gogroceries.com

```
Categories
|-pulses
|-vegetables
|-fruits
|-kitchen appl
|-oils
```

grocerieshome.jsp

```java
@WebServlet(urlPatterns={"/getProducts"})
class GetProductsByCategoryServlet extends
HttpServlet {
    public void service(httpReq, httpResp) {
        List<Product> products = null;
        ProductDao productDao = new ProductDao();
        String category =
httpReq.getParameter("cateory");
        products =
productDao.getProducts(category);
        httpReq.setAttribute("products", products);
        httpReq.getRequestDispatcher("/
products.jsp").forward(httpReq, httpResp);
    }
}
```

```java
class ProductDao {
    List<Product> getProducts(String category) {
        Connection con = null;
        PreparedStatement pstmt = null;
        ResultSet rs = null;
        List<Product> products = null;

        try {
            Class.forName("com.mysql.cj.jdbc.Driver");
            con = DriverManager.getConnection(url, un, pwd);
            pstmt = con.preparedStatement("select * from product where
category_nm = ? order by product_nm asc LIMIT 0 and 10");
            pstmt.setString(1, category);
            rs = pstmt.executeQuery();
            products = new ArrayList();
            while(rs.next()) {
                product = new Product();
                // wrap the resultset into product object
                products.add(product);
            }
        }catch(SqlException | ClassNotFoundException e) {
            e.printStackTrace();
        }finally {
            //close all the resources
        }
        return products;
    }
}
```

products.jsp

```
brinjal
potato
onions
curry leaf
cabbage
lady finger
tomato
spinach
carrot
corriender
radish
```

if we take the above usecase, for each category the list of products that are returned from the database would be typically same in an groceries application. Here every time when a request comes our application goes to the database tables in quering the products information based on the category that results in same data always, this leads to lot of problems
1. the roundtrips between the application and the database would be high in repeatedly executing the same query for fetching the same data, due to which the network congession will increase
2. the bandwidth consumption in transferring the same data will be high
3. unnecessary overhead on the database in repeatedly executing the same query in fetchin the same data will be more.
From the above we can understand, the performance of the application is degraded unnecessarily in re-quering and accessing the same data.

To avoid this we need Caching.