**🚀 SafeShipping Lifecycle Demo Handoff**

**🎯 Goal**

Deliver a fully operational, container-ready demo of the SafeShipping lifecycle—from order emission to dashboard visualization—by **Thursday**.

**🧭 System Architecture**

**📦 Shipping Lifecycle Flow**

mermaid

flowchart TD

subgraph Emit Chain

A1[User or CLI Emit]

A2[POST /log (Bearer token)]

A3[receiver.js]

A4[Append to ledger.ndjson]

end

subgraph Replay Path

B1[replay.js (event\_id)]

B2[POST /webhook/:tenant]

B3[receiver.js ➜ ledger.ndjson]

B4["replayed": true]

end

subgraph Observability

C1[tenant-dashboard.js]

C2[/dashboard/:tenant]

end

subgraph Resilience

D1[.retry.ndjson]

D2[job-runner.js]

D3[Replay fallback]

end

A1 --> A2 --> A3 --> A4 --> C1

B1 --> B2 --> B3 --> B4 --> C1

D1 --> D2 --> D3 --> A2

**📁 Modular Folder Structure**

plaintext

SafeShipping/

├── contracts/safeshipping/

│ ├── receiver.js

│ ├── tenant-dashboard.js

│ ├── replay.js

│ ├── job-runner.js

├── docker/

│ ├── receiver/Dockerfile

│ ├── receiver/k8s-deployment.yaml

│ ├── dashboard/Dockerfile

│ ├── dashboard/k8s-deployment.yaml

│ └── compose/docker-compose.dev.yml

├── logs/v2u-core/ledger.ndjson

├── scripts/

│ ├── start-dev.sh

│ ├── replay.sh

│ └── tail-ledger.sh

├── config/

│ ├── .env.template

│ └── tenants.json

└── Makefile

**🐳 Kubernetes Node Plane**

mermaid

graph TD

subgraph Node Plane

RCV[receiver-pod]

DASH[dashboard-pod]

end

subgraph PVC

LEDGER[ledger.ndjson Volume]

RETRY[.retry.ndjson Volume]

end

RCV --> LEDGER

RCV --> RETRY

DASH --> LEDGER

**🗓️ Timeline: Monday → Thursday**

| **Day** | **Focus** | **Deliverables** |
| --- | --- | --- |
| **Monday** | Architecture visuals + planning | ✅ Flowchart, folder schema, handoff doc |
| **Tuesday** | Emit and replay integration testing | CLI emitter script, sample payloads |
| **Wednesday** | Retry mechanism + dashboard audit | .retry.ndjson flow, job-runner validation |
| **Thursday** | Final walkthrough & dry run | Demo-ready: emit ➜ log ➜ replay ➜ metrics |

**✅ Demo Checklist**

* [ ] Emit new order via POST or CLI helper
* [ ] Confirm ledger entry logged
* [ ] Validate replay with replayed: true tag
* [ ] View full log cycle in /dashboard/:tenant
* [ ] Trigger retry via .retry.ndjson and job-runner
* [ ] Package lifecycle into presentable workflow