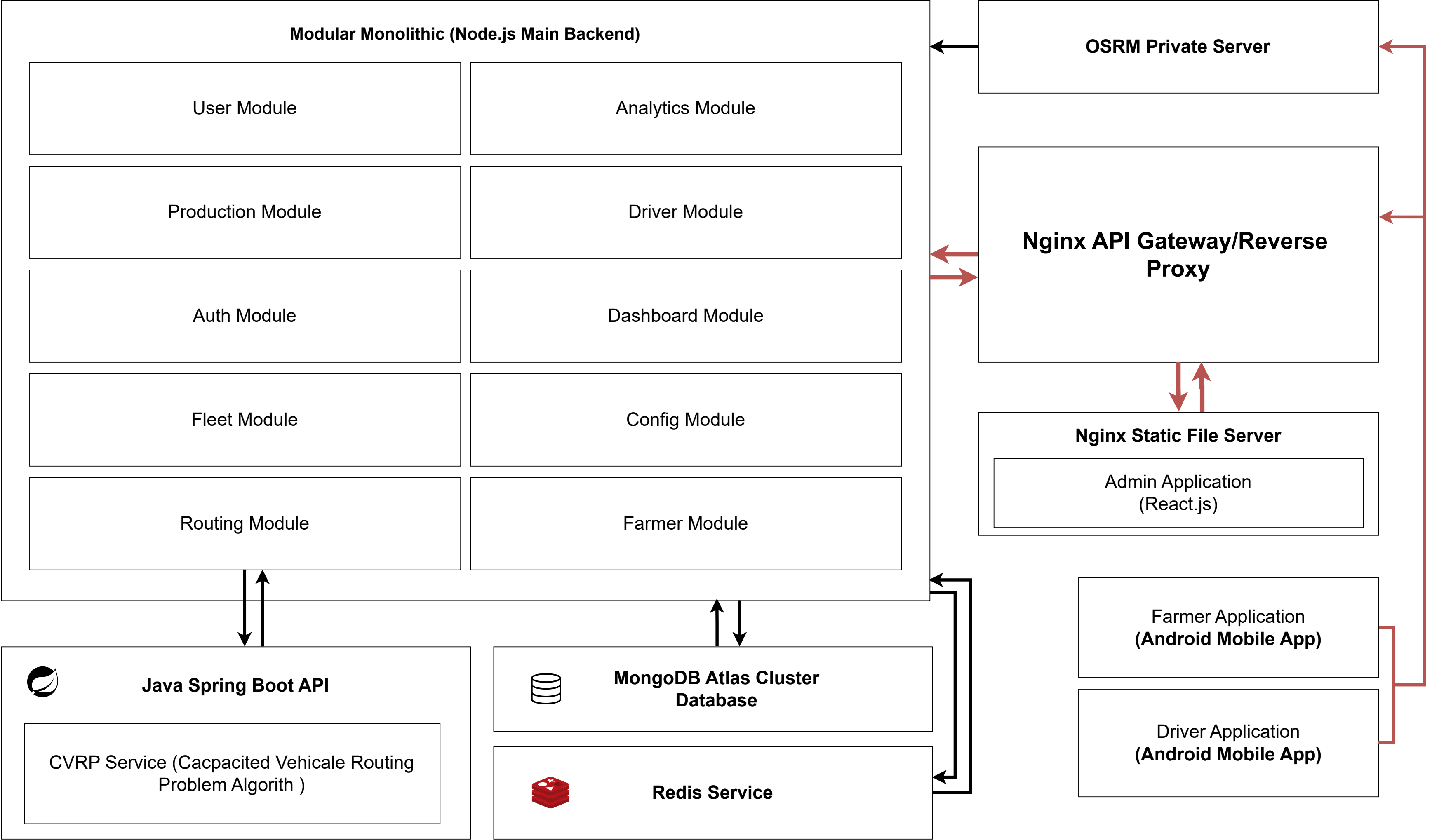
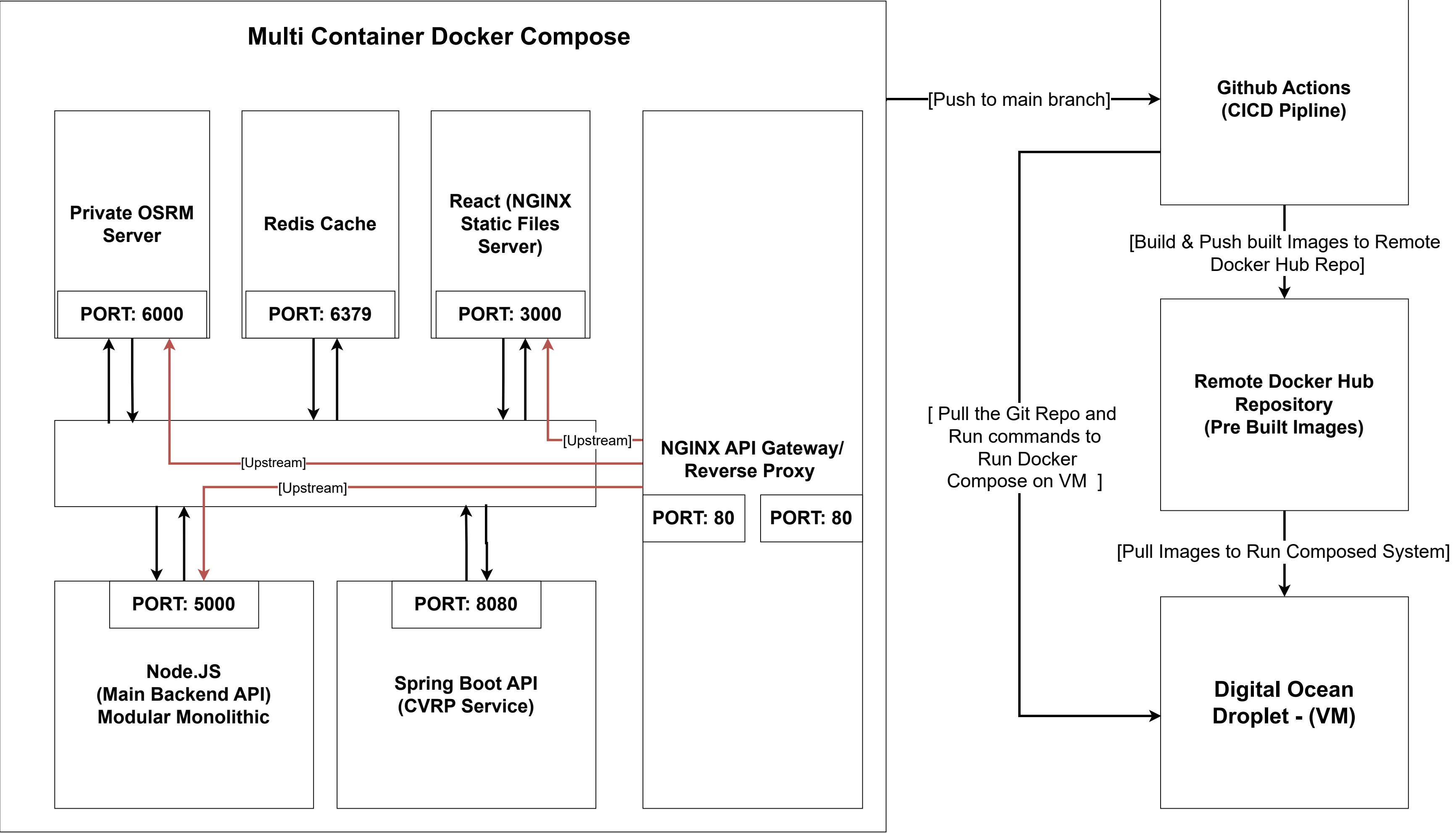


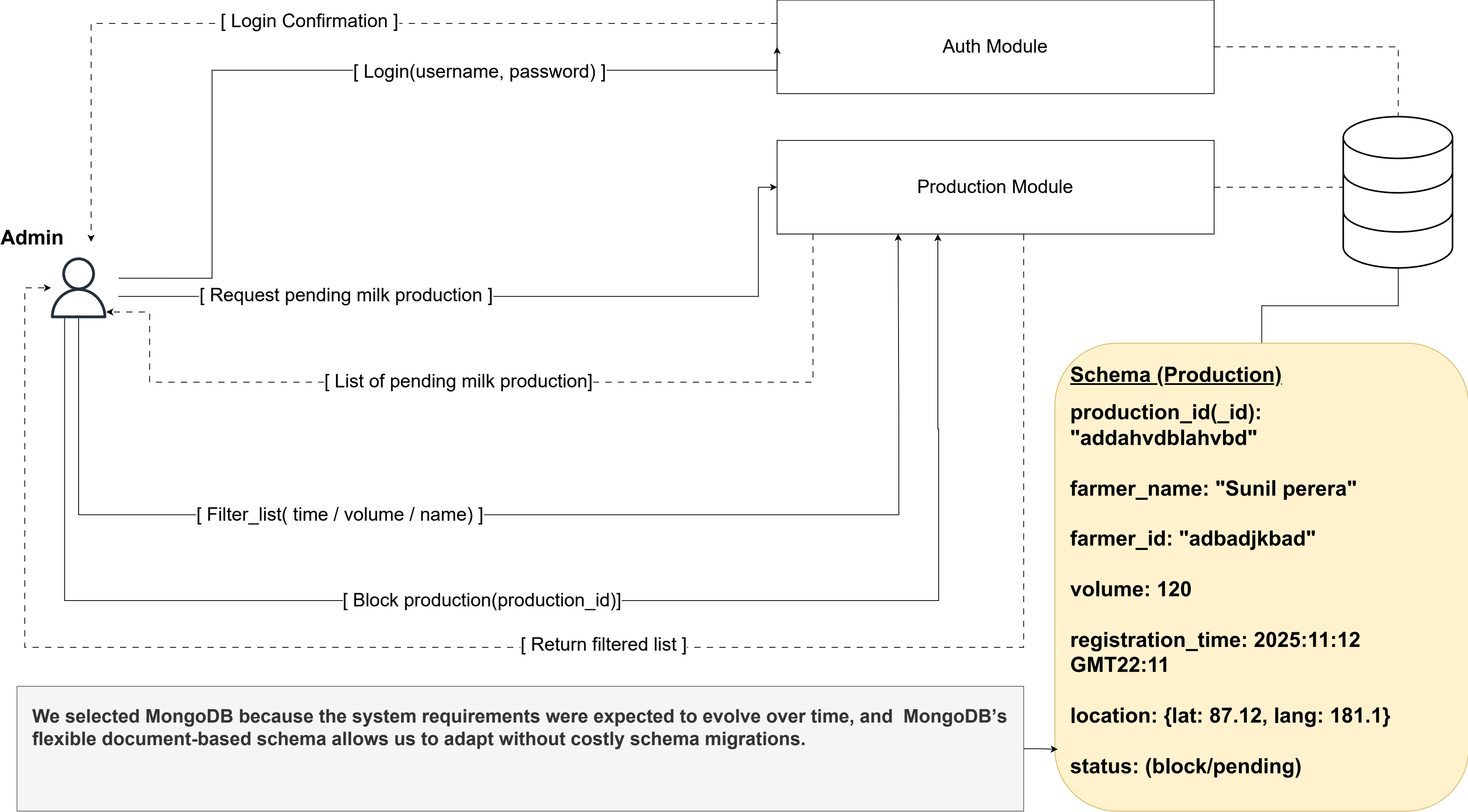
High Level System Architecture - Containerized Multi Service Architecture



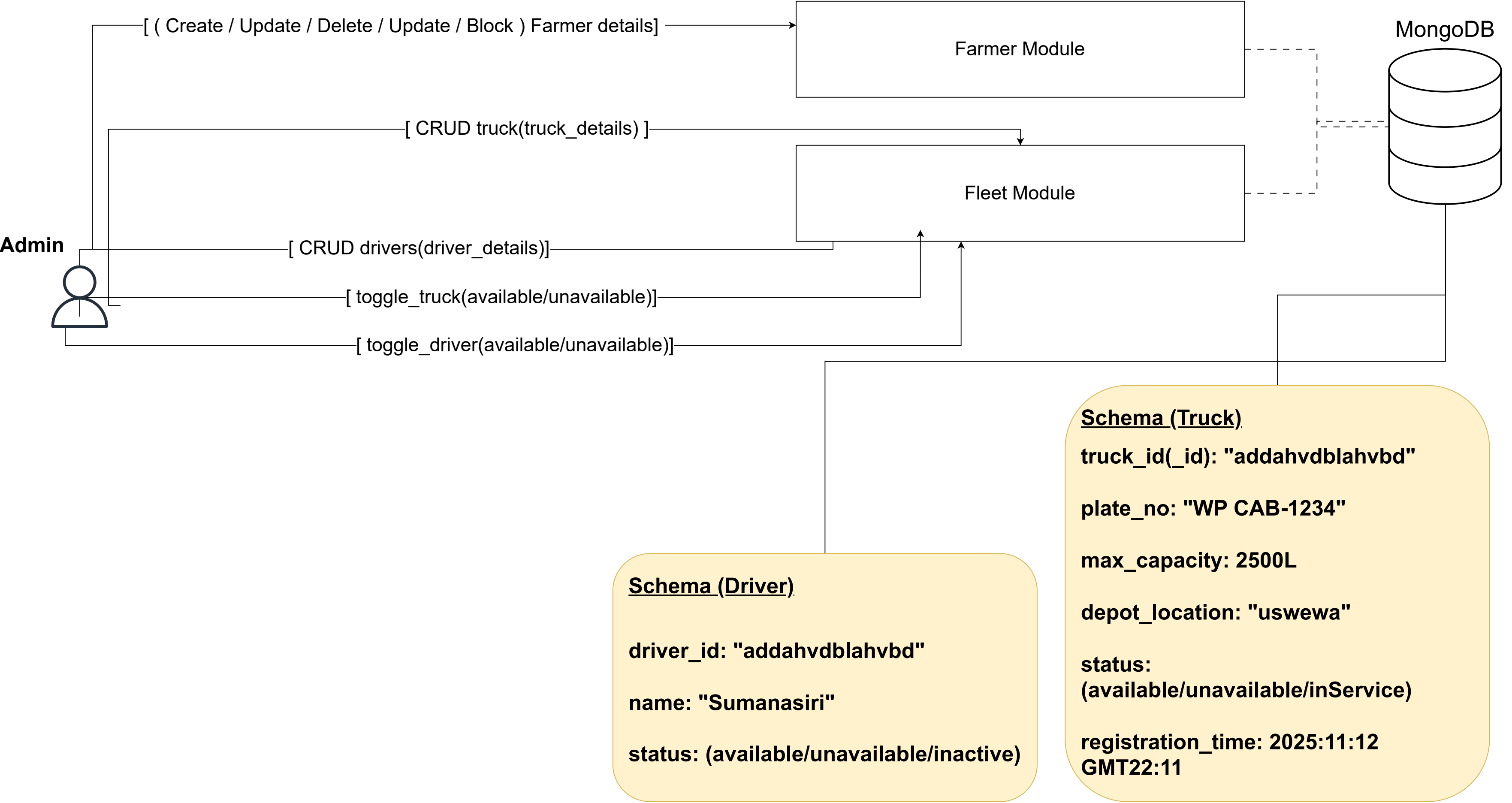
Containerized Multi Service Architecture - Deployment Strategy (Production)



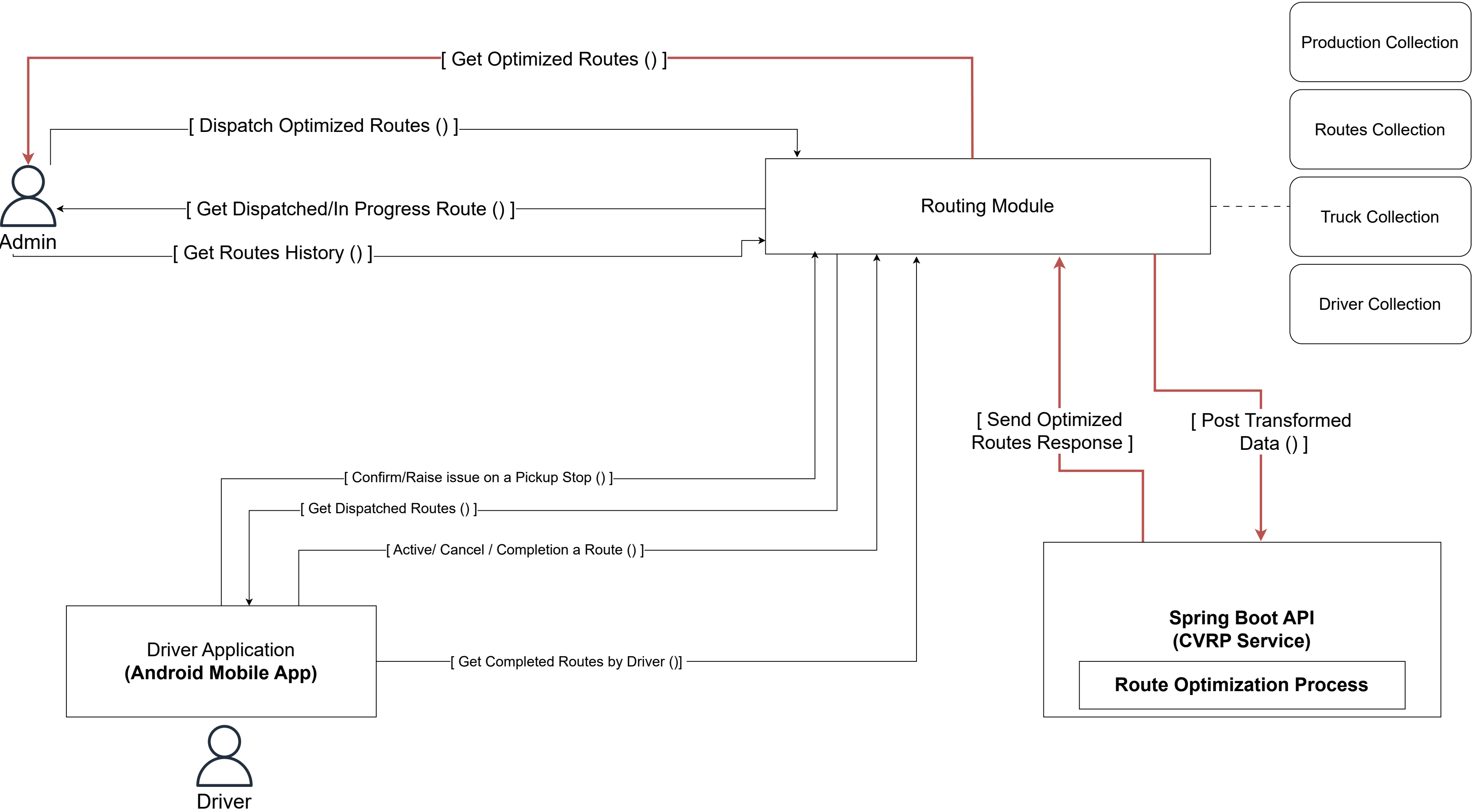
Auth / Production Modules - System Architecture



Farmer / Fleet Modules - System Architecture



Routing Module - System Architecture



Routing Module Inside Process

Reverse Lookup Table - Mapping Index

```
productionIndexMap = [
  null,      // index 0 = depot
  production1,
  production2,
  ...
]
```

[We use this to map back CVRP Result]

Transform To CVRP Input

Spring Boot API
(CVRP Service)

Route Optimization Process

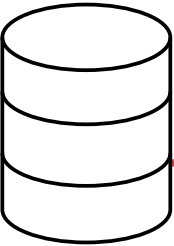
Transform CVRP Input to Readable
Structure

Using Reverse Look up Table - Transform
Back to Readable Optimized Result

```
{
  order,
  node,
  production: {
    _id,
    volume,
    farmer,
    status
  },
  load_after_visit
}
```

Send Optimized Results to
client

Extract Core Domain Data

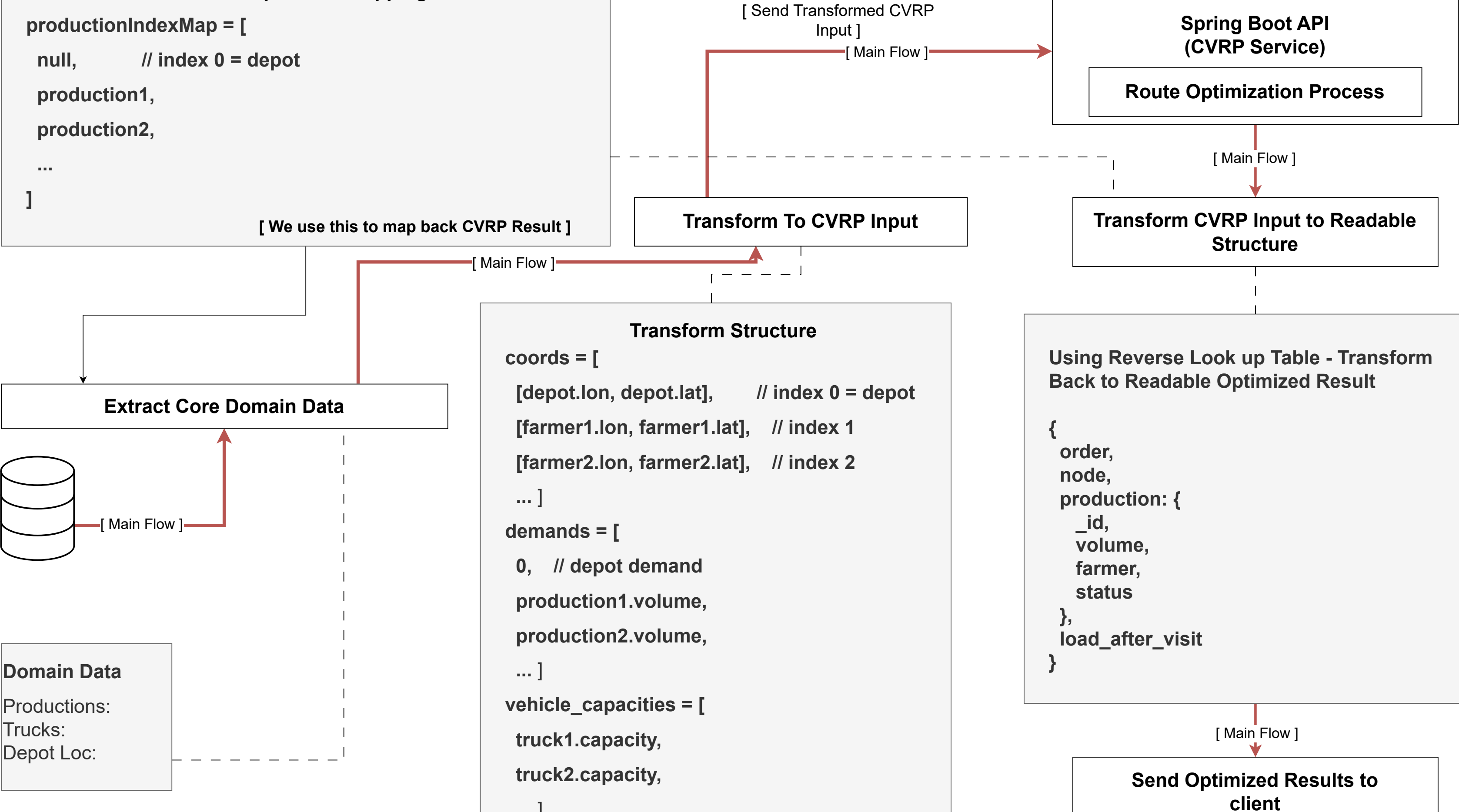


Domain Data

Productions:
Trucks:
Depot Loc:

Transform Structure

```
coords = [
  [depot.lon, depot.lat],    // index 0 = depot
  [farmer1.lon, farmer1.lat], // index 1
  [farmer2.lon, farmer2.lat], // index 2
  ... ]
demands = [
  0, // depot demand
  production1.volume,
  production2.volume,
  ... ]
vehicle_capacities = [
  truck1.capacity,
  truck2.capacity,
  ... ]
```



Config Module - System Architecture

