

Customer table

- Kept id as customer_id (PK).
- Created company_short_name by removing "Company".
- Built full_name from first + last names.
- Defaulted missing emails to unknown@northwind.com.
- Phones: kept as-is, but if home or mobile is null → replaced with business phone.
- Corrected city: "Los Angelas" → "Los Angeles" (it was the only wrong) .
- Added state_name (full name from state code).
- Standardized country: always United States (US).
- Defaulted empty notes → "There are no notes".
- Defaulted empty attachments → "There are no attachments".
- Added audit fields: record_start_date (load date), record_end_date (null) (SCD Type 1).

Employee_Privileges table

- Created table Clean_Northwind.employee_privileges with PK (employee_id, privilege_id).
- Added audit fields: record_start_date = current date, record_end_date = NULL (SCD Type 2).
- Ensured uniqueness of employee–privilege pairs.

Employees table

- Removed duplicated URLs in web page field.
- Filled missing phones with business number.
- Added full name for convenience.
- Defaulted missing emails, notes, attachments.
- SCD Type 2 ready with record_start_date and record_end_date.

Inventory_transaction_types table

- Directly copied type_name (already standardized).
- Added audit columns (record_start_date, record_end_date).
- Type 1 SCD

Northwind_inventory_transactions table

- Added both transaction_type_id (numeric key) and transaction_type_name (descriptive label) by joining with the transaction type dimension.
- Standardized comments: replaced NULL/empty values with "No comments".
- Kept foreign keys (purchase_order_id, customer_order_id) as-is, allowing joins to **Orders/Purchase**

Northwind_Invoices table

- Created a clean table with invoice_id as the primary key.
- Replaced missing due_date with invoice_date + 30 days.
- Used COALESCE to ensure tax, shipping, and amount_due are not NULL.
- Kept amount_due as provided (0 for now), but it can later be calculated from order details.

order_details_status table

- SCD Type 2 tracking.

Order Details Table

- Set quantity ≤ 0 to NULL.
- Filled missing unit_price $\rightarrow 0.0000$.
- Filled missing discount $\rightarrow 0.00$.
- Kept NULLs in purchase_order_id and inventory_id.

Orders Table

- Replaced NULL numeric values $\rightarrow 0.0000$ (shipping_fee, taxes, tax_rate).
- Filled empty notes \rightarrow "No notes".
- Standardized payment_type \rightarrow Check, Credit Card, Other.
- Corrected city typos \rightarrow e.g., "Los Angelas" \rightarrow "Los Angeles".
- Trimmed spaces & uppercased state/country codes.
- Replaced missing foreign keys $\rightarrow 0$.
- Added SCD Type 2 columns \rightarrow record_start_date, record_end_date.

orders_status table , orders_tax_status table& privileges table no change

Products table

- Replaced NULL descriptions with 'No description'.
- Ensured numeric columns (cost, price, levels) have valid default values.
- Standardized quantity_per_unit and attachments for missing data.

Purchase Order Details Table

- Set quantity $\leq 0 \rightarrow$ NULL.
- Filled missing unit_cost $\rightarrow 0.00$.
- Replaced missing date_received \rightarrow '1111-11-11'.
- Filled missing posted_to_inventory and inventory_id $\rightarrow 0$.
- Added SCD Type 2 columns \rightarrow record_start_date, record_end_date.

Purchase Order Status Table no changes

Purchase Orders Table

- Set NULL numeric values $\rightarrow 0.0000$ (shipping_fee, taxes, payment_amount).
- Fill missing payment_method \rightarrow "Other".
- Fill missing notes \rightarrow "No notes".
- Fill missing foreign keys (supplier_id, created_by, approved_by, submitted_by) $\rightarrow 0$.
- Standardize status_id using purchase_order_status reference table.
- Handle submitted_date, creation_date, expected_date, approved_date, payment_date \rightarrow if NULL set to '1111-11-11'.
- Add SCD Type 2 columns \rightarrow record_start_date, record_end_date.

shippers table

- Replace NULL text fields (last_name, first_name, email_address, job_title, web_page, notes) → 'Unknown' or 'No info'.
- Replace NULL phone fields (business_phone, home_phone, mobile_phone, fax_number) → '000-000-0000'.
- Replace NULL address fields (address, city, state_province, zip_postal_code, country_region) → 'Unknown'.
- Trim spaces from text fields and capitalize city/state/country codes.
- Replace NULL attachments with no attach.

strings table

- Replace NULL string_data → 'No message' (if any exist).

suppliers table

- Replace NULL textual columns (email_address, business_phone, home_phone, mobile_phone, fax_number, address, city, state_province, zip_postal_code, country_region, web_page, notes) → 'Unknown'.
- Trim spaces from all string columns.
- Replace NULL attachments with no attach.

Suppliers Table Cleaning Report

- Email: Replaced NULL or empty values → 'unknown@northwind.com'.
- Phone numbers (business_phone, home_phone, mobile_phone, fax_number): Replaced NULL or empty → '000-000-0000'.
- Address, city, state, zip, country: Replaced NULL or empty → 'Unknown address', 'Unknown city', 'Unknown', 'Unknown', 'Unknown region' respectively.
- Web Page: Replaced NULL or empty → 'no content'.
- Notes: Replaced NULL or empty → 'there is no notes'.
- Attachments: Replaced NULL or empty → 'No attach'.
- Trimmed all string columns to remove leading/trailing spaces.

NOTE :I haven't transfer sales_reports tables from statging .