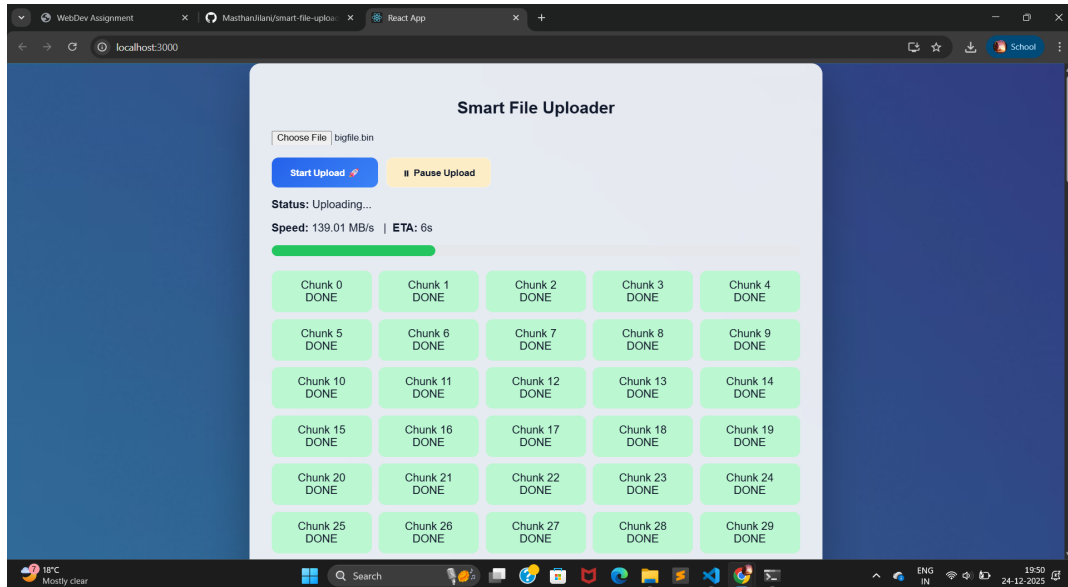


1. Upload Started

This screenshot shows the upload of a 1GB file beginning successfully. Chunks are being uploaded concurrently and progress is visible.



2. Network Disconnected

Here, a manual network disconnect is simulated using Chrome DevTools (Network → Offline). The upload encounters network errors.

The screenshot displays a web application interface on the left and Chrome DevTools on the right. The web application shows a grid of 110 upload chunks, each with a status label. The status labels are color-coded: green for 'DONE', red for 'FAILED', yellow for 'UPLOADING', and grey for 'PENDING'. The chunks are arranged in a 5x22 grid. The first 100 chunks are in the first 10 rows, and the remaining 10 chunks are in the last row. The status of the chunks is as follows:

Chunk ID	Status
Chunk 65	DONE
Chunk 66	DONE
Chunk 67	DONE
Chunk 68	DONE
Chunk 69	DONE
Chunk 70	DONE
Chunk 71	DONE
Chunk 72	DONE
Chunk 73	DONE
Chunk 74	DONE
Chunk 75	DONE
Chunk 76	DONE
Chunk 77	DONE
Chunk 78	DONE
Chunk 79	DONE
Chunk 80	DONE
Chunk 81	DONE
Chunk 82	FAILED
Chunk 83	FAILED
Chunk 84	FAILED
Chunk 85	FAILED
Chunk 86	FAILED
Chunk 87	FAILED
Chunk 88	FAILED
Chunk 89	FAILED
Chunk 90	FAILED
Chunk 91	FAILED
Chunk 92	FAILED
Chunk 93	FAILED
Chunk 94	UPLOADING
Chunk 95	UPLOADING
Chunk 96	UPLOADING
Chunk 97	PENDING
Chunk 98	PENDING
Chunk 99	PENDING
Chunk 100	PENDING
Chunk 101	PENDING
Chunk 102	PENDING
Chunk 103	PENDING
Chunk 104	PENDING
Chunk 105	PENDING
Chunk 106	PENDING
Chunk 107	PENDING
Chunk 108	PENDING
Chunk 109	PENDING
Chunk 110	PENDING
Chunk 111	PENDING
Chunk 112	PENDING
Chunk 113	PENDING
Chunk 114	PENDING

The Chrome DevTools Network panel on the right shows a list of network requests. The requests are filtered by 'XHR' and 'Failed'. The requests are as follows:

Name	Status	Type	Initiator	Size	Time
upload-chunk	(failed) ne...	xhr	App.js:130	0.0 kB	91 ms
upload-chunk	200	preflight	Preflight@	0.0 kB	2 ms
upload-chunk	(failed) ne...	xhr	App.js:130	0.0 kB	74 ms
upload-chunk	200	preflight	Preflight@	0.0 kB	1 ms
upload-chunk	(failed) ne...	xhr	App.js:130	0.0 kB	39 ms
upload-chunk	200	preflight	Preflight@	0.0 kB	2 ms
upload-chunk	(failed) ne...	xhr	App.js:130	0.0 kB	37 ms
upload-chunk	200	preflight	Preflight@	0.0 kB	1 ms
upload-chunk	(failed) ne...	xhr	App.js:130	0.0 kB	44 ms
upload-chunk	200	preflight	Preflight@	0.0 kB	3 ms
upload-chunk	(failed) ne...	xhr	App.js:130	0.0 kB	41 ms
upload-chunk	200	preflight	Preflight@	0.0 kB	2 ms
upload-chunk	(failed) ne...	xhr	App.js:130	0.0 kB	39 ms
upload-chunk	200	preflight	Preflight@	0.0 kB	1 ms

The Console panel on the right shows the following error messages:

```
net::ERR_INTERNET_DISCONNECTED
net::ERR_INTERNET_DISCONNECTED
net::ERR_INTERNET_DISCONNECTED
net::ERR_INTERNET_DISCONNECTED
```

3. Upload Paused Due to Network Failure

The upload pauses with several chunks marked as FAILED or PENDING. Already uploaded chunks remain intact, demonstrating fault tolerance.

The screenshot displays a web application interface for file uploads, showing a grid of 114 chunks (Chunk 65 to Chunk 114). The status of each chunk is color-coded: green for 'DONE', red for 'FAILED', yellow for 'UPLOADING', and grey for 'PENDING'. The grid shows that chunks 65-79 are 'DONE', chunks 80-84 are 'FAILED', chunks 85-89 are 'FAILED', chunk 90 is 'FAILED', chunk 91 is 'FAILED', chunk 92 is 'FAILED', chunk 93 is 'FAILED', chunk 94 is 'UPLOADING', chunk 95 is 'UPLOADING', chunk 96 is 'UPLOADING', chunk 97 is 'PENDING', chunk 98 is 'PENDING', chunk 99 is 'PENDING', chunk 100 is 'PENDING', chunk 101 is 'PENDING', chunk 102 is 'PENDING', chunk 103 is 'PENDING', chunk 104 is 'PENDING', chunk 105 is 'PENDING', chunk 106 is 'PENDING', chunk 107 is 'PENDING', chunk 108 is 'PENDING', chunk 109 is 'PENDING', chunk 110 is 'PENDING', chunk 111 is 'PENDING', chunk 112 is 'PENDING', chunk 113 is 'PENDING', and chunk 114 is 'PENDING'.

The browser developer console (Network tab) shows a list of network requests. The 'upload-chunk' requests are marked as 'failed' with a status of '200' and a type of 'preflight'. The 'initiator' for these requests is 'App.js:130'. The 'Size' and 'Time' columns show the size of the request (0.0 kB) and the time taken (ranging from 1 ms to 91 ms). The console also shows a 'net::ERR_INTERNET_DISCONNECTED' error, indicating a network failure.

Chunk	Status
Chunk 65	DONE
Chunk 66	DONE
Chunk 67	DONE
Chunk 68	DONE
Chunk 69	DONE
Chunk 70	DONE
Chunk 71	DONE
Chunk 72	DONE
Chunk 73	DONE
Chunk 74	DONE
Chunk 75	DONE
Chunk 76	DONE
Chunk 77	DONE
Chunk 78	DONE
Chunk 79	DONE
Chunk 80	DONE
Chunk 81	DONE
Chunk 82	FAILED
Chunk 83	FAILED
Chunk 84	FAILED
Chunk 85	FAILED
Chunk 86	FAILED
Chunk 87	FAILED
Chunk 88	FAILED
Chunk 89	FAILED
Chunk 90	FAILED
Chunk 91	FAILED
Chunk 92	FAILED
Chunk 93	FAILED
Chunk 94	UPLOADING
Chunk 95	UPLOADING
Chunk 96	UPLOADING
Chunk 97	PENDING
Chunk 98	PENDING
Chunk 99	PENDING
Chunk 100	PENDING
Chunk 101	PENDING
Chunk 102	PENDING
Chunk 103	PENDING
Chunk 104	PENDING
Chunk 105	PENDING
Chunk 106	PENDING
Chunk 107	PENDING
Chunk 108	PENDING
Chunk 109	PENDING
Chunk 110	PENDING
Chunk 111	PENDING
Chunk 112	PENDING
Chunk 113	PENDING
Chunk 114	PENDING

4. Network Restored and Upload Resumed

After restoring network connectivity, the upload resumes automatically. Only pending chunks are uploaded, proving resume capability.

The screenshot displays a web application interface on the left and a browser developer console on the right. The web application shows a grid of 30 upload chunks, numbered 90 to 139. Chunks 90 through 123 are marked 'FAILED' in red boxes. Chunks 124 through 139 are marked 'DONE' in green boxes. The browser developer console on the right shows the Network tab with a list of 'upload-chunk' requests. The status of these requests is as follows:

Name	Status	Type	Initiator	Size	Time
upload-chunk	200	preflight	Preflight	0.0 kB	1 ms
upload-chunk	200	xhr	App.js:130	0.4 kB	82 ms
upload-chunk	200	preflight	Preflight	0.0 kB	1 ms
upload-chunk	200	xhr	App.js:130	0.4 kB	91 ms
upload-chunk	200	preflight	Preflight	0.0 kB	1 ms
upload-chunk	200	xhr	App.js:130	0.4 kB	66 ms
upload-chunk	200	preflight	Preflight	0.0 kB	2 ms
upload-chunk	200	xhr	App.js:130	0.4 kB	69 ms
upload-chunk	200	preflight	Preflight	0.0 kB	2 ms
upload-chunk	200	xhr	App.js:130	0.4 kB	79 ms
upload-chunk	200	preflight	Preflight	0.0 kB	3 ms
upload-chunk	200	xhr	App.js:130	0.4 kB	71 ms
upload-chunk	200	preflight	Preflight	0.0 kB	2 ms
upload-chunk	200	xhr	App.js:130	0.4 kB	47 ms

The console also shows several error messages: 'net::ERR_INTERNET_DISCONNECTED' and 'net::ERR_INTERNET_DISCONNECTED'. The bottom of the browser window shows the Windows taskbar with the date 24-12-2025 and time 19:55.

5. Upload Completed Successfully

All chunks are uploaded successfully. The finalization step computes the SHA-256 hash to ensure file integrity.

Smart File Uploader

Choose File

Start Upload **Pause Upload**

Status: Completed ☒ SHA-256: 49bc20df15e412a64472421e13fe86ff1c5165e18b2afccf160d4dc19fe68a14

Speed: 91.15 MB/s | **ETA:** —

Progress bar: 100%

Chunk	Status
Chunk 0	DONE
Chunk 1	DONE
Chunk 2	DONE
Chunk 3	DONE
Chunk 4	DONE
Chunk 5	DONE
Chunk 6	DONE
Chunk 7	DONE
Chunk 8	DONE
Chunk 9	DONE
Chunk 10	DONE
Chunk 11	DONE
Chunk 12	DONE
Chunk 13	DONE
Chunk 14	DONE
Chunk 15	DONE
Chunk 16	DONE
Chunk 17	DONE
Chunk 18	DONE
Chunk 19	DONE
Chunk 20	DONE
Chunk 21	DONE
Chunk 22	DONE
Chunk 23	DONE
Chunk 24	DONE
Chunk 25	DONE
Chunk 26	DONE
Chunk 27	DONE
Chunk 28	DONE
Chunk 29	DONE

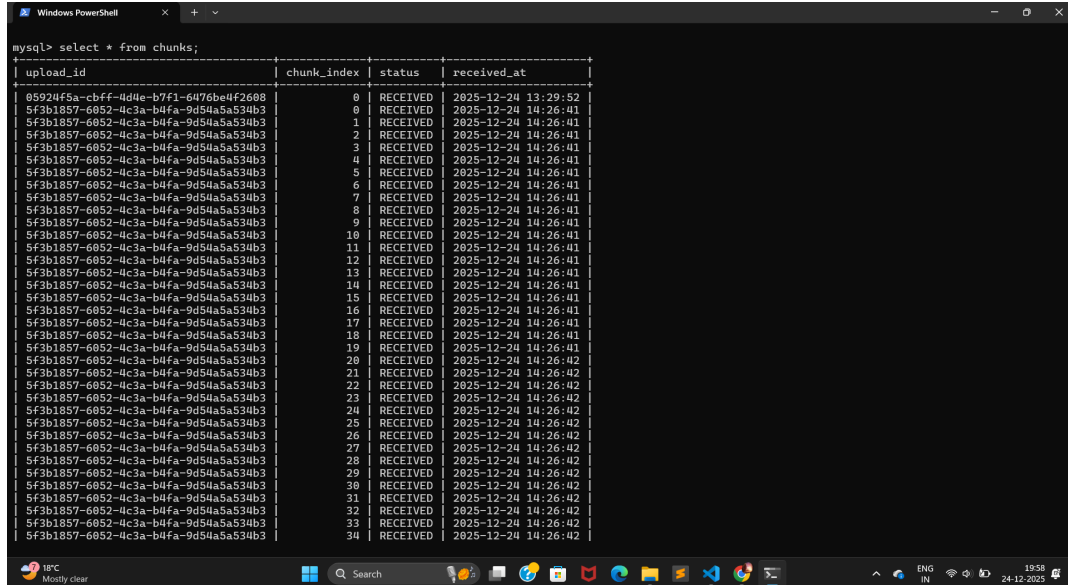
Developer Tools Network Log:

Name	Status	Type	Initiator	Size	Time
upload-chunk	200	preflight	Preflight	0.0 kB	1 ms
upload-chunk	200	xhr	App.js:130	0.4 kB	84 ms
upload-chunk	200	preflight	Preflight	0.0 kB	2 ms
upload-chunk	200	xhr	App.js:130	0.4 kB	68 ms
upload-chunk	200	preflight	Preflight	0.0 kB	1 ms
upload-chunk	200	xhr	App.js:130	0.4 kB	101 ms
upload-chunk	200	preflight	Preflight	0.0 kB	1 ms
upload-chunk	200	xhr	App.js:130	0.4 kB	102 ms
upload-chunk	200	preflight	Preflight	0.0 kB	2 ms
upload-chunk	200	xhr	App.js:130	0.4 kB	80 ms
upload-chunk	200	preflight	Preflight	0.0 kB	2 ms
upload-chunk	200	xhr	App.js:130	0.4 kB	43 ms
finalize	200	preflight	Preflight	0.0 kB	2 ms
finalize	200	xhr	App.js:171	0.4 kB	2.85 s

1429 requests | 724 kB transferred | 1.7 MB resources | Finish: 5.3 min | DOMContentLoaded: 148 ms | Load: 150

6. Database Verification

The database confirms that all chunks are marked RECEIVED, and the upload status is COMPLETED.



```
mysql> select * from chunks;
```

upload_id	chunk_index	status	received_at
05924f5a-cbff-4d4e-b7f1-6476be4f2688	0	RECEIVED	2025-12-24 13:29:52
5f3b1857-6852-4c3a-b4fa-9d54a5a534b3	0	RECEIVED	2025-12-24 14:26:41
5f3b1857-6852-4c3a-b4fa-9d54a5a534b3	1	RECEIVED	2025-12-24 14:26:41
5f3b1857-6852-4c3a-b4fa-9d54a5a534b3	2	RECEIVED	2025-12-24 14:26:41
5f3b1857-6852-4c3a-b4fa-9d54a5a534b3	3	RECEIVED	2025-12-24 14:26:41
5f3b1857-6852-4c3a-b4fa-9d54a5a534b3	4	RECEIVED	2025-12-24 14:26:41
5f3b1857-6852-4c3a-b4fa-9d54a5a534b3	5	RECEIVED	2025-12-24 14:26:41
5f3b1857-6852-4c3a-b4fa-9d54a5a534b3	6	RECEIVED	2025-12-24 14:26:41
5f3b1857-6852-4c3a-b4fa-9d54a5a534b3	7	RECEIVED	2025-12-24 14:26:41
5f3b1857-6852-4c3a-b4fa-9d54a5a534b3	8	RECEIVED	2025-12-24 14:26:41
5f3b1857-6852-4c3a-b4fa-9d54a5a534b3	9	RECEIVED	2025-12-24 14:26:41
5f3b1857-6852-4c3a-b4fa-9d54a5a534b3	10	RECEIVED	2025-12-24 14:26:41
5f3b1857-6852-4c3a-b4fa-9d54a5a534b3	11	RECEIVED	2025-12-24 14:26:41
5f3b1857-6852-4c3a-b4fa-9d54a5a534b3	12	RECEIVED	2025-12-24 14:26:41
5f3b1857-6852-4c3a-b4fa-9d54a5a534b3	13	RECEIVED	2025-12-24 14:26:41
5f3b1857-6852-4c3a-b4fa-9d54a5a534b3	14	RECEIVED	2025-12-24 14:26:41
5f3b1857-6852-4c3a-b4fa-9d54a5a534b3	15	RECEIVED	2025-12-24 14:26:41
5f3b1857-6852-4c3a-b4fa-9d54a5a534b3	16	RECEIVED	2025-12-24 14:26:41
5f3b1857-6852-4c3a-b4fa-9d54a5a534b3	17	RECEIVED	2025-12-24 14:26:41
5f3b1857-6852-4c3a-b4fa-9d54a5a534b3	18	RECEIVED	2025-12-24 14:26:41
5f3b1857-6852-4c3a-b4fa-9d54a5a534b3	19	RECEIVED	2025-12-24 14:26:41
5f3b1857-6852-4c3a-b4fa-9d54a5a534b3	20	RECEIVED	2025-12-24 14:26:42
5f3b1857-6852-4c3a-b4fa-9d54a5a534b3	21	RECEIVED	2025-12-24 14:26:42
5f3b1857-6852-4c3a-b4fa-9d54a5a534b3	22	RECEIVED	2025-12-24 14:26:42
5f3b1857-6852-4c3a-b4fa-9d54a5a534b3	23	RECEIVED	2025-12-24 14:26:42
5f3b1857-6852-4c3a-b4fa-9d54a5a534b3	24	RECEIVED	2025-12-24 14:26:42
5f3b1857-6852-4c3a-b4fa-9d54a5a534b3	25	RECEIVED	2025-12-24 14:26:42
5f3b1857-6852-4c3a-b4fa-9d54a5a534b3	26	RECEIVED	2025-12-24 14:26:42
5f3b1857-6852-4c3a-b4fa-9d54a5a534b3	27	RECEIVED	2025-12-24 14:26:42
5f3b1857-6852-4c3a-b4fa-9d54a5a534b3	28	RECEIVED	2025-12-24 14:26:42
5f3b1857-6852-4c3a-b4fa-9d54a5a534b3	29	RECEIVED	2025-12-24 14:26:42
5f3b1857-6852-4c3a-b4fa-9d54a5a534b3	30	RECEIVED	2025-12-24 14:26:42
5f3b1857-6852-4c3a-b4fa-9d54a5a534b3	31	RECEIVED	2025-12-24 14:26:42
5f3b1857-6852-4c3a-b4fa-9d54a5a534b3	32	RECEIVED	2025-12-24 14:26:42
5f3b1857-6852-4c3a-b4fa-9d54a5a534b3	33	RECEIVED	2025-12-24 14:26:42
5f3b1857-6852-4c3a-b4fa-9d54a5a534b3	34	RECEIVED	2025-12-24 14:26:42