

# Task description

## Product Catalog

We would like to design an application where all fashion products are stored. This catalog should be the single point of reference regarding products in the whole company (for marketing, logistics, marketplaces, pricing, etc.)

The product catalog contains, besides the products, a list of mandatory attributes for every product so that all consumers are aware of which attributes a product must have. e.g. Shoes might have other attributes than shirts.

### Functional requirements:

- Products can be added/changed/removed
- Mandatory attributes can be added/changed/removed from products
- Application must provide an interface where consumers can fetch products

### Non functional requirements:

- Application should be able to deal with more than 10mio products + attributes
- Highly available
- Scalable to 50mio products + attributes
- Changes to products/attributes must be communicated in realtime to consumers

### What is expected:

- Visualized high level design
- Visualized model relationships
- Preferred technologies (and reasons for choice)
- Preferred software project architecture and **base skeleton** with programming languages of your choice. Please provide a framework agnostic approach.

**IMPORTANT:** Please do not take longer than 3 hours for this challenge. We do not expect you to send us a „finished“ solution within this time. Please decide for yourself on what you put your priority.

Thank you for taking this challenge. We're looking forward to your solution.