**How do you use JavaEE/Tomcat?**

I used Java (Tomcat server) to build a few servlets. The first one is a SearchItems api that provides the functionality to search around, The second one is a POST servlet that allows a user to set or unset their favorite records. The last one is a GET servlet that recommends similar items to the user.

### What’s the RESTful API and what’s the benefit of REST?

Resource representational state transfer  = REST

RESTful API Satisfies the following three requirements:

* Using HTTP methods to indicate what kind of operation a client wants to take.
* Using HTTP url to indicate which service and data a client want to use and what kind of data they request.
* Every request is separated, there is no support for doing one post request in several post requests, or doing a delete in a pair of get and post requests.

Benefits of REST

* Operations are directly based on HTTP methods, so that server don’t need to parse extra thing
* URL clearly indicates which resource a client want, easy for client side users to understand.
* Server is running in stateless mode, improve scalability.

### What’s builder pattern and why/how do you use builder pattern?

Builder pattern has a nested static builder class to build the object step-by-step and provide a method that will actually return the object. Builder pattern is to deal with constructors that require too many parameters. Also it can make sure the object is immutable. For example, in our project, our Item class has many different attributes and thus we use builder pattern.

### What’s factory pattern and why/how do you use factory pattern?

Factory pattern is a creational pattern for creating objects without having to specify the exact class of object that will be created. It allows us to easily support multiple implementations from the same interface. We used this pattern to build a DBconnection in our project such that it can build either MongoDB Connection or MySQL Connection on the fly.

### What’s polymorphism and how do you use polymorphism in your project?

Polymorphism is the ability of an object to take on many forms. The most common use of polymorphism in OOP occurs when a parent class reference is used to refer to a child class object. We use polymorphism to provide better extensibility. For example, we needed to migrate from MySQL to MongoDB and we defined an interface for a DBConnection and two implementation of MySQL and MongoDB.

### Why do you use MySQL/MongoDB?

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I used MySQL first and then I would like to improve the scaling and then I used MongoDB.

**What’s the difference between (Content-based, User-based, Item-based) recommendation?**

Content based is to recommend items to users with similar attributes of item like price, category etc. User based calculates the similarity of users based on their behaviour, not on their attributes. Users are similar because they take the same action to the same items. Item based is similar to user based but based on similarity of items, and the similarity calculation is also based on user behaviour.