] "POST /associate_chunk HTTP/1.1" 200 -
127.0.0.1 - - [22/May/2024 10:35:46] "GET / HTTP/1.1" 404 -
127.0.0.1 - - [22/May/2024 10:35:48] "POST /upload_chunk HTTP/1.1" 200 -
127.0.0.1 - - [22/May/2024 10:35:50] "POST /associate_chunk HTTP/1.1" 200 -
127.0.0.1 - - [22/May/2024 10:35:50] "POST /upload HTTP/1.1" 200 -
File uploaded successfully
127.0.0.1 - - [22/May/2024 10:35:54] "GET / HTTP/1.1" 404 -
127.0.0.1 - - [22/May/2024 10:35:56] "GET /get_chunks/file HTTP/1.1" 404 -
127.0.0.1 - - [22/May/2024 10:35:59] "GET / HTTP/1.1" 404 -
127.0.0.1 - - [22/May/2024 10:36:01] "GET /get_chunks/file HTTP/1.1" 404 -
127.0.0.1 - - [22/May/2024 10:36:01] "GET /download/file HTTP/1.1" 200 -
File downloaded successfully
PS C:\Users\Umar Hamid\Downloads\umair OS>
```

### Client.py

```
client.py > download_file
1 # client.py
2 import requests
3
4 def upload_file(file_path, coordinator_url):
5     with open(file_path, 'rb') as file:
6         files = {'file': file}
7         response = requests.post(f'{coordinator_url}/upload', files=files)
8         return response.text
9
10 def download_file(filename, coordinator_url, save_path):
11     response = requests.get(f'{coordinator_url}/download/{filename}')
12     if response.status_code == 200:
13         with open(save_path, 'wb') as file:
14             file.write(response.content)
15         return 'File downloaded successfully'
16     else:
17         return 'File not found'
18
19 if __name__ == '__main__':
20     print("*****Client.py*****")
21     coordinator_url = 'http://localhost:5003'
22     print(upload_file('example.txt', coordinator_url))
23     print(download_file('file', coordinator_url, 'downloaded_example.txt'))
24
```

### Node.py

```
node.py > ...
1 # node.py
2 from flask import Flask, request, jsonify
3 import os
4 import uuid
5 import argparse
6
7 app = Flask(__name__)
8
9 @app.route('/upload_chunk', methods=['POST'])
10 def upload_chunk():
11     chunk_data = request.data
12     chunk_id = str(uuid.uuid4()) # Generate a unique chunk ID
13     chunk_path = os.path.join(storage_dir(), chunk_id) # Use storage_dir() function to get storage directory
14     with open(chunk_path, 'wb') as chunk_file:
15         chunk_file.write(chunk_data)
16     return jsonify({'chunk_id': chunk_id}), 200
17
18 @app.route('/associate_chunk', methods=['POST'])
19 def associate_chunk():
20     data = request.json
21     filename = data['filename']
22     chunk_id = data['chunk_id']
23     # Store the association between filename and chunk ID (you can use a dictionary)
24     return 'Association created successfully', 200
25
26 def storage_dir():
27     port = int(os.environ.get("PORT", 5000)) # Get port from environment variable, default to 5000
28     return f'storage_{port}' # Directory name based on port number
29
30 if __name__ == '__main__':
31     print("*****Node.py*****")
32     parser = argparse.ArgumentParser(description='Run the node server.')
33     parser.add_argument('--port', type=int, default=5000, help='Port to run the server on')
34     args = parser.parse_args()
35     os.environ["PORT"] = str(args.port) # Set environment variable for port
36     storage_path = storage_dir()
```