Random Key Generator (Atmospheric-Random)

Aims

This code aims to eventually be integrated with Redbacks own 2FA. This code utilised Random.Org and http dependencies to utilises Atmospheric Noise. With the aim of using a truly random number as opposed to pseudo-random code.

General Notes

Slower than the standard secure.random class (due to utilising HTTP) but much more secure.

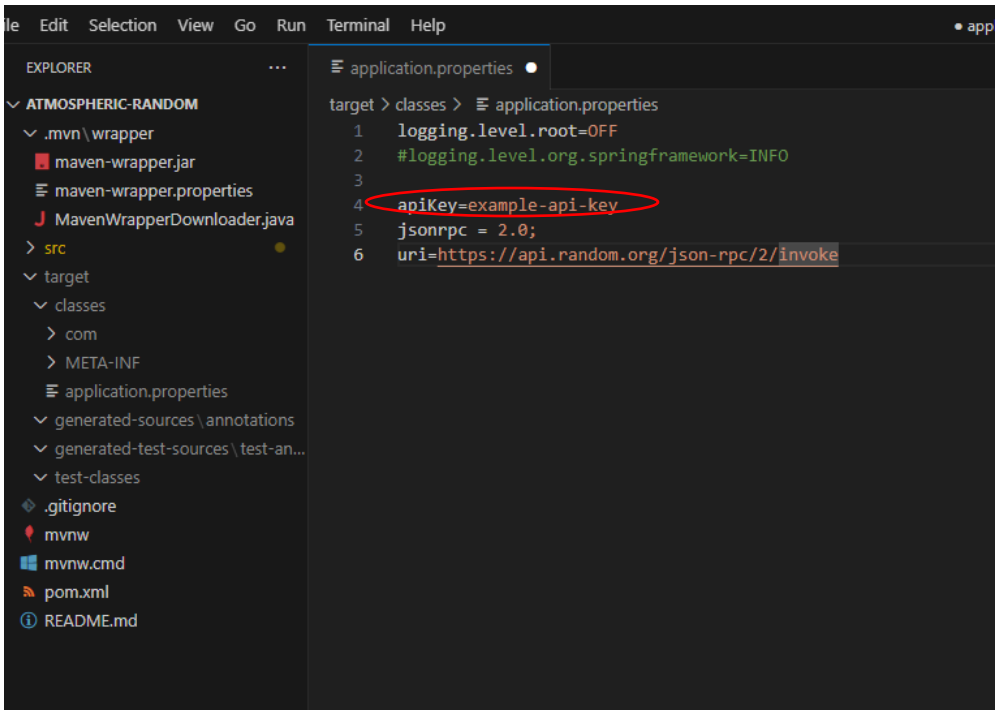
As I have low skills with Java I only ran this through vscode.

Source

This project / code is sourced from https://github.com/mvpjava/atmospheric-random and I relied upon https://www.youtube.com/watch?v=lY0zX2Td3Cg&ab_channel=MVPJava this tutorial to run and edit the program to work more suitably to Redbacks needs.

Key points

One crucial step (covered in the video tutorial from 2:10 – 3:55) is generating and modifying the api key within the application.properties file. This is essential as it authenticates to Random.Org (the site used to generate the random number based on atmospheric inputs). The section in need to be modified can be seen below.



HTTPPostFactory is where the default values for min number, max number and base can be configured.

```
You, 33 minutes ago | 2 authors (Andy Luis (MVP Java) and others)
public class HttpPostFactory {

    private final AtomicInteger idGenerator;
    private final String apiKey;
    private final String jsonRpcVersion;
    private final String uri;
    private final RandomMapper mapper;

    public static final int DEFAULT_NUM_OF_RANDOMS = 1;
    public static final int DEFAULT_MIN_RANDOM_RANGE = 1;
    public static final int DEFAULT_MAX_RANDOM_RANGE = 100000; /*modified to be 6 digits long */
    public static final boolean DEFAULT_UNIQUE_VALUES = true; /* known as repeatable */
    public static final int DEFAULT_BASE = 10; /*as it is converted in the redback 2fa config class */
```

This is what the new output looks like

```
PS C:\Users\[redacted]\OneDrive\Desktop\atmospheric-random>  c:
Local\Temp\cp_5td7fqfn99n0mxwzn5cisvq7h.argfile' 'com.mvpjava.rand

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 :: Spring Boot ::        (v2.1.3.RELEASE)


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PS C:\Users\[redacted]\OneDrive\Desktop\atmospheric-random>
```

Changes I made

You can see the various changes I made throughout my comments, but essentially I attempted to minimise the functionality to be what will be needed in redbacks. I also tried (and failed) at integrating the redbacks project with this.

Notes

The video tutorial is the best place to look for help with this code as it is indepth and points to various other resources.