Trendyol Link Converter Backend Applicant Test

Task Description

You should implement a web service that helps others to convert Trendyol.com links between mobile and web applications. Web applications use URLs and mobile applications use deeplinks. Both applications use links to redirect specific locations inside applications. When you want to redirect across applications, you should convert URLs to deeplinks or deeplinks to URLs.

A quick example for URL and deeplink:
Web URL: https://www.trendyol.com/butik/liste/erkek
Equivalent deeplink: ty://?Page=Home&SectionId=2

You can use the following technologies:
* Java 1.8 or greater, NodeJS, Go, NET Core or Kotlin for programming language
* Use well-known frameworks
* Postgresql, Mysql, Couchbase, Redis or Elasticsearch for data storage

You should be aware of the following conventions while you are working on this exercise:

- Publish a running project
- The project is divided into three tasks, commit each task separately as you work at different times
- Apply SOLID and OOP principles
- Document your project for a developer
- Handle exceptions for resilient web service
- Test Driven Development is a good choice, but it's up to you how you are testing your code.
- Nice to have: Dockerize your project

You should commit to a local git repository and include the git repository (.git/) in the upload.

NOTE: Please DO NOT publish the project on Github, Gitlab, etc. We will provide a private gitlab repository for you and we expect you to push your changes to that private repository or send your workspace folder as compressed.

Task 1 (Initialize a web service)

Start a new web service project and initialize it. It should be ready to be run.

Task 2 (Web URL to Deeplink)

Write an endpoint that converts web URLs to deeplinks.

- The endpoint should get a web URL and return a converted deeplink.
- You must store each request and response in persistent storage.
- You should design your table columns/document fields

1. Product Detail Page

Every product in Trendyol has multiple product detail page URLs.

https://www.trendyol.com/{BrandName-or-CategoryName}/{ProductName}-p-{ContentId}?boutiqueId={BoutiqueId}&merchantId={MerchantId}

- Product detail page URL must contain "-p-" text.
- Product detail page URLs must contain contentId which is located after "-p-" prefix.
- URL can contain boutiqueId and merchantId.
- If URL doesn't contain boutiqueId, you shouldn't add CampaignId to deeplink
- If URL doesn't contain merchantId, you shouldn't add MerchantId to deeplink
- Deeplink and Web URL have differences on CampaignId and boutiqueId. Deeplinks have CampaignId, web URLs have boutiqueId.

2. Search Page

Search page URL must be converted to valid deeplinks.

- Search pages path must start with "/sr"
- "q" query parameters must be converted to Query deeplink parameter.
- Be careful with Turkish characters

3. Other pages

Other pages, which are not filtered as a search page or product detail page, must be converted as empty homepage deeplink.

request	response
https://www.trendyol.com/casio/saat-p-1925865?boutiqueId=439892&merchantId=105064	ty://?Page=Product&ContentId=1925865&CampaignId=439892&MerchantId=105064
https://www.trendyol.com/casio/erkek-kol-saati-p-1925865	ty://?Page=Product&ContentId=1925865
https://www.trendyol.com/casio/erkek-kol-saati-p-1925865?boutiqueId=439892	ty://?Page=Product&ContentId=1925865&CampaignId=439892
https://www.trendyol.com/casio/erkek-kol-saati-p-1925865?merchantId=105064	ty://?Page=Product&ContentId=1925865&MerchantId=105064

https://www.trendyol.com/sr?q=elbise	ty://?Page=Search&Query=elbise
https://www.trendyol.com/sr?q=%C3%BCt%C3%BC	ty://?Page=Search&Query=%C3%BCt%C3%BC
https://www.trendyol.com/Hesabim/Favoriler	ty://?Page=Home
https://www.trendyol.com/Hesabim/#/Siparislerim	ty://?Page=Home

Task 3 (Deeplink to Web URL)

Write an endpoint which converts deeplink to web URLs. The endpoint should get a web URL and return a converted deeplink.

- You will use rules which are explained in Task 2.
- You must store these requests and responses in persistent storage.
- You should design your table columns/document fields

request	response
ty://?Page=Product&ContentId=1925865&CampaignId=439892&MerchantId=105064	https://www.trendyol.com/brand/name-p-1925865?boutiqueId=439892&merchantId=105064
ty://?Page=Product&ContentId=1925865	https://www.trendyol.com/brand/name-p-1925865
ty://?Page=Product&ContentId=1925865&CampaignId=439892	https://www.trendyol.com/brand/name-p-1925865?boutiqueId=439892
ty://?Page=Product&ContentId=1925865&MerchantId=105064	https://www.trendyol.com/brand/namei-p-1925865?merchantId=105064
ty://?Page=Search&Query=elbise	https://www.trendyol.com/sr?q=elbise
ty://?Page=Search&Query=%C3%BCt%C3%BC	https://www.trendyol.com/sr?q=%C3%BCt%C3%BC
ty://?Page=Favorites	https://www.trendyol.com
ty://?Page=Orders	https://www.trendyol.com