

Database Schema Documentation: spinterdb

This document provides a detailed overview of the table structures and data examples from the provided SQL file.

Table: Barge

Stores detailed information about the barges used for transport.

Structure:

- **Id:** varchar(255) - The primary key and unique identifier for each barge.
- **Name:** varchar(255) - The name of the barge.
- **Weight:** float - The weight of the barge itself in tons.
- **Capacity:** float - The cargo capacity of the barge in tons.
- **WaterStatus:** enum('SEA','RIVER') - Indicates if the barge is currently in a 'SEA' or 'RIVER' environment.
- **StationId:** varchar(255) - Foreign key referencing the Station table, indicating the barge's current location.
- **SetupTime:** float - The time in minutes required to prepare the barge for a job.
- **ReadyDatetime:** datetime - The timestamp when the barge will be free for the next assignment.

Example Data:

- **Id:** 'B_001'
- **Name:** 'AST 2'
- **Weight:** 400
- **Capacity:** 1200
- **WaterStatus:** 'SEA'
- **StationId:** 'ST_002'
- **SetupTime:** 20
- **ReadyDatetime:** '2025-01-01 08:00:00'

Table: Carrier

Contains information about the main cargo vessels (mother ships).

Structure:

- **Id:** varchar(255) - The primary key for the carrier.
- **Name:** varchar(255) - The unique name of the carrier.
- **MaxCapacity:** int - The maximum cargo capacity in tons.
- **Holder:** varchar(255) - The name of the company that owns the carrier.

- **NumberOfBulks:** int - The number of separate cargo holds on the ship.
- **MaxCrane:** int - The maximum number of cranes available on the vessel.

Example Data:

- **Id:** 'SHP_001'
- **Name:** 'M.V. AC HONGKONG'
- **MaxCapacity:** 25000
- **Holder:** 'NA'
- **NumberOfBulks:** 5
- **MaxCrane:** 6

Table: Cost

Logs cost-related data for transport orders. *No sample data was provided for this table.*

Structure:

- **TugboatId:** varchar(255) - The ID of the tugboat used for the order.
- **OrderId:** varchar(255) - The ID of the associated order.
- **Time:** float - The time taken for the job.
- **Distance:** float - The distance traveled.
- **ConsumptionRate:** float - The rate of fuel consumption.
- **Cost:** float - The total cost of the operation.
- **TotalLoad:** float - The total weight of the cargo moved.

Table: Customer

Stores information about the clients.

Structure:

- **Id:** varchar(255) - The primary key for the customer.
- **Name:** varchar(255) - The customer's name.
- **Email:** varchar(255) - The customer's email address.
- **Address:** varchar(250) - The customer's physical address.
- **stationId:** varchar(255) - Foreign key referencing the Station associated with the customer.

Example Data:

- **Id:** 'Cust_001'
- **Name:** 'customer01'
- **Email:** 'customer01@gmail.com'

- **Address:** 'Address customer01'
- **stationId:** 'ST_007'

Table: Order

Contains all details for a specific import or export order.

Structure:

- **Id:** varchar(255) - The primary key for the order.
- **Type:** enum('IMPORT','EXPORT') - Specifies the order type.
- **FromEntityId:** varchar(255) - The ID of the origin entity (e.g., a Carrier).
- **DestEntityId:** varchar(255) - The ID of the destination entity.
- **StartStationId:** varchar(255) - The starting station for the transport.
- **DestStationId:** varchar(255) - The final destination station.
- **ProductName:** varchar(255) - The name of the product.
- **Demand:** float - The quantity of the product required.
- **StartDateTime:** datetime - The scheduled start time.
- **DueDateTime:** datetime - The deadline for completion.
- **LoadingRate:** float - The rate of loading/unloading.
- **CR1 - CR9:** float - Nine columns for crane rates or similar metrics.
- **TimeReadyCR1 - TimeReadyCR9:** float - Nine columns for crane readiness times.

Example Data:

- **Id:** 'ODR_001'
- **Type:** 'IMPORT'
- **FromEntityId:** 'SHP_059'
- **DestEntityId:** 'ST_032'
- **StartStationId:** 'ST_001'
- **DestStationId:** 'ST_046'
- **ProductName:** 'ปุ๋ย' (Fertilizer)
- **Demand:** 16000
- **StartDateTime:** '2025-01-13 09:29:00'
- **DueDateTime:** '2025-01-23 09:29:00'

Table: Schedule

A log for all scheduled transport operations and movements. *No sample data was provided for this table.*

Structure:

- **fake_id**: int - Auto-incrementing primary key.
- **ID**: varchar(255) - An identifier for the schedule entry.
- **type**: varchar(255) - The type of event (e.g., 'Barge Collection').
- **name**: varchar(255) - A name associated with the event.
- **enter_datetime**: datetime - The start time of the event.
- **exit_datetime**: datetime - The end time of the event.
- ...and other fields for tracking distance, time, speed, load, and associated IDs.

Table: Station

Defines all physical locations in the logistics network.

Structure:

- **Id**: varchar(255) - The primary key for the station.
- **Name**: varchar(255) - The name of the station.
- **Type**: enum('SEA','RIVER') - The type of waterway the station is on.
- **Latitude**: float - The geographic latitude of the station.
- **Longitude**: float - The geographic longitude of the station.
- **DistanceKm**: float - The distance in kilometers from a reference point.
- **StationType**: varchar(255) - The function of the station (e.g., 'Customer', 'Park Point').

Example Data:

- **Id**: 'ST_001'
- **Name**: '1-Koh Si Chang'
- **Type**: 'SEA'
- **Latitude**: 13.1885
- **Longitude**: 100.815
- **DistanceKm**: 39
- **StationType**: 'Customer'

Table: Tugboat

Stores data for the tugboats used to pull barges.

Structure:

- **Id**: varchar(255) - The primary key for the tugboat.
- **Name**: varchar(255) - The name of the tugboat.
- **MaxCapacity**: int - The maximum weight (in tons) the tugboat can pull.
- **MaxBarge**: int - The maximum number of barges it can pull at once.
- **MaxFuelCon**: float - The maximum fuel consumption rate.

- **Type:** enum('SEA','RIVER') - The designated operational area.
- **MinSpeed / MaxSpeed:** float - The operating speed range.
- **EngineRpm / HorsePower:** float - Engine performance specifications.
- **WaterStatus:** enum('SEA','RIVER') - The current water type location.
- **ReadyDateTime:** datetime - The timestamp when the tugboat is next available.
- **StationId:** varchar(255) - The foreign key for the tugboat's current station.

Example Data:

- **Id:** 'RiverTB_01'
- **Name:** 'RiverTB_01_[K01]'
- **MaxCapacity:** 11000
- **MaxBarge:** 4
- **MaxFuelCon:** 50
- **Type:** 'RIVER'
- **MinSpeed:** 4
- **MaxSpeed:** 12
- **ReadyDateTime:** '2025-01-01 08:00:00'
- **StationId:** 'ST_051'