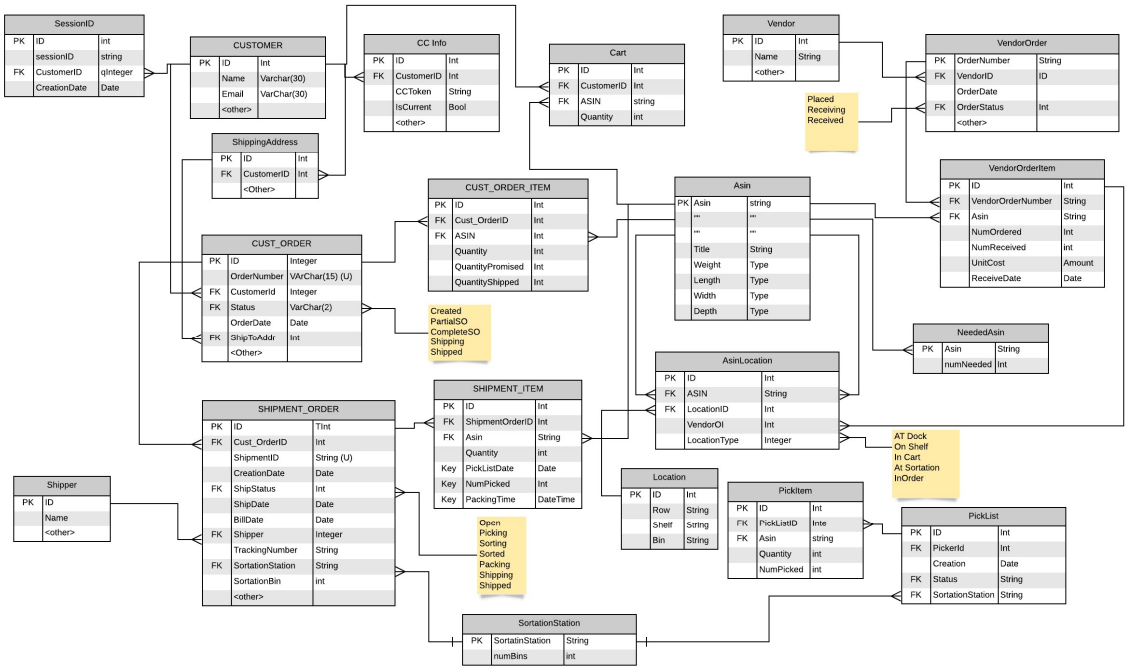
Project #5
Amazon Database Partitioning / replication

Purpose of project.
Give you more practice in partitioning databases. Consider replication as a strategy.

Given the Amazon Database Schema we looked at in class.
(Available at
https://app.lucidchart.com/invitations/accept/88465827-9fe9-48fd-99f8-74998c417d52)



Determine how you would split up the database to reduce load on ACB (The main database) and create a DB that handles Fulfillment Center operations only.

There are two reasons for this. One is load on ACB. The other is that we plan to open Fulfillment Centers around the country and the latency of going to ACB is too great (IE Seattle to Philadelphia).

Opening multiple around the country is a follow on activity. Do not worry about it for this project.

For this project I want you to use database replication to move the necessary data from one system to the other.

Work though each use case presented in class, and make sure it is clear how these can work in your new, distributed system where each use case can access one and only one database.

Note – you are not creating services for this project, simply splitting up the schema into appropriate chunks, and determining how you can move the appropriate data between databases.

What I expect to see:
Schema Design.

- I want to see a notation on the provides schema showing which tables will live only on ACB, which tables will live only on FCDB which table will be on both.
- (Earlier versions of this doc asked for two schemas. One for ACB one for FCDB. Those are now optinal.)

A definition of the database replication you will need to make all of the use cases work.

- List each table that needs replication. (IE tables that live on both databases)
- For each table:
    - Identify the DB that will insert data into the new table. (The primary database)
    - For any columns in the table that are modifiable from the secondary database, list them. By default any columns listed as modifiable by the secondary DB should not be modified by the primary DB.
    - If a column can be modified by the primary or secondary DB – explain what each DB can modify, under what circumstances

For each use case listed below (From our class slides) – state which DB and tables you will be using to satisfy the use case.

- Customer logging on
- Searching for and putting items in Cart
- Creating the Customer Order
- Creating the Shipment Order
- Creating a Pick List
- Assembling the Order
- Shipping the Order
- Deciding what to buy
- Ordering items for the Fulfillment Center
- Receiving inventory into the FC and putting it on shelves
- Browse my orders

As in project #4 you will post a brief summary of your approach for class review in the discussion board, and each student will review the projects of the group just ahead and just behind their number.