



TRANSFORM-ER



The Problem

01

Multiple organizations use different formats for transfer of data

02

Need to define a proper tool for the transformation of data to be used between various organizations

03

Therefore we are going to make a tool which will transform our data from source format to a target format by using a predefined mapping



Our Solution



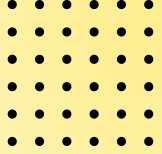
We created a two part application that helps solve the problem



The user provides us with a CSV mapping according to which a code is autogenerated to transform json objects from one format to another

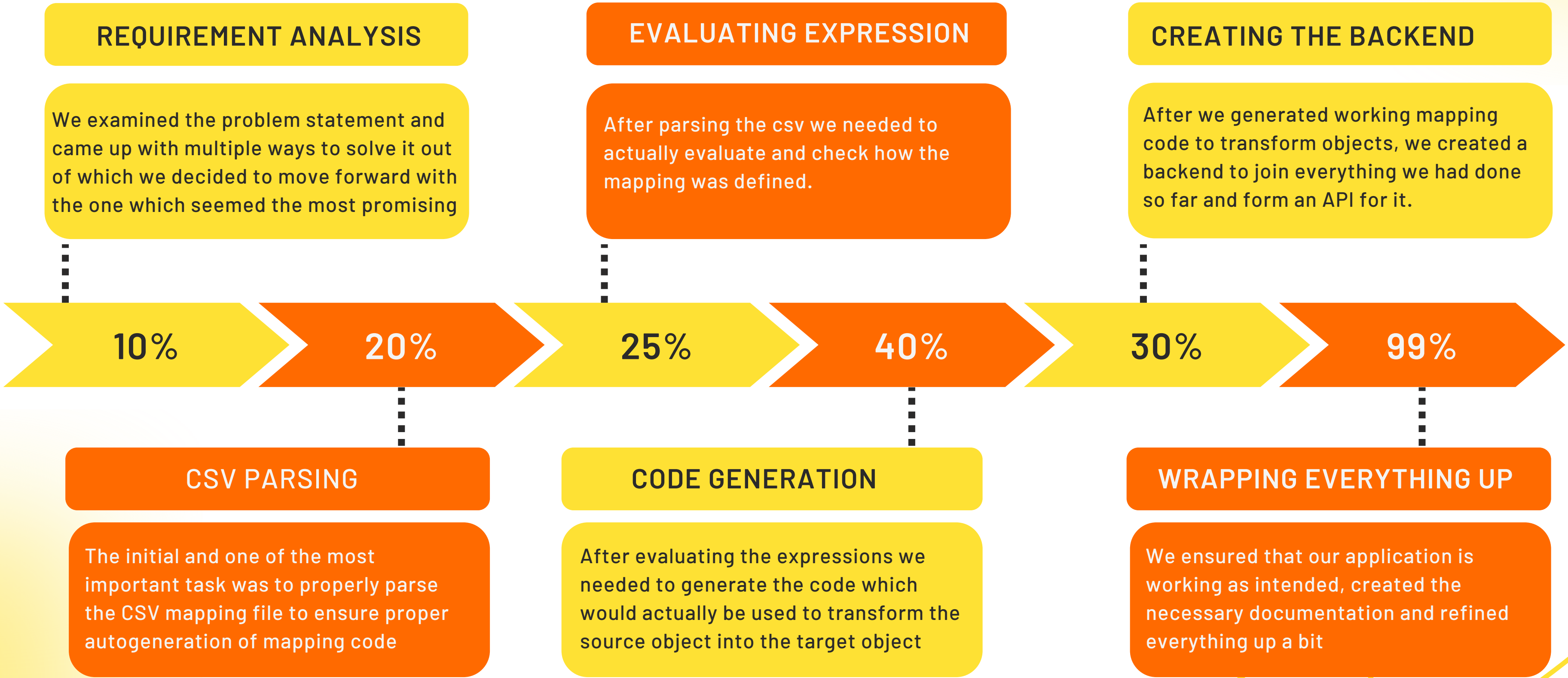


Using this auto-generated code, any source object following the specified format in the mapping can be easily converted to the target object



MILESTONES

Creating a Framework Timeline





We Present



Tranform-er



How it works



Provide a valid mapping in a csv format and a name for the mapping



Code will be autogenerated using the mapping file for transformation of source objects following the mapping



Source objects following a specific mapping format can be easily transformed by passing the source and the mapping name



Tech Used



Python used for initial csv parsing



Transformation Mapping Code generated in NodeJs using python



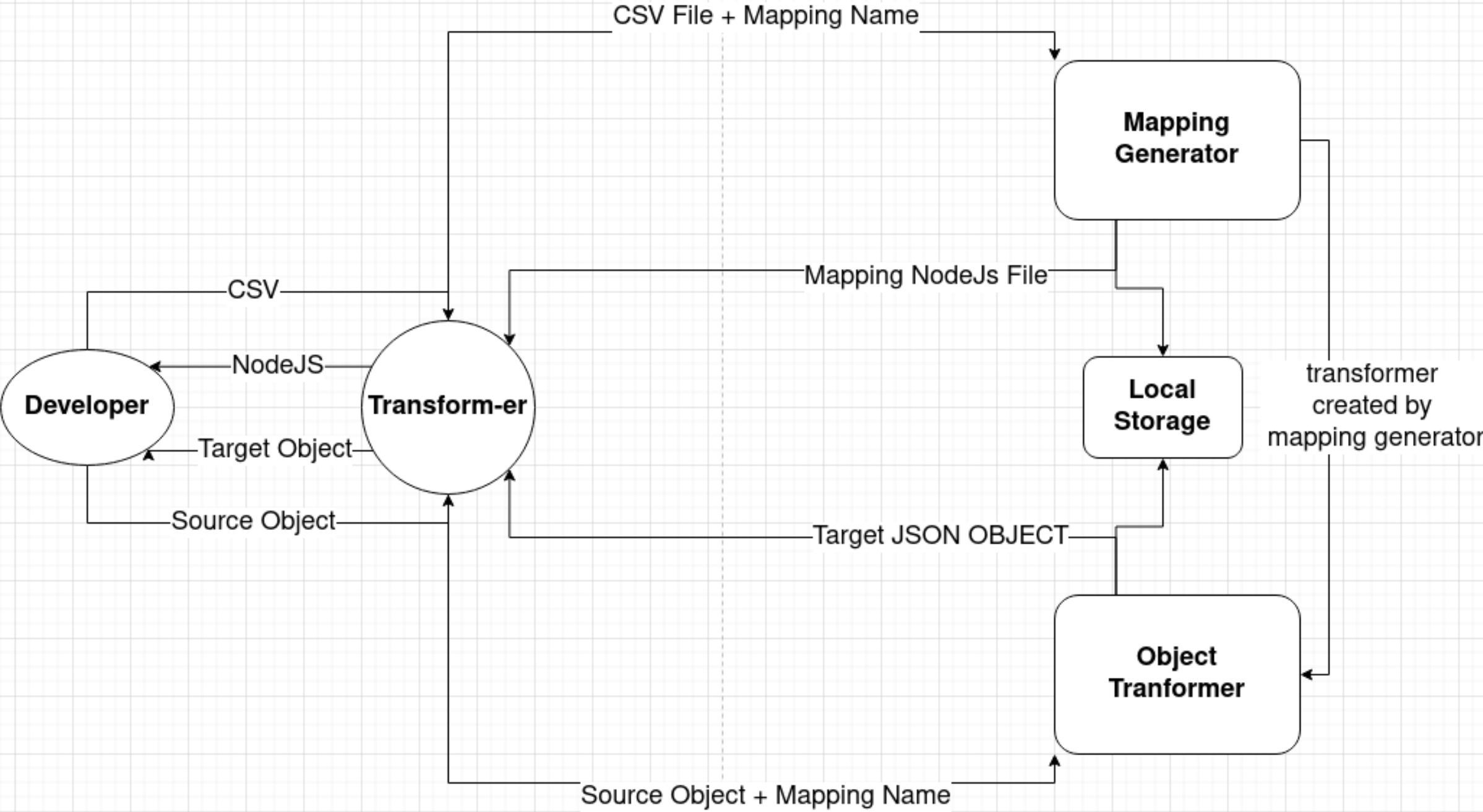
Backend application created in Flask which integrated the code generation and transformation



Testing and verification of the working of application done using POSTMAN



APP FLOW





Automation of code

Deliverables

**Quick and easy
transformation.**

Accurate Results





Sample mappingGeneration request



Transform-er

POST http://127.0.0.1:5000/🔴

POST http://127.0.0.1:5000/🔴

+

...

🦾

http://127.0.0.1:5000/generateMapping

Save

▼

✎

💬

</>

POST

▼

http://127.0.0.1:5000/generateMapping

Send

▼

💡

ParamsAuthorizationHeaders (8)Body●Pre-request ScriptTestsSettingsCookies

● none● form-data● x-www-form-urlencoded● raw● binary● GraphQL

	KEY	VALUE	DESCRIPTION	...	Bulk Edit
<input checked="" type="checkbox"/>	files	mapping.csv ✕			
<input checked="" type="checkbox"/>	args	morningTest			
	Key	Value	Description		

→ Mapping file
→ NodeJs File Name

BodyCookiesHeaders (9)Test Results

🌐 Status: 200 OK Time: 14 ms Size: 1.22 KB Save Response ▼

PrettyRawPreviewVisualizeText▼☰

```
1 source=require("../uploads/source.json");
2 data={"source": source};
3 res={}
4 SSN = {"NA": "1","EU" : 2,"AS": 3," AF": 4};
5 CustomerProfession = {"self-employed": "SELF","salaried": "FIXED INCOME"," other": "MISC"};
6 res.SSN = SSN[source.region]+"-"+source.id;
7 res.CustomerFullName = source.firstName+' '+source.lastName;
8 res.CustomerAddress = source.address.street+' '+source.address.suite;
9 res.CustomerCity = source.address.city;
10 res.CustomerZipCode = source.address.zipcode;
11 res.CustomerProfession = CustomerProfession[source.occupation];
12 res.CustomerAge = source.age;
13 res.CommercialLoans= [];
14 source.loanHistory.forEach(item => {(item.isCommercial == true)?res.CommercialLoans.push(item):res.CommercialLoans.push({});});
15 console.log(res);
16 var fs = require('fs');
17 jsonData = JSON.stringify(res);
18 fs.writeFile("./results/morningTest.json", jsonData, function (err) {
19 |   if(err){
20 |     console.log(err);
21 |   }
22 | });
```

→ Mapping NodeJs File response as well as locally saved



mapping.csv

```
No.,Target, Source, Enumeration
1, SSN, ENUM(.region) + "-" + .id, {"NA": "1", "EU" : 2, "AS": 3, "AF": 4}
2, CustomerFullName, .firstName + .lastName, -
3, CustomerAddress, .address.street + .address.suite, -
4, CustomerCity, .address.city, -
5, CustomerZipCode, .address.zipcode, -
6, CustomerProfession, ENUM(.occupation), {"self-employed": "SELF", "salaried": "FIXED INCOME", "other": "MISC"}
7, CustomerAge, .age, -
8, CommercialLoans, IF(.loanHistory.item.isCommercial = true) THEN push(item) ELSE push(), -
```



Sample tranformation request



Transform-er

 http://127.0.0.1:5000/getTarget

POSThttp://127.0.0.1:5000/getTarget

Send

ParamsAuthorizationHeaders (8)BodyPre-request ScriptTestsSettingsCookies

none

form-data

x-www-form-urlencoded

raw

binary

GraphQL

	KEY	VALUE	DESCRIPTION	...	Bulk Edit
<input checked="" type="checkbox"/>	files	source.json ×	Source json file NodeJs File Name/ Mapping File Name		
<input checked="" type="checkbox"/>	args	morningTest			
	Key	Value	Description		

BodyCookiesHeaders (9)Test Results

Status: 200 OKTime: 181 msSize: 749 BSave Response

PrettyRawPreviewVisualizeJSON

```
1 {
2   "SSN": "1-122-34-6543",
3   "CustomerFullName": "Leanne Graham",
4   "CustomerAddress": "Kulas Light Apt. 556",
5   "CustomerCity": "Gwenborough",
6   "CustomerZipCode": "92998-3874",
7   "CustomerProfession": "SELF",
8   "CustomerAge": 29,
9   "CommercialLoans": [
10    {
11      "princicpal": 140000,
12      "periodInYears": "4",
13      "rateOfInterest": 12,
14      "isCommercial": true,
15      "collateral": [
16        {
17          "assetName": "condo",
18          "estimatedValues": 30000
19        },
20        {
21          "assetName": "vehicle",
22          "estimatedValues": 3000
23        }
24      ]
25    }
26  ]
27 }
```

Target.json response
,Stored Locally as welll



```
{
  "id": "122-34-6543",
  "region": "NA",
  "firstName": "Leanne",
  "lastName": "Graham",
  "address": {
    "street": "Kulas Light",
    "suite": "Apt. 556",
    "city": "Gwenborough",
    "zipcode": "92998-3874"
  },
  "occupation": "self-employed",
  "age": 29,
  "loanHistory": [
    {
      "princicpal": 40000,
      "periodInYears": "3",
      "rateOfInterest": 10,
      "collateral": [
        {
          "assetName": "property",
          "estimatedValues": 70000
        }
      ]
    },
    {
      "princicpal": 140000,
      "periodInYears": "4",
      "rateOfInterest": 12,
      "isCommercial": true,
      "collateral": [
        {
          "assetName": "condo",
          "estimatedValues": 30000
        },
        {
          "assetName": "vehicle",
          "estimatedValues": 3000
        }
      ]
    }
  ]
}
```

source.json



```
{
  "SSN": "1-122-34-6543",
  "CustomerFullName": "Leanne Graham",
  "CustomerAddress": "Kulas Light Apt. 556",
  "CustomerCity": "Gwenborough",
  "CustomerZipCode": "92998-3874",
  "CustomerProfession": "SELF",
  "CustomerAge": 29,
  "CommercialLoans": [
    {
      "principal": 140000,
      "periodInYears": "4",
      "rateOfInterest": 12,
      "isCommercial": true,
      "collateral": [
        {
          "assetName": "condo",
          "estimatedValues": 30000
        },
        {
          "assetName": "vehicle",
          "estimatedValues": 3000
        }
      ]
    }
  ]
}
```

target.json



THANK YOU