Port Management System (PMS) – ER Diagram

users
- id (PK)
- full_name
- email (UNIQUE)
- phone
- organization
- department
- user_type (enum)
- status (enum)
- password_hash
- approved_by (FK→users.id)
- created_at

vessels
- id (PK)
- name
- imo_no
- shipping_company_id (FK→partners.id)
- eta
- etd
- status (enum)

containers
- id (PK)
- container_no (UNIQUE)
- type
- size_ft
- weight_kg
- owner_partner_id (FK→partners.id)
- vessel_id (FK→vessels.id, null)

partners
- id (PK)
- partner_type (enum)
- company_name
- tax_id
- trade_license
- contact_name
- contact_email
- phone
- website
- address, city, country

berths
- id (PK)
- code
- max_length_m
- max_draft_m
- status (enum)

cargo_manifests
- id (PK)
- vessel_id (FK→vessels.id)
- submitted_by (FK→users.id)
- submitted_at

yard_locations
- id (PK)
- code (UNIQUE)
- zone
- capacity_teu

berth_allocations
- id (PK)
- vessel_id (FK→vessels.id)
- berth_id (FK→berths.id)
- start_time
- end_time
- status (enum)
- approved_by (FK→users.id)

manifest_items
- id (PK)
- manifest_id (FK→cargo_manifests.id)
- container_id (FK→containers.id)
- hs_code
- gross_weight_kg
- description

container_storage
- id (PK)
- container_id (FK→containers.id)
- yard_location_id (FK→yard_locations.id)
- in_time
- out_time
- status (enum)

transport_assignments
- id (PK)
- container_id (FK→containers.id)
- mode (enum: truck/train/river)
- vehicle_ref
- pickup_time
- drop_time
- assigned_to_partner_id (FK→partners.id)
- status (enum)

customs_clearances
- id (PK)
- container_id (FK→containers.id)
- status (enum)
- reference_no
- updated_at

invoice_items
- id (PK)
- invoice_id (FK→invoices.id)
- service_type (enum)
- qty
- amount
- notes

notifications
- id (PK)
- user_id (FK→users.id)
- type
- message
- created_at
- read_at

gate_events
- id (PK)
- container_id (FK→containers.id)
- direction (enum in/out)
- vehicle_no
- at_time
- gate_id

invoices
- id (PK)
- bill_to_partner_id (FK→partners.id)
- issued_by (FK→users.id)
- total_amount
- currency
- due_date
- status (enum)