



Comments:

- 1) CATEGORIES is a tree table. I have thought a lot and decided to implement categories hierarchy. It corresponds better to the realistic case and allows dividing products to smaller groups, which is more convenient and fast from the search point of view. So I didn't implement products search-all, instead there is loadAllByCategory.
- 2) I only created following indices: Product(brand) and ProductFeature(key, value) as potentially needed for searches by criteria. Though actually index for Product(name) is the most important for application, I think. But search by name is not trivial at all in internet shops. Because usual index won't work with checking for arbitrary substring in name column. It could be more specific fulltext index or maybe name column should have additionally be splitted to words to store in dedicated table with B-tree index.
- 3) I separated so-called ProductSamples for cases when we have variation of the same product. The most true case is different sizes of shoes & clothes. It means they share the same features, photos, reviews with the product model. There is no need to write review for M size and L size of the same product etc. If product has more than one variation -- they considered two different models. Such as red T-shirt and green T-shirt of the same fashion. So in most cases product Sample variationProp will be size or volume or weight. But I didn't name this field size. Other variations also may exist. Also such data model doesn't prevent shop app from presentation logical samples of the same product as two different models (with one-to-one sample relation in fact). But I don't find convenient such examples.
- 4) I introduced Reservation Entity mostly to finalize the flows in shop app. But I didn't work it out much. There are many features to consider with Reservations. They may have associations payment forms, delivery details, registered users of the app etc. Current reservation entity is just like user will come personally to stock and will pay with cash on site. Also I didn't think should reservation change its status after purchase is committed. Or it can be removed from db and instead some other history record may be created. I believe it is out of scope.