



# Service Oriented Computing

Mini Project 2023

ITBNM-2110-0002 -  
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# Question 01

- Rapid API account creation and subscription web site and archived the API Key.

The screenshot shows the RapidAPI platform interface. At the top, there's a navigation bar with links for API Hub, Organizations, Apps, My APIs, and user notifications. Below the navigation, the COVID-19 Statistics API is displayed, categorized under Health and Fitness, marked as FREE. It has a popularity rating of 9.8 / 10, latency of 2,022ms, and a service level of 100%. The API details page includes sections for Endpoints, About, Tutorials, and Discussions. A note states: "Based on public data by Johns Hopkins CSSE" with a "Show more..." link. On the left, the "GET regions" endpoint is selected. The configuration panel shows the following fields:

- RapidAPI App: default-application\_8425649 (REQUIRED)
- Request URL: rapidapi.com (REQUIRED)
- Header Parameters:
  - X-RapidAPI-Key: 24ebf8320emsha4891e2023f7051p1f1dd2jsn448b3f39d444 (REQUIRED)
  - X-RapidAPI-Host: covid-19-statistics.p.rapidapi.com (REQUIRED)

On the right, there are tabs for Code Snippets and Results. The Code Snippets tab displays a PHP cURL code snippet:

```
<?php  
$curl = curl_init();  
  
curl_setopt_array($curl, [  
    CURLOPT_URL => "https://covid-19-statistics.p.rapidapi.com/regions",  
    CURLOPT_RETURNTRANSFER => true,  
    CURLOPT_ENCODING => "",  
    CURLOPT_MAXREDIRS => 10,  
    CURLOPT_TIMEOUT => 30,  
    CURLOPT_HTTP_VERSION => CURL_HTTP_VERSION_1_1,  
    CURLOPT_CUSTOMREQUEST => "GET",  
    CURLOPT_HTTPHEADER => [  
        "X-RapidAPI-Host: covid-19-statistics.p.rapidapi.com",  
        "X-RapidAPI-Key: 24ebf8320emsha4891e2023f7051p1f1dd2jsn448b3f39d444"  
    ],  
];  
  
$response = curl_exec($curl);  
$err = curl_error($curl);  
  
curl_close($curl);  
  
if ($err) {  
    echo "cURL Error #:" . $err;  
} else {  
    echo $response;  
}
```

- The PHP source code (Please Refer the “Q1 Folder”)

```

Q1.php  x
C: > xampp > htdocs > CampusDocs > Assignment_SOP_Copy > Q1 > Q1.php
1  <?php
2  $curl = curl_init();
3
4  curl_setopt_array($curl, [
5      CURLOPT_URL => "https://covid-19-statistics.p.rapidapi.com/provinces?iso=CHN",
6      CURLOPT_RETURNTRANSFER => true,
7      CURLOPT_ENCODING => "",
8      CURLOPT_MAXREDIRS => 10,
9      CURLOPT_TIMEOUT => 30,
10     CURLOPT_HTTP_VERSION => CURL_HTTP_VERSION_1_1,
11     CURLOPT_CUSTOMREQUEST => "GET",
12     CURLOPT_HTTPHEADER => [
13         "X-RapidAPI-Host: covid-19-statistics.p.rapidapi.com",
14         "X-RapidAPI-Key: 24ebf8320emsha4891e2023f7051p1f1dd2jsn448b3f39d444"
15     ],
16 ]);
17
18 $response = curl_exec($curl);
19 $err = curl_error($curl);
20
21 curl_close($curl);
22
23 if ($err) {
24     echo "cURL Error #:" . $err;
25 } else {
26     //echo $response;
27
28     $data=json_decode($response,true);
29     $arr1=$data['data'];
30
31 }
32
33 ?>
34 <html>
35     <head>

```

- HTML Document (Please Refer the “Q1 Folder”)

```
File Edit Selection View Go Run Terminal Help ⏪ ⏩ Search
Restricted Mode is intended for safe code browsing. Trust this window to enable all features. Manage Learn More
Q1.php x
C:\xampp\htdocs\Assignment_SOP_Copy>Q1> Q1.php
33 ?>
34 <html>
35     <head>
36         <title>
37             | Question 01
38         </title>
39         <link rel="stylesheet" href="bootstrap-5.0.2-dist/css/bootstrap.min.css">
40         <link rel="stylesheet" href="Q1.css">
41     </head>
42     <body>
43
44     <div class="container">
45         <div class="row">
46             <div class="col-md-3" > </div>
47             <div class="col-md-6" >
48                 <h2>Provinces in China </h2>
49                 <hr>
50                 <table class="table table-striped">
51                     <thead class="table-dark">
52                         <tr>
53                             <th>
54                                 | Province
55                             </th>
56                             <th>
57                                 | Latitude
58                             </th>
59                             <th>
60                                 | Longitude
61                             </th>
62                         </tr>
63                     </thead>
64                     <tbody class="table-primary " >
65                         <?php
66                             foreach($arr1 as $v){
67                                 $name=$v['iso'];
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97             </tbody>
</table>
</div>
</div>
</body>
</html>
```

```
File Edit Selection View Go Run Terminal Help ⏪ ⏩ Search
Restricted Mode is intended for safe code browsing. Trust this window to enable all features. Manage Learn More
Q1.php x
C:\xampp\htdocs\Assignment_SOP_Copy>Q1> Q1.php
63             <thead>
64             <tbody class="table-primary " >
65             <?php
66                 foreach($arr1 as $v){
67                     $name=$v['iso'];
68                     if($name=='CHN'){
69                         $prov=$v['province'];
70                         $lat=$v['lat'];
71                         $long=$v['long'];
72
73                         if($prov=="Unknown"){
74
75                         }else{
76
77                         ?>
78                         <tr>
79                             <td>
80                                 <?php echo $prov;?>
81                             </td>
82                             <td>
83                                 <?php echo $lat;?>
84                             </td>
85                             <td>
86                                 <?php echo $long;?>
87                             </td>
88                         </tr>
89                         <?php } }?>
90                     </tbody>
91                 </table>
92             </div>
93             <div class="col-md-3" > </div>
94
95
96
97             </body>
</html>
```

## Output

Please Refer the “Q1 Folder”

A screenshot of a web browser window displaying a table titled "Provinces in China". The table has three columns: "Province", "Latitude", and "Longitude". The data is as follows:

Province	Latitude	Longitude
Anhui	31.8257	117.2264
Beijing	40.1824	116.4142
Chongqing	30.0572	107.8740
Fujian	26.0789	117.9874
Gansu	36.0611	103.8343
Guangdong	23.3417	113.4244
Guangxi	23.8298	108.7881
Guizhou	26.8154	106.8748
Hainan	19.1959	109.7453
Hebei	38.0428	114.5149
Heilongjiang	47.8620	127.7615
Henan	33.8820	113.6140
Hong Kong	22.3000	114.2000
Hong Kong SAR	22.3	114.2
Hubei	30.9756	112.2707
Hunan	27.6104	111.7088
Inner Mongolia	44.0935	113.9448
Jiangsu	32.9711	119.4550
Jiangxi	27.6140	115.7221
Jilin	43.6661	126.1923
Liaoning	41.2956	122.6085
Macau	22.1667	113.5500
Macau SAR	22.1667	113.55
Ningxia	37.2692	106.1655
Qinghai	35.7452	95.9956

## Question 02

### Q2DisplayCont.php

The screenshot shows a code editor interface with the following details:

- File Menu:** File, Edit, Selection, View, Go, Run, Terminal, Help.
- Search Bar:** Search.
- Status Bar:** Restricted Mode is intended for safe code browsing. Trust this window to enable all features. Manage, Learn More.
- Code Area:** The main area displays a PHP script named `Q2DisplayCont.php`. The code uses the `cURL` extension to fetch data from the `restcountries.com` API. It then parses the JSON response to extract various country details such as name, flag, capital, region, subregion, currencies, and borders. The script then generates an HTML page with this information.
- Right Panel:** A sidebar panel on the right contains a tree view of the project structure, showing files like `Q2.css`, `Q2DisplayCont.php`, and `index.html`.
- Bottom Status:** Ln 35, Col 11, Spaces: 4, UTF-8, CRLF, PHP.

```
File Edit Selection View Go Run Terminal Help
Restricted Mode is intended for safe code browsing. Trust this window to enable all features. Manage Learn More
Q2DisplayCont.php x Q2.php
C:\xampp\htdocs\CampusDocs\Assignment_SOP>Q2 > Q2DisplayCont.php

1 <>php
2 $code=$_GET['q'];
3 //echo $code,<hr>;
4 $url="https://restcountries.com/v3.1/alpha/$code";
5
6 $data=file_get_contents($url);
7 $cont=json_decode($data,true);
8
9 //var_dump ($cont);
10 $name=$cont[0]['name']['official'];
11 $flag=$cont[0]['flags']['png'];
12 $capital=join(",",$cont[0]['capital']);
13 $region=$cont[0]['region'];
14 $subregion=$cont[0]['subregion'];
15
16 $currArr=array();
17 $currArr=$cont[0]['currencies'];
18
19 $cCode=$cont[0]['cca2'];
20 $pop=number_format($cont[0]['population']);
21 $area=number_format($cont[0]['area']);
22
23 $bordArr=array();
24
25 $map=$cont[0]['maps']['googleMaps'];
26
27 //My Personal API----->>> AIzaSyCUCileEjuIPXwA89f3FdINyApePFZQDyA
28
29 ?>
30 <html>
31   <head>
32     <link rel="stylesheet" href="Q2.css">
33
34   </head>
35   <body>
```

File Edit Selection View Go Run Terminal Help

Restricted Mode is intended for safe code browsing. Trust this window to enable all features. [Manage](#) [Learn More](#)

C > xampp >htdocs > CampusDocs > Assignment\_SOP > Q2 > Q2DisplayCont.php

```
Q2DisplayCont.php X Q2.php

30 <html>
31     <head>
32         <link rel="stylesheet" href="Q2.css">
33
34     </head>
35     <body>
36         <div>
37             <h2>
38                 <center>
39                     <?php echo $name;?>
40                 </center>
41             </h2>
42             <hr>
43         </div>
44
45     <table border="3" class="table table-striped table-warning">
46
47         <tr>
48             <td colspan="2">
49                 <center>
50                     <img src=<?php echo $flag;?>>
51                 </center>
52             </td>
53         </td>
54     </tr>
55     <tr>
56         <td>Country Name </td>
57         <td><?php echo $name;?></td>
58     </tr>
59     <tr>
60         <td>Capital</td>
61         <td><?php
62             if($capital==""){
63                 echo "No Capital";
64             } else {
65                 echo $capital;
66             }
67         </?php>
68     </tr>
69
70     <tr>
71         <td>Area</td>
72         <td><?php
73             if($area==""){
74                 echo "No Area";
75             } else {
76                 echo $area;
77             }
78         </?php>
79     </tr>
80
81     <tr>
82         <td>Population</td>
83         <td><?php
84             if($population==""){
85                 echo "No Population";
86             } else {
87                 echo $population;
88             }
89         </?php>
90     </tr>
91
92     <tr>
93         <td>Language</td>
94         <td><?php
95             if($language==""){
96                 echo "No Language";
97             } else {
98                 echo $language;
99             }
100            </?php>
101        </td>
102    </tr>
103
104    <tr>
105        <td>Currency</td>
106        <td><?php
107            if($currency==""){
108                echo "No Currency";
109            } else {
110                echo $currency;
111            }
112        </?php>
113    </tr>
114
115    <tr>
116        <td>Government Type</td>
117        <td><?php
118            if($government==""){
119                echo "No Government Type";
120            } else {
121                echo $government;
122            }
123        </?php>
124    </tr>
125
126    <tr>
127        <td>Religion</td>
128        <td><?php
129            if($religion==""){
130                echo "No Religion";
131            } else {
132                echo $religion;
133            }
134        </?php>
135    </tr>
136
137    <tr>
138        <td>Literacy Rate</td>
139        <td><?php
140            if($literacy==""){
141                echo "No Literacy Rate";
142            } else {
143                echo $literacy;
144            }
145        </?php>
146    </tr>
147
148    <tr>
149        <td>GDP</td>
150        <td><?php
151            if($gdp==""){
152                echo "No GDP";
153            } else {
154                echo $gdp;
155            }
156        </?php>
157    </tr>
158
159    <tr>
160        <td>Government Type</td>
161        <td><?php
162            if($government==""){
163                echo "No Government Type";
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199            }
200        </?php>
201    </tr>
202
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204        <td>Government Type</td>
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209                echo $government;
210            }
211        </?php>
212    </tr>
213
214    <tr>
215        <td>Religion</td>
216        <td><?php
217            if($religion==""){
218                echo "No Religion";
219            } else {
220                echo $religion;
221            }
222        </?php>
223    </tr>
224
225    <tr>
226        <td>Literacy Rate</td>
227        <td><?php
228            if($literacy==""){
229                echo "No Literacy Rate";
230            } else {
231                echo $literacy;
232            }
233        </?php>
234    </tr>
235
236    <tr>
237        <td>GDP</td>
238        <td><?php
239            if($gdp==""){
240                echo "No GDP";
241            } else {
242                echo $gdp;
243            }
244        </?php>
245    </tr>
246
247    <tr>
248        <td>Government Type</td>
249        <td><?php
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299        </?php>
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629        </?php>
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633        <td>GDP</td>
634        <td><?php
635            if($gdp==""){
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642
643    <tr>
644        <td>Government Type</td>
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652    </tr>
653
654    <tr>
655        <td>Religion</td>
656        <td><?php
657            if($religion==""){
658                echo "No Religion";
659            } else {
660                echo $religion;
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662        </?php>
663    </tr>
664
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666        <td>Literacy Rate</td>
667        <td><?php
668            if($literacy==""){
669                echo "No Literacy Rate";
670            } else {
671                echo $literacy;
672            }
673        </?php>
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677        <td>GDP</td>
678        <td><?php
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710        <td>Literacy Rate</td>
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712            if($literacy==""){
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716            }
717        </?php>
718    </tr>
719
720    <tr>
721        <td>GDP</td>
722        <td><?php
723            if($gdp==""){
724                echo "No GDP";
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726                echo $gdp;
727            }
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729    </tr>
730
731    <tr>
732        <td>Government Type</td>
733        <td><?php
734            if($government==""){
735                echo "No Government Type";
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737                echo $government;
738            }
739        </?php>
740    </tr>
741
742    <tr>
743        <td>Religion</td>
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774
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796
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798        <td>Literacy Rate</td>
799        <td><?php
800            if($literacy==""){
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809        <td>GDP</td>
810        <td><?php
811            if($gdp==""){
812                echo "No GDP";
813            } else {
814                echo $gdp;
815            }
816        </?php>
817    </tr>
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820        <td>Government Type</td>
821        <td><?php
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823                echo "No Government Type";
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825                echo $government;
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842        <td>Literacy Rate</td>
843        <td><?php
844            if($literacy==""){
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853        <td>GDP</td>
854        <td><?php
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859            }
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861    </tr>
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864        <td>Government Type</td>
865        <td><?php
866            if($government==""){
867                echo "No Government Type";
868            } else {
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875        <td>Religion</td>
876        <td><?php
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886        <td>Literacy Rate</td>
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897        <td>GDP</td>
898        <td><?php
899            if($gdp==""){
900                echo "No GDP";
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904        </?php>
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908        <td>Government Type</td>
909        <td><?php
910            if($government==""){
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912            } else {
913                echo $government;
914            }
915        </?php>
916    </tr>
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918    <tr>
919        <td>Religion</td>
920        <td><?php
921            if($religion==""){
922                echo "No Religion";
923            } else {
924                echo $religion;
925            }
926        </?php>
927    </tr>
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929    <tr>
930        <td>Literacy Rate</td>
931        <td><?php
932            if($literacy==""){
933                echo "No Literacy Rate";
934            } else {
935                echo $literacy;
936            }
937        </?php>
938    </tr>
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940    <tr>
941        <td>GDP</td>
942        <td><?php
943            if($gdp==""){
944                echo "No GDP";
945            } else {
946                echo $gdp;
947            }
948        </?php>
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952        <td>Government Type</td>
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963        <td>Religion</td>
964        <td><?php
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983
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985        <td>GDP</td>
986        <td><?php
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992        </?php>
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996        <td>Government Type</td>
997        <td><?php
998            if($government==""){
999                echo "No Government Type";
1000            } else {
1001                echo $government;
1002            }
1003        </?php>
1004    </tr>
1005
1006    <tr>
1007        <td>Religion</td>
1008        <td><?php
1009            if($religion==""){
1010                echo "No Religion";
1011            } else {
1012                echo $religion;
1013            }
1014        </?php>
1015    </tr>
1016
1017    <tr>
1018        <td>Literacy Rate</td>
1019        <td><?php
1020            if($literacy==""){
1021                echo "No Literacy Rate";
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1024            }
1025        </?php>
1026    </tr>
1027
1028    <tr>
1029        <td>GDP</td>
1030        <td><?php
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1046            }
1047        </?php>
1048    </tr>
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1051        <td>Religion</td>
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1056                echo $religion;
1057            }
1058        </?php>
1059    </tr>
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1061    <tr>
1062        <td>Literacy Rate</td>
1063        <td><?php
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1065                echo "No Literacy Rate";
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1072    <tr>
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1079            }
1080        </?php>
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1083    <tr>
1084        <td>Government Type</td>
1085        <td><?php
1086            if($government==""){
1087                echo "No Government Type";
1088            } else {
1089                echo $government;
1090            }
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1092    </tr>
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1094    <tr>
1095        <td>Religion</td>
1096        <td><?php
1097            if($religion==""){
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1102        </?php>
1103    </tr>
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1105    <tr>
1106        <td>Literacy Rate</td>
1107        <td><?php
1108            if($literacy==""){
1109                echo "No Literacy Rate";
1110            } else {
1111                echo $literacy;
1112            }
1113        </?php>
1114    </tr>
1115
1116    <tr>
1117        <td>GDP</td>
1118        <td><?php
1119            if($gdp==""){
1120                echo "No GDP";
1121            } else {
1122                echo $gdp;
1123           }
1124        </?php>
1125    </tr>
1126
1127    <tr>
1128        <td>Government Type</td>
1129        <td><?php
1130            if($government==""){
1131                echo "No Government Type";
1132            } else {
1133                echo $government;
1134           }
1135        </?php>
1136    </tr>
1137
1138    <tr>
1139        <td>Religion</td>
1140        <td><?php
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1147    </tr>
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1149    <tr>
1150        <td>Literacy Rate</td>
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1186                echo "No Religion";
1187            } else {
1188                echo $religion;
1189           }
1190        </?php>
1191    </tr>
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1193    <tr>
1194        <td>Literacy Rate</td>
1195        <td><?php
1196            if($literacy==""){
1197                echo "No Literacy Rate";
1198            } else {
1199                echo $literacy;
1200           }
1201        </?php>
1202    </tr>
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1204    <tr>
1205        <td>GDP</td>
1206        <td><?php
1207            if($gdp==""){
1208                echo "No GDP";
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1210                echo $gdp;
1211           }
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1213    </tr>
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1215    <tr>
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1254                echo $gdp;
1255           }
1256        </?php>
1257    </tr>
1258
1259    <tr>
12
```

File Edit Selection View Go Run Terminal Help Search

Restricted Mode is intended for safe code browsing. Trust this window to enable all features. Manage Learn More

Q2DisplayCont.php X Q2.php

```
58     </tr>
59     <tr>
60         <td>Capital</td>
61         <td><?php
62             if($capital==""){
63                 echo "No Capital";
64             }else{
65                 echo $capital;
66             }
67         ?>
68
69         </td>
70     </tr>
71     <tr>
72         <td>Country Code</td>
73         <td><?php echo $cCode;?></td>
74     </tr>
75     <tr>
76         <td>currency</td>
77         <td>
78             <?php
79                 foreach($currArr as $a=>$b){
80
81                     $CurrName=$cont[0]['currencies'][$a]['name'];
82                     echo $CurrName;
83                 }
84             ?></td>
85         </td>
86     <tr>
87         <td>Region</td>
88         <td><?php echo $region;?></td>
89     </tr>
90     <tr>
91         <td>Sub-Region</td>
92         <td><?php echo $subregion;?></td>
93     </tr>
94     <tr>
95         <td>Population</td>
96         <td><?php echo $pop;?></td>
97     </tr>
98     <tr>
99         <td>Area</td>
100        <td><?php echo $area;?></td>
101    </tr>
102    <tr>
103        <td>Borders</td>
104        <td>
105            <?php
106                $bordArr=$cont[0];
107                //var_dump($bordArr);
108                foreach($bordArr as $a=>$b){
109                    //echo $a, " , ";
110                    if($a=="borders"){
111                        $bord=join(",",$cont[0]['borders']);
112                        echo $bord;
113                        break;
114                    }
115                }
116            ?>
117        </td>
118    </tr>
119    <tr>
120        <td>Google Map</td>
121        <td>
122            <a href=<?php echo $map;?>><?php echo $map;?></a>
```

Ln 35, Col 11 Spaces: 4 UTF-8 CRLF PHP

File Edit Selection View Go Run Terminal Help Search

Restricted Mode is intended for safe code browsing. Trust this window to enable all features. Manage Learn More

Q2DisplayCont.php X Q2.php

```
88         <td><?php echo $region;?></td>
89     </tr>
90     <tr>
91         <td>Sub-Region</td>
92         <td><?php echo $subregion;?></td>
93     </tr>
94     <tr>
95         <td>Population</td>
96         <td><?php echo $pop;?></td>
97     </tr>
98     <tr>
99         <td>Area</td>
100        <td><?php echo $area;?></td>
101    </tr>
102    <tr>
103        <td>Borders</td>
104        <td>
105            <?php
106                $bordArr=$cont[0];
107                //var_dump($bordArr);
108                foreach($bordArr as $a=>$b){
109                    //echo $a, " , ";
110                    if($a=="borders"){
111                        $bord=join(",",$cont[0]['borders']);
112                        echo $bord;
113                        break;
114                    }
115                }
116            ?>
117        </td>
118    </tr>
119    <tr>
120        <td>Google Map</td>
121        <td>
122            <a href=<?php echo $map;?>><?php echo $map;?></a>
```

Ln 35, Col 11 Spaces: 4 UTF-8 CRLF PHP

The screenshot shows a code editor window with a dark theme. At the top, there's a menu bar with File, Edit, Selection, View, Go, Run, Terminal, Help, and a search bar. Below the menu is a status bar indicating 'Restricted Mode is intended for safe code browsing. Trust this window to enable all features.' There are tabs for 'Q2DisplayCont.php' and 'Q2.php'. The main area contains PHP code for generating HTML and an iframe for a Google Map.

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```

```
$bord=join(",",$cont[0]['borders']);
echo $bord;
break;

}
?>
</td>
</tr>
<tr>
    <td>Google Map</td>
    <td>
        <a href=<?php echo $map;?>><?php echo $map;?></a>
    </td>
</tr>
<tr>
    <td colspan="2">
        <iframe
            width="100%"
            height="200"
            frameborder="1" style="border:1"
            referrerPolicy="no-referrer-when-downgrade"
            src="https://www.google.com/maps/embed/v1/place?key=AIzaSyCUC1lEijuIPXwA89f3FdINyApePFZQDyA&q=<?php echo $name;
        </iframe>
    </div>
    <script src="https://maps.googleapis.com/maps/api/js?key=AIzaSyCUC1lEijuIPXwA89f3FdINyApePFZQDyA&callback=myMap"
    </script>
</td>
</tr>
</table>
</body>
</html>
```

In here I have used my personal API Key to connect with Google map

API KEY - AIzaSyCUC1lEijuIPXwA89f3FdINyApePFZQDyA

## Q2.php

```
File Edit Selection View Go Run Terminal Help Search
Restricted Mode is intended for safe code browsing. Trust this window to enable all features. Manage Learn More
C:\xampp\htdocs\Assignment_SOP>Q2>Q2.php
1 <?php Follow link (ctrl + click)
2     $url="https://restcountries.com/v3.1/all";
3     $data=file_get_contents($url);
4     $cont=json_decode($data,true);
5
6     $cname=array();
7
8     foreach($cont as $v){
9
10         $code=$v['cca2'];
11         $cname[$code]=$v['name']['common'];
12     }
13
14 ?>
15 <html>
16     <head>
17         <title>
18             Question 02
19         </title>
20         <link rel="stylesheet" href="bootstrap-5.0.2-dist/css/bootstrap.min.css">
21         <script>
22             function showCont(str){
23                 if (str==""){
24                     document.getElementById('txt').innerHTML="Please Select a Country";
25                     return;
26                 }else{
27                     var xmlhttp=new XMLHttpRequest();
28                     xmlhttp.onreadystatechange=function(){
29                         if(this.readyState== 4 && this.status==200){
30                             document.getElementById('txt').innerHTML=this.responseText;
31                         }
32                     }
33                     xmlhttp.open("GET","Q2DisplayCont.php?q="+str,true);
34                     xmlhttp.send();
35                 }
36             };
37         </script>
38         <link rel="stylesheet" href="Q2.css">
39     </head>
40     <body class="bg-success">
41         <div class="container">
42             <div class="row">
43                 <div class="col-md-4">
44                     <h2>
45                         Select a Country
46                     </h2>
47                     <select name="code" onChange="showCont(this.value)">
48                         <option value="">
49                             Select a country
50                         </option>
51                         <?php
52                             foreach($cname as $a=>$b){
53
54                             ?>
55                             <option value="<?php echo $a;?>">
56                             <?php echo $b;?>
57                             </option>
58                         <?php }?>
59                     </select>
60                 </div>
61                 <div class="col-md-8" id="txt">
62                     <h2>
63                         Details
64                     </h2>
65                     <hr>
66                 </div>
67             </div>
68         </div>
69     </body>
70 </html>
```

```
File Edit Selection View Go Run Terminal Help Search
Restricted Mode is intended for safe code browsing. Trust this window to enable all features. Manage Learn More
C:\xampp\htdocs\Assignment_SOP>Q2>Q2.php
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```

File Edit Selection View Go Run Terminal Help

Restricted Mode is intended for safe code browsing. Trust this window to enable all features. Manage Learn More

C:\xampp\htdocs\Assignment\_SOP>Q2>Q2.php

```
36     };
37     </script>
38     <link rel="stylesheet" href="Q2.css">
39   </head>
40   <body class="bg-success">
41     <div class="container">
42       <div class="row">
43         <div class="col-md-4">
44           <h2>
45             | Select a Country
46           </h2>
47           <select name="code" onChange="showCont(this.value)">
48             <option value="">
49               | Select a country
50             </option>
51             <?php
52               foreach($cname as $a=>$b){
53
54                 ?>
55                 <option value="<?php echo $a;?>">
56                   <?php echo $b;?>
57                 </option>
58               <?php }?>
59             </select>
60           </div>
61           <div class="col-md-8" id='txt'>
62             <h2>
63               | Details
64             </h2>
65             <hr>
66           </div>
67         </div>
68       </div>
69     </body>
70   </html>
```

Ln 1, Col 1 | Spaces: 4 | UTF-8 | CRLF | PHP

## Output of the Question 2

Screenshot of a web application showing the output for Question 2. The application displays information about Armenia.

The interface includes a sidebar on the left titled "Select a Country" with a dropdown menu containing a list of countries. The country "Armenia" is selected and highlighted in the list.

The main content area is titled "Republic of Armenia" and displays the following information:

Country Name	Republic of Armenia
Capital	Yerevan
Country Code	AM
Currency	Armenian dram
Region	Asia
Sub-Region	Western Asia
Population	2,963,234
Area	29,743
Borders	AZE,GEO,IRN,TUR
Google Map	<a href="https://goo.gl/maps/azWUtK9bUQYEycbA">https://goo.gl/maps/azWUtK9bUQYEycbA</a>

Below the table is a map of Armenia showing its geographical features, cities, and borders. The map is from Google Maps and includes labels for Yerevan, Araks River, Gegham Ridge, and various regions.

Please Refer the “Q2 Folder”

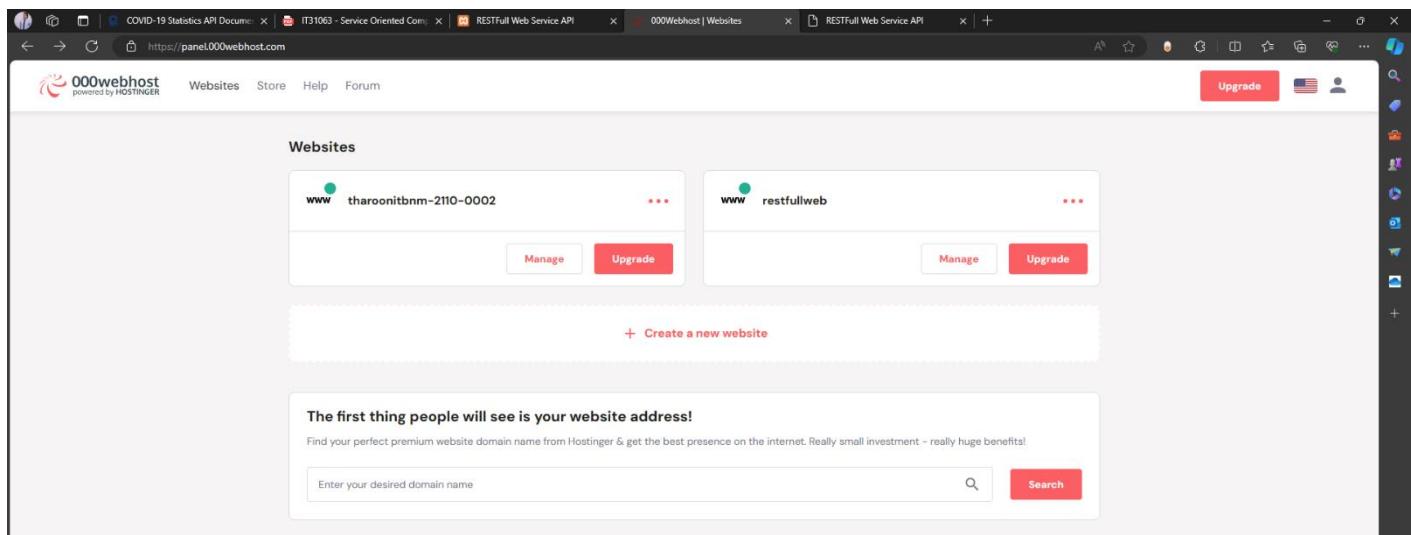
# Question 03

Please Refer the “Q3 Folder”

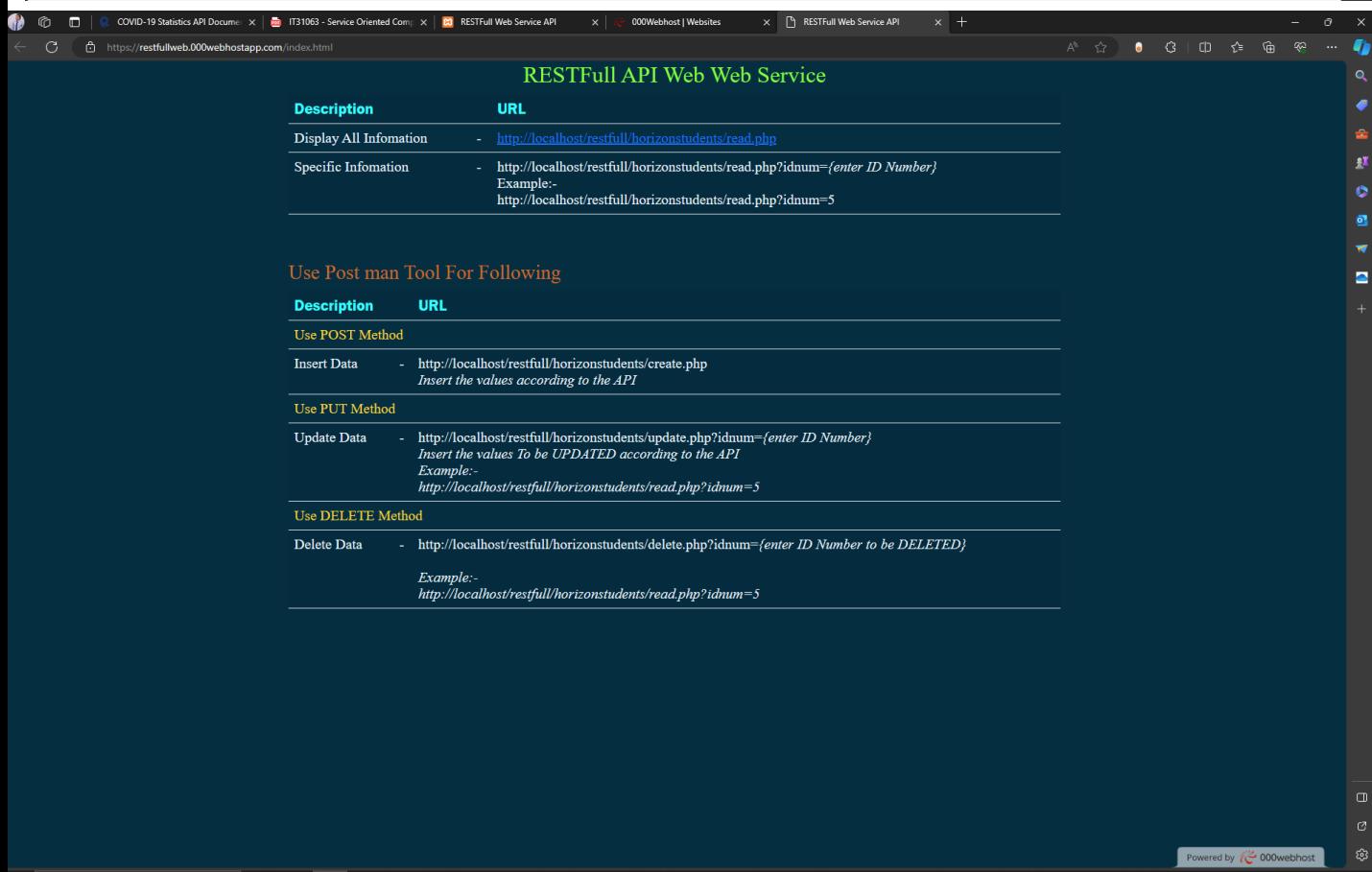
- Webpage Hosted in 000webhost.com

Change location of the folder “restful” to

“c: > xampp > htdocs > restful > horizonstudents>”. Otherwise the location will be not detected



The screenshot shows the 000webhost website management interface. It displays two websites: "tharoonitbnm-2110-0002" and "restfulliweb". Each website entry includes a "Manage" button and an "Upgrade" button. Below the websites, there is a button labeled "+ Create a new website". At the bottom, there is a search bar with the placeholder "Enter your desired domain name" and a "Search" button.



The screenshot shows the RESTFull API Web Service API documentation page. The title is "RESTFull API Web Web Service". The page lists the following endpoints:

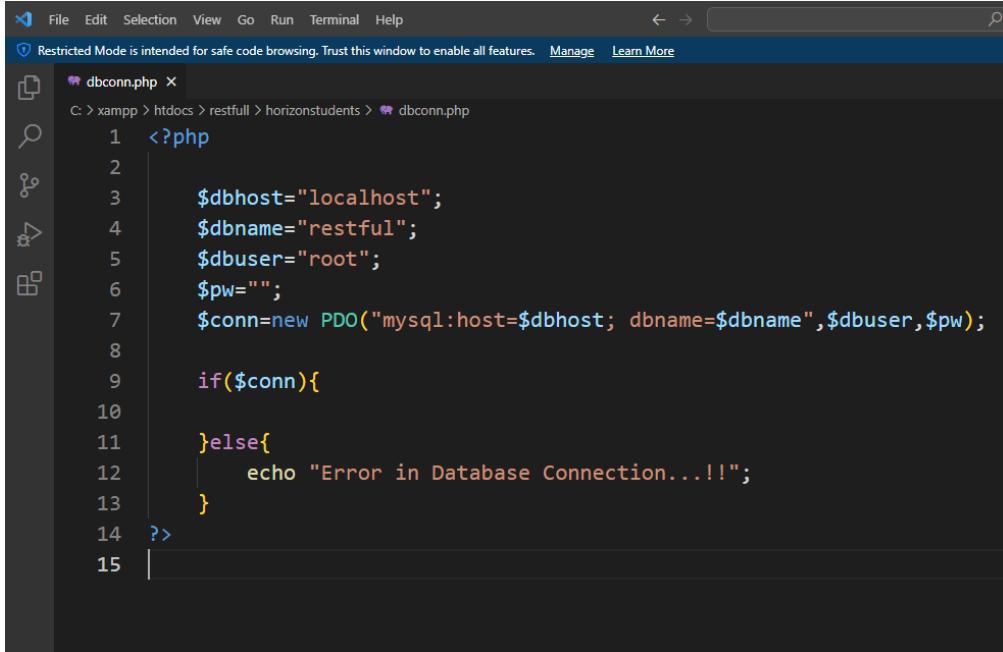
Description	URL
Display All Infomation	- <a href="http://localhost/restfull/horizonstudents/read.php">http://localhost/restfull/horizonstudents/read.php</a>
Specific Infomation	- <a href="http://localhost/restfull/horizonstudents/read.php?idnum={enter ID Number}">http://localhost/restfull/horizonstudents/read.php?idnum={enter ID Number}</a> Example:- <a href="http://localhost/restfull/horizonstudents/read.php?idnum=5">http://localhost/restfull/horizonstudents/read.php?idnum=5</a>

Below this, there is a section titled "Use Post man Tool For Following" which lists the following endpoints:

Description	URL
Use POST Method	
Insert Data	- <a href="http://localhost/restfull/horizonstudents/create.php">http://localhost/restfull/horizonstudents/create.php</a> <i>Insert the values according to the API</i>
Use PUT Method	
Update Data	- <a href="http://localhost/restfull/horizonstudents/update.php?idnum={enter ID Number}">http://localhost/restfull/horizonstudents/update.php?idnum={enter ID Number}</a> <i>Insert the values To be UPDATED according to the API</i> Example:- <a href="http://localhost/restfull/horizonstudents/read.php?idnum=5">http://localhost/restfull/horizonstudents/read.php?idnum=5</a>
Use DELETE Method	
Delete Data	- <a href="http://localhost/restfull/horizonstudents/delete.php?idnum={enter ID Number to be DELETED}">http://localhost/restfull/horizonstudents/delete.php?idnum={enter ID Number to be DELETED}</a> <i>Example:-</i> <a href="http://localhost/restfull/horizonstudents/read.php?idnum=5">http://localhost/restfull/horizonstudents/read.php?idnum=5</a>

- dbconn.php

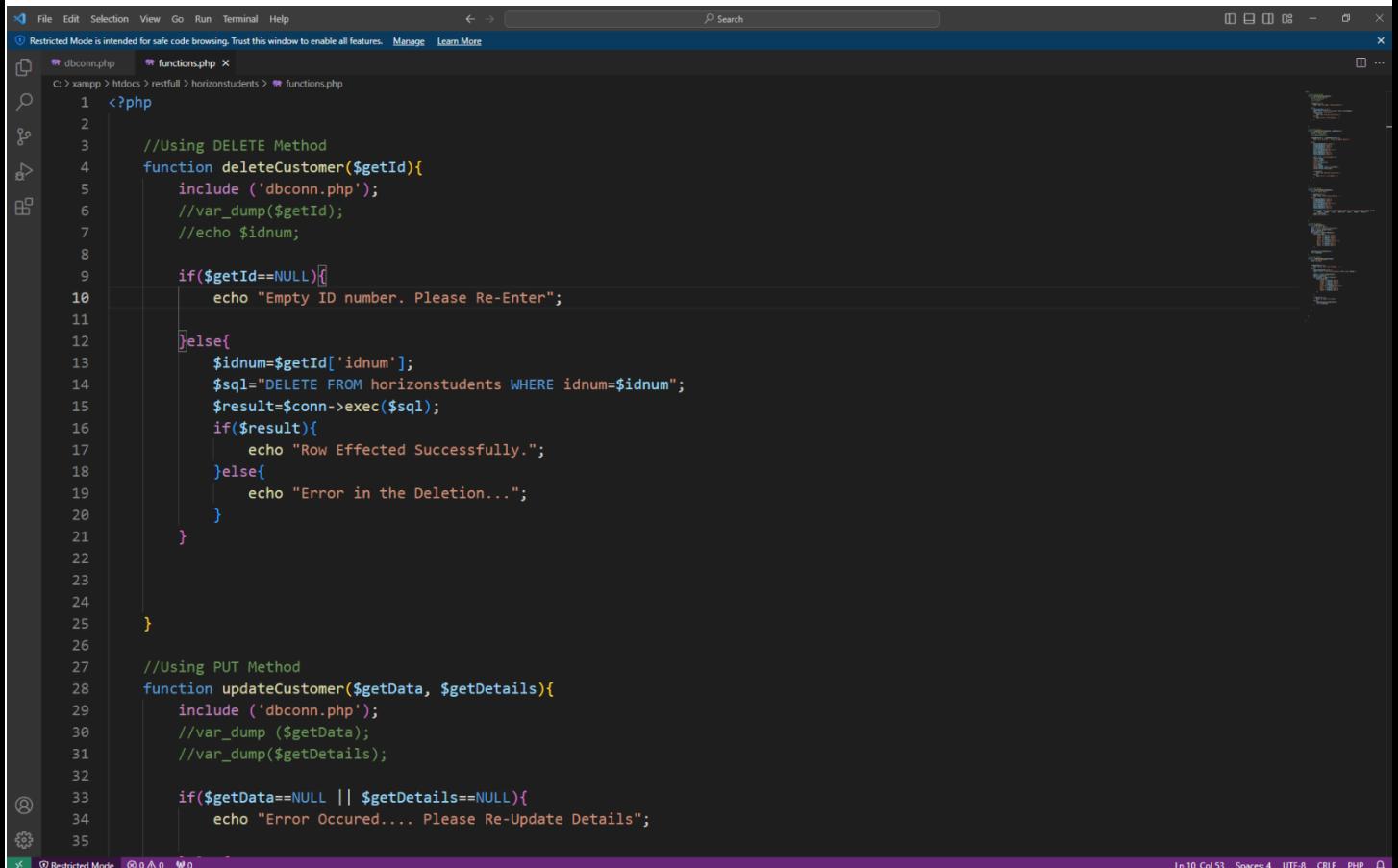
(location – c: > xampp > htdocs > restful > horizonstudents>....)



```
<?php
$dhost="localhost";
$dbname="restful";
$dbuser="root";
$pw="";
$conn=new PDO("mysql:host=$dhost; dbname=$dbname", $dbuser, $pw);

if($conn){
    echo "Database Connection successful";
}
?>
```

- Function.php



```
<?php

//Using DELETE Method
function deleteCustomer($getId){
    include ('dbconn.php');
    //var_dump($getId);
    //echo $idnum;

    if($getId==NULL){
        echo "Empty ID number. Please Re-Enter";
    }
    else{
        $idnum=$getId['idnum'];
        $sql="DELETE FROM horizonstudents WHERE idnum=$idnum";
        $result=$conn->exec($sql);
        if($result){
            echo "Row Effected Successfully.";
        }
        else{
            echo "Error in the Deletion...";
        }
    }
}

//Using PUT Method
function updateCustomer($getData, $getDetails){
    include ('dbconn.php');
    //var_dump ($getData);
    //var_dump($getDetails);

    if($getData==NULL || $getDetails==NULL){
        echo "Error Occured.... Please Re-Update Details";
    }
}
```

```
File Edit Selection View Go Run Terminal Help Search
Restricted Mode is intended for safe code browsing. Trust this window to enable all features. Manage Learn More
dbconn.php functions.php
C:\xampp\htdocs\restfull>horizonstudents > functions.php
91 //Using GET Method
92 function readAllData(){
93     include ('dbconn.php');
94     $sql= "SELECT * FROM horizonstudents";
95     $query = $conn->prepare($sql);
96     $query->execute();
97     while($fetch = $query->fetch()){
98         $users[] = array(
99             'idnum' => $fetch['idnum'],
100            'fname' => $fetch['fname'],
101            'lname' => $fetch['lname'],
102            'city' => $fetch['city'],
103            'district' => $fetch['district'],
104            'prov' => $fetch['prov'],
105            'email' => $fetch['email'],
106            'tpnum' => $fetch['tpnum']
107        );
108    }
109 }
110
111 $jEncode=json_encode($users);
112 return $jEncode;
113 }
114
115 //Using GET Method
116 function readSingleData($getidnum){
117     include ('dbconn.php');
118     $users =array();
119
120
121     if($getidnum==null){
122         echo "Please Enter the ID Number ...";
123     }else{
124         $idnum=$getidnum['idnum'];
125         $sql= "SELECT * FROM horizonstudents WHERE idnum='$idnum'";
126
127         $query = $conn->prepare($sql);
128         $query->execute();
129         $fetch = $query->fetch();
130
131         $users[] = array(
132             'idnum' => $fetch['idnum'],
133             'fname' => $fetch['fname'],
134             'lname' => $fetch['lname'],
135             'city' => $fetch['city'],
136             'district' => $fetch['district'],
137             'prov' => $fetch['prov'],
138             'email' => $fetch['email'],
139             'tpnum' => $fetch['tpnum']
140         );
141     }
142
143     $jEncode=json_encode($users);
144     return $jEncode;
145 }
146
147 //Using POST Method
148 function insertCustomer($getData){
149     include ('dbconn.php');
150
151     if ($getData==NULL){
152         echo "Empty Column Please Re-Fill...";
153     }else{
154         $fname=$getData['fname'];
155         $lname=$getData['lname'];
156         $city=$getData['city'];
157         $district=$getData['district'];
158         $prov=$getData['prov'];
159         $email=$getData['email'];
160         $tpnum=$getData['tpnum'];
161
162         $sql="INSERT INTO horizonstudents(fname,lname,city,district,prov,email,tpnum) VALUES(
163             '$fname', '$lname', '$city', '$district', '$prov', '$email', '$tpnum')";
164         $conn->exec($sql);
165         echo "Row Effected.";
166     }
167
168 }
169
170 //Using GET Method
171
172
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```

```
File Edit Selection View Go Run Terminal Help Search
Restricted Mode is intended for safe code browsing. Trust this window to enable all features. Manage Learn More
dbconn.php functions.php
C:\xampp\htdocs\restfull>horizonstudents > functions.php
58     }else{
59         echo "Error in the Update...";
60     }
61 }
62 }
63
64
65
66 }
67
68 //Using POST Method
69 function insertCustomer($getData){
70     include ('dbconn.php');
71
72     if ($getData==NULL){
73         echo "Empty Column Please Re-Fill...";
74     }else{
75         $fname=$getData['fname'];
76         $lname=$getData['lname'];
77         $city=$getData['city'];
78         $district=$getData['district'];
79         $prov=$getData['prov'];
80         $email=$getData['email'];
81         $tpnum=$getData['tpnum'];
82
83         $sql="INSERT INTO horizonstudents(fname,lname,city,district,prov,email,tpnum) VALUES(
84             '$fname', '$lname', '$city', '$district', '$prov', '$email', '$tpnum')";
85         $conn->exec($sql);
86         echo "Row Effected.";
87     }
88
89 }
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92 //Using GET Method
93
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192
```

File Edit Selection View Go Run Terminal Help Search

Restricted Mode is intended for safe code browsing. Trust this window to enable all features. Manage Learn More

```

C > xampp >htdocs > restfull > horizonstudents > functions.php
114
115 //Using GET Method
116 function readSingleData($getidnum){
117     include ('dbconn.php');
118     $users =array();
119
120
121     if($getidnum==null){
122         echo "Please Enter the ID Number ...";
123     }else{
124         $idnum=$getidnum['idnum'];
125         $sql= "SELECT * FROM horizonstudents WHERE idnum='$idnum'";
126
127         $query = $conn->prepare($sql);
128         $query->execute();
129         while($fetch = $query->fetch()){
130             $users[] =array(
131                 'idnum' => $fetch['idnum'],
132                 'fname' => $fetch['fname'],
133                 'lname' => $fetch['lname'],
134                 'city' => $fetch['city'],
135                 'district'=> $fetch['district'],
136                 'prov' => $fetch['prov'],
137                 'email' => $fetch['email'],
138                 'tpnum' => $fetch['tpnum']
139             );
140         }
141     }
142
143     if($users==null){
144         echo "ID Number Not Found";
145     }else{
146         $jEncode=json_encode($users);
147         return $jEncode;
148     }
149
150

```

Ln 10, Col 53 Spaces: 4 UTF-8 CRLF PHP

- Database (restful (Database)> horizonstudents (Table))

COVID-19 Statistics API Document IT31063 - Service Oriented Comp RESTFull Web Service API COOWebHost | Websites RESTFull Web Service API localhost / 127.0.0.1 / restfull / horizonstudents

phpMyAdmin Server: 127.0.0.1 Database: restfull Table: horizonstudents

Browse Structure SQL Search Insert Export Import Privileges Operations Tracking Triggers

Showing rows 0 - 6 (7 total, Query took 0.0003 seconds.)

SELECT \* FROM `horizonstudents`

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all Number of rows: 25 Filter rows: Search this table Sort by key: None

	idnum	fname	lname	city	district	prov	email	tpnum
<input type="checkbox"/>	1	John	David	Malabe	Colombo	Western	abcd@gmail.com	011-4556783
<input type="checkbox"/>	2	Simon	hudson	chilaw	puttalam	North_Western	abcd@gmail.com	011-1245789
<input type="checkbox"/>	3	Alise	Cruise	Negombo	Gampaha	Western	aasdd@gmail.com	056-4587963
<input type="checkbox"/>	4	Michelle	Jackson	Kelaniya	Gampaha	Western	aasdd@hotmail.com	011-4589632
<input type="checkbox"/>	5	Johnson	Burger	kandy	kandy	Central	aqwe@yahoo.com	045-4578963

Check all With selected:  Edit  Copy  Delete  Export

Show all Number of rows: 25 Filter rows: Search this table Sort by key: None

Query results operations Print Copy to clipboard Export Display chart Create view

Bookmark this SQL query Label:  Let every user access this bookmark

Bookmark this SQL query

Console

## GET Method (To read data from the database)

The screenshot shows a code editor window with a dark theme. At the top, there's a menu bar with 'File', 'Edit', 'Selection', 'View', 'Go', 'Run', 'Terminal', and 'Help'. Below the menu, a status bar indicates 'Restricted Mode is intended for safe code browsing. Trust this window to enable all features.' with links to 'Manage' and 'Learn More'. The main area shows a file named 'read.php' with the following content:

```
1 <?php
2     require 'dbconn.php';
3     include('functions.php');
4
5     $rqMethod=$_SERVER["REQUEST_METHOD"];
6
7     if($rqMethod=="GET"){
8
9         if(isset($_GET['idnum'])){
10
11             $singleData= readSIngleData($_GET);
12             echo $singleData;
13
14         }else{
15             $readData= readAllData();
16             echo $readData;
17
18         }
19
20     }else{
21         echo "ERROR: 405 Method Not Found";
22     }
23
24 ?>
```

The screenshot shows a web browser window with multiple tabs open. The visible tabs are: 'COVID-19 Statistics API Document', 'IT31063 - Service Oriented Comp...', 'Index of /restfull/horizonstudents', and 'localhost / 127.0.0.1 / restful / ho...'. The active tab is 'Index of /restfull/horizonstudents'.

The page displays the contents of the 'horizonstudents' directory:

### Index of /restfull/horizonstudents

Name	Last modified	Size	Description
<a href="#">Parent Directory</a>		-	
<a href="#">Q3.php</a>	2023-11-21 22:07	23	
<a href="#">bootstrap-5.0.2-dist/</a>	2023-11-27 14:25	-	
<a href="#">create.php</a>	2023-11-21 17:40	490	
<a href="#">dbconn.php</a>	2023-11-21 17:32	281	
<a href="#">delete.php</a>	2023-11-21 21:58	305	
<a href="#">example.html</a>	2023-11-22 11:43	4.4K	
<a href="#">functions.php</a>	2023-11-22 11:42	4.4K	
<a href="#">q3.css</a>	2023-11-21 22:43	518	
<a href="#">read.php</a>	2023-11-21 17:39	432	
<a href="#">update.php</a>	2023-11-21 18:26	503	

At the bottom of the page, a footer note reads: 'Apache/2.4.54 (Win64) OpenSSL/1.1.1p PHP/8.1.10 Server at localhost Port 80'

# *GET Method*

## URL

Description	URL
Display All Infomation	- <a href="http://localhost/restfull/horizonstudents/read.php">http://localhost/restfull/horizonstudents/read.php</a>
Specific Infomation	- <a href="http://localhost/restfull/horizonstudents/read.php?idnum={enter ID Number}">http://localhost/restfull/horizonstudents/read.php?idnum={enter ID Number}</a> Example:- <a href="http://localhost/restfull/horizonstudents/read.php?idnum=5">http://localhost/restfull/horizonstudents/read.php?idnum=5</a>

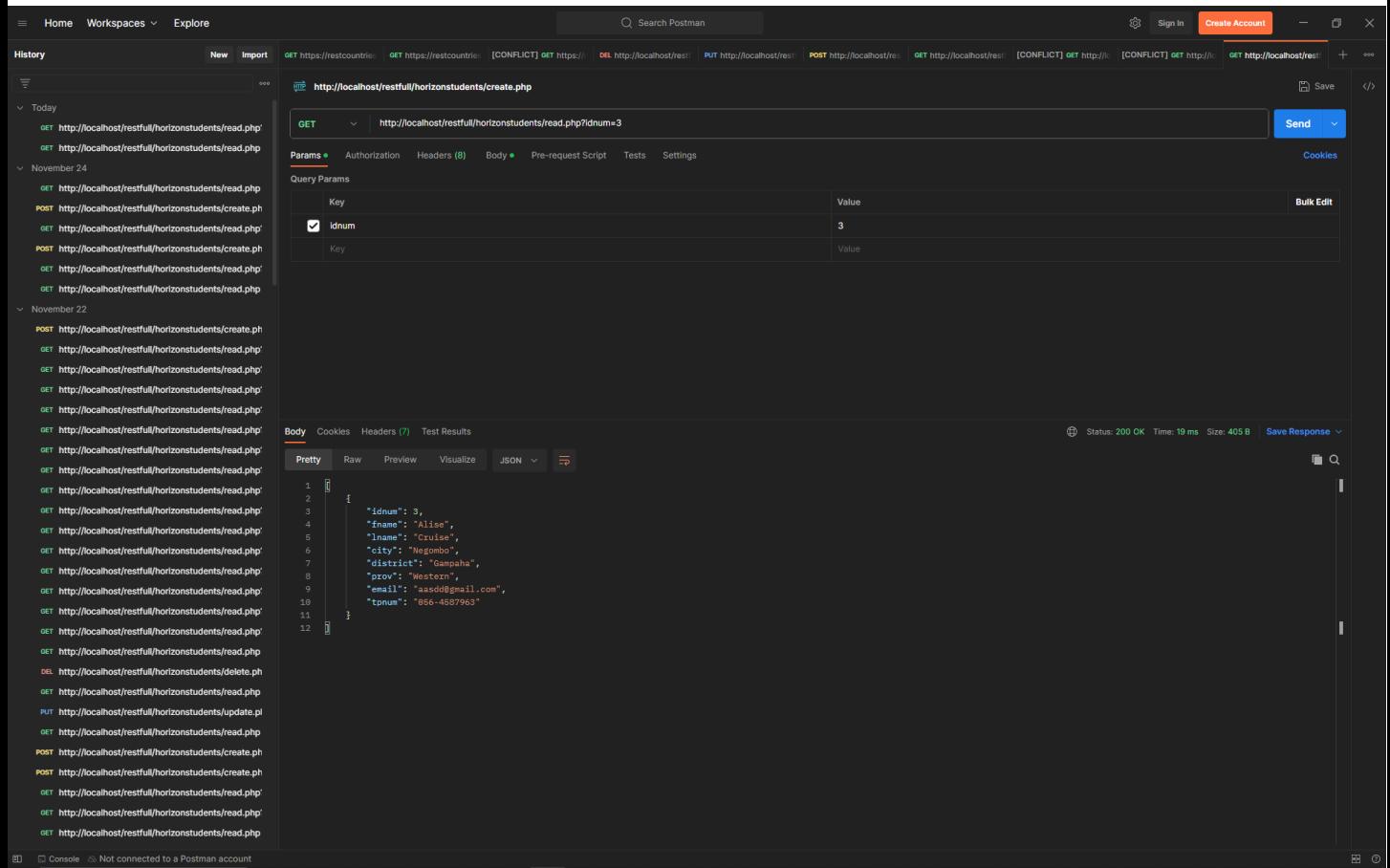
## Test the API using Postman

## GET all Data in the Database

The screenshot shows the Postman application interface. On the left, the 'History' sidebar lists various API requests made on November 24. The main panel displays a successful GET request to `http://localhost:restfull/horizonstudents/read.php`. The 'Body' tab shows the JSON response:

```
[{"idnum": 1, "fname": "John", "lname": "David", "city": "Malabe", "district": "Colombo", "prov": "Western", "email": "abod@mailcom", "tpnum": "011-456789"}, {"idnum": 2, "fname": "Simon", "lname": "udson", "city": "chilaw", "district": "puttalam", "prov": "North Western", "email": "abcd@mail.com", "tpnum": "011-1245789"}, {"idnum": 3, "fname": "Alice", "lname": "Cruise", "city": "Negombo", "district": "Gampaha", "prov": "Western", "email": "cruise@mail.com", "tpnum": "011-2345678"}]
```

# Get Specific data from the database



The screenshot shows the Postman application interface. In the top navigation bar, there are links for Home, Workspaces, Explore, and a search bar labeled "Search Postman". On the right side, there are buttons for "Sign In", "Create Account", and other account-related options.

The main workspace displays a history of requests. A specific request is selected: `GET http://localhost/restfull/horizonstudents/read.php?idnum=3`. The "Params" tab is active, showing a query parameter `idnum` with a value of `3`.

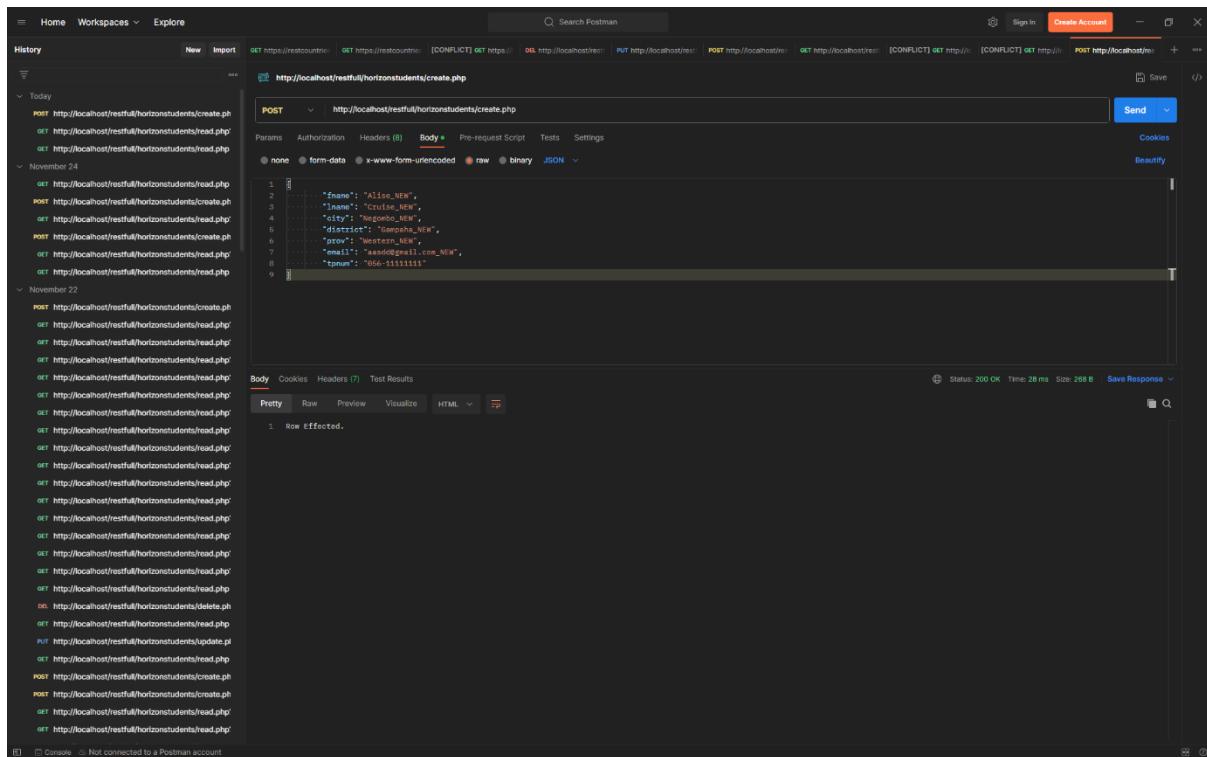
The "Body" tab is selected, showing the response in "Pretty" format. The JSON response is:

```
1  {
2   "idnum": 3,
3   "fname": "Ailise",
4   "lname": "Cruise",
5   "city": "Negombo",
6   "district": "Gampaha",
7   "prov": "Western",
8   "email": "aasddd@mail.com",
9   "tnum": "065-4587963"
10  }
11
12 }
```

The status bar at the bottom indicates a `200 OK` status, `Time: 19 ms`, and `Size: 405 B`.

# POST Method

Inserted a new data using POST method

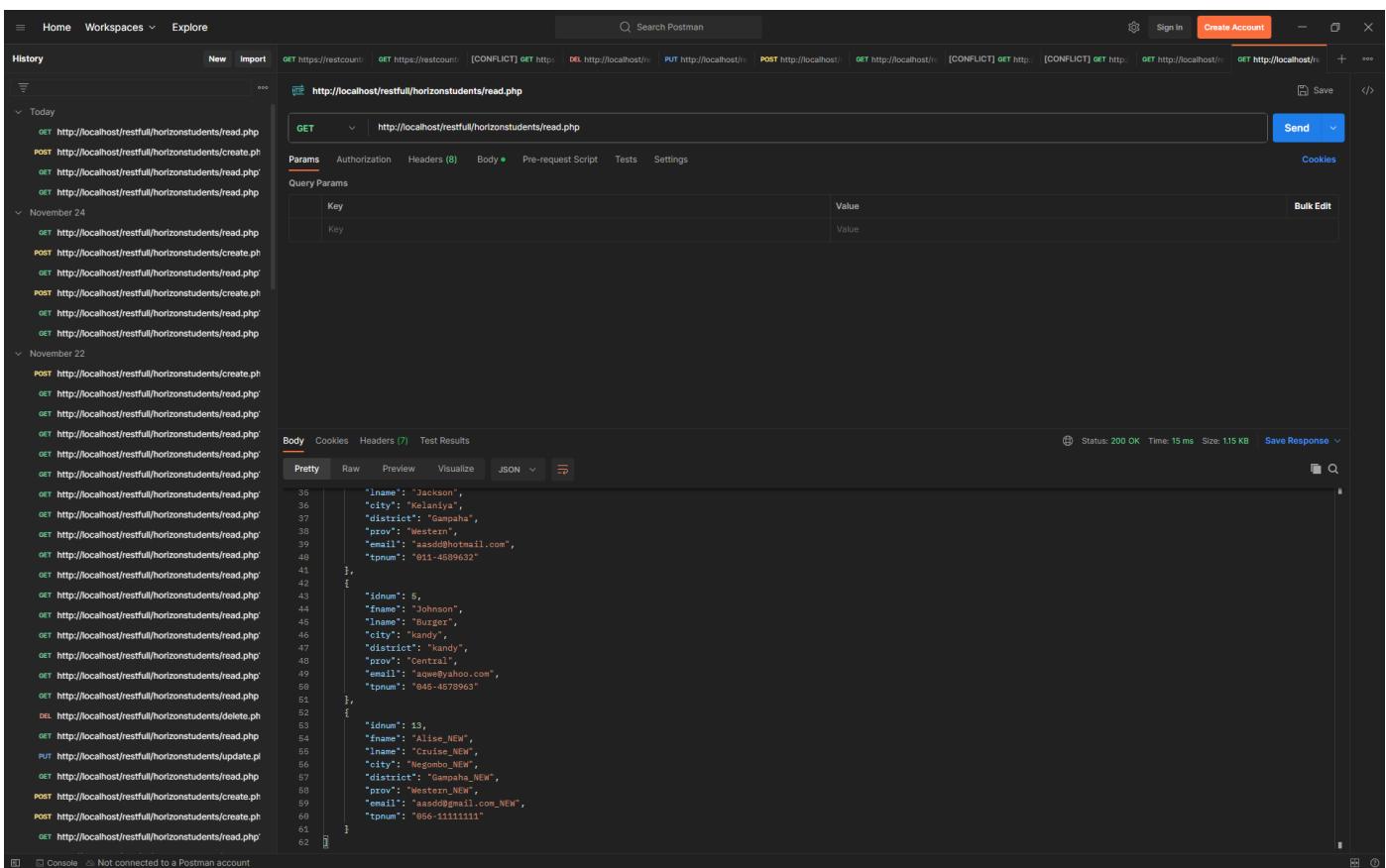


The screenshot shows the Postman application interface. In the left sidebar, there's a history of API calls. The main area shows a POST request to `http://localhost/restfull/horizonstudents/create.php`. The 'Body' tab is selected, displaying the following JSON payload:

```
1   {
2     "fname": "Alice_NEW",
3     "lname": "Cruise_NEW",
4     "city": "Kegode_NEW",
5     "district": "Ganta_NEW",
6     "prov": "Western",
7     "email": "aasdd@gmail.com_NEW",
8     "tpnum": "086-11111111"
9 }
```

Below the body, the 'Test Results' tab shows a single row affected. The status bar at the bottom indicates a 200 OK response.

Show All data with new data using GET method



The screenshot shows the Postman application interface. The left sidebar lists various API calls. The main area shows a GET request to `http://localhost/restfull/horizonstudents/read.php`. The 'Body' tab is selected, displaying the following JSON response:

```
36   [
37     {
38       "idnum": 5,
39       "fname": "Jackson",
40       "lname": "Keleniya",
41       "city": "Kamala",
42       "district": "Ganta",
43       "prov": "Western",
44       "email": "aasdd@hotmail.com",
45       "tpnum": "011-489432"
46     },
47     {
48       "idnum": 6,
49       "fname": "Johnson",
50       "lname": "Burger",
51       "city": "Kandy",
52       "district": "Kandy",
53       "prov": "Central",
54       "email": "aqw@yahoo.com",
55       "tpnum": "046-4878963"
56     },
57     {
58       "idnum": 13,
59       "fname": "Alice_NEW",
60       "lname": "Cruise_NEW",
61       "city": "Negombo_NEW",
62       "district": "Gambella_NEW",
63       "prov": "Northern",
64       "email": "aasdd@gmail.com_NEW",
65       "tpnum": "086-11111111"
66     }
67   ]
```

The status bar at the bottom indicates a 200 OK response.

# PUT Method

update the already existed data where the idnum=5

The screenshot shows the Postman application interface. In the top navigation bar, there are tabs for Home, Workspaces, and Explore. On the right side, there are buttons for Sign In and Create Account. The main area displays a history of API requests. A specific PUT request is selected, with its URL being `http://localhost/restfull/horizonstudents/update.php?idnum=5`. The request body contains the following JSON data:

```
1
2
3   "fname": "Johnson_UPDATED",
4   "lname": "Burzer_UPDATED",
5   "city": "Kandy_UPDATED",
6   "district": "Kandy_UPDATED",
7   "prov": "Central_UPDATED",
8   "email": "aawe@yahoo.com_UPDATED",
9   "tpnum": "045-3232323"
```

Below the request, the response status is shown as 200 OK with a time of 23 ms and a size of 281 B. The response body is displayed as "Row Effected Successfully."

Display updated data

The screenshot shows the Postman application interface again. A GET request is selected with the URL `http://localhost/restfull/horizonstudents/read.php?idnum=3`. The request includes a query parameter "idnum" with the value "3". The response body displays the updated student data in JSON format:

```
35   "idnum": 5,
36   "fname": "Johnson_UPDATED",
37   "lname": "Burzer_UPDATED",
38   "city": "Kandy_UPDATED",
39   "district": "Kandy_UPDATED",
40   "prov": "Central_UPDATED",
41   "email": "aawe@yahoo.com_UPDATED",
42   "tpnum": "045-3232323"
43
44   {
45     "idnum": 5,
46     "fname": "Johnson_UPDATED",
47     "lname": "Burzer_UPDATED",
48     "city": "Kandy_UPDATED",
49     "district": "Kandy_UPDATED",
50     "prov": "Central_UPDATED",
51     "email": "aawe@yahoo.com_UPDATED",
52     "tpnum": "045-3232323"
53
54     {
55       "idnum": 13,
56       "fname": "Ailise_NEW",
57       "lname": "Cruise_NEW",
58       "city": "Negombo_NEW",
59       "district": "Gampaha_NEW",
60       "prov": "Western_NEW",
61       "email": "aawe@yahoo.com_NEW",
62       "tpnum": "056-11111111"
```

# ***DELETE Method***

Deleted a data from the database where the idnum=13

The screenshot shows the Postman application interface. In the top navigation bar, there are links for Home, Workspaces, and Explore. On the right side, there are buttons for Sign In, Create Account, and a search bar labeled "Search Postman". The main area displays a history of API requests. A specific DELETE request is highlighted: "DELETE http://localhost:restfull/horizonstudents/delete.php?idnum=13". The "Params" tab is selected, showing a query parameter "idnum" with the value "13". Below the request, the "Body" tab is active, showing the response: "1 Row Effected Successfully.".

## Display updated database

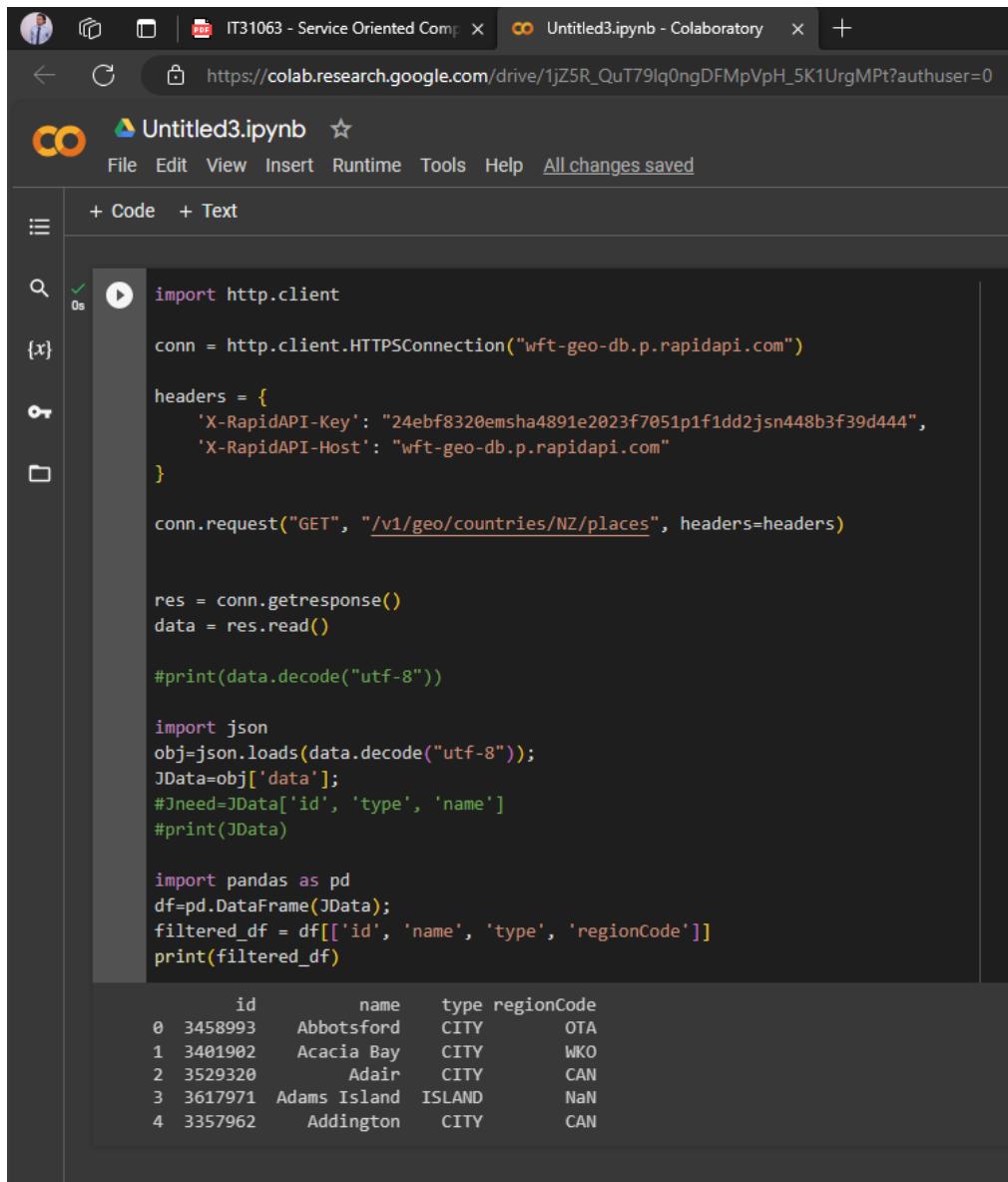
The screenshot shows the Postman application interface. In the top navigation bar, there are links for Home, Workspaces, and Explore. On the right side, there are buttons for Sign In, Create Account, and a search bar labeled "Search Postman". The main area displays a history of API requests. A specific GET request is highlighted: "GET http://localhost:restfull/horizonstudents/read.php". The "Params" tab is selected, showing no parameters. Below the request, the "Body" tab is active, showing the response. The response body is a JSON array of student records, with the fourth record (idnum: 4) being highlighted in yellow. The highlighted record is as follows:

```
        "idnum": 4,
        "fname": "Wicella",
        "lname": "Jackson",
        "city": "Kelandya",
        "district": "Gampaha",
        "prov": "Western",
        "email": "asadd@gmail.com",
        "tpnum": "011-4589632"
    ]
```

## Question 04

Please Refer the “Q4 Folder”

- Changed the country code to “NZ” to retrieve the data of the New-Zealand



The screenshot shows a Google Colab notebook titled "Untitled3.ipynb". The code cell contains Python code to fetch data from a RapidAPI endpoint for New Zealand places. The output of the code is displayed below the cell, showing a Pandas DataFrame with columns: id, name, type, and regionCode. The data includes five rows of place entries.

```
import http.client

conn = http.client.HTTPSConnection("wft-geo-db.p.rapidapi.com")

headers = {
    'X-RapidAPI-Key': "24ebf8320emsha4891e2023f7051p1f1dd2jsn448b3f39d444",
    'X-RapidAPI-Host': "wft-geo-db.p.rapidapi.com"
}

conn.request("GET", "/v1/geo/countries/NZ/places", headers=headers)

res = conn.getresponse()
data = res.read()

#print(data.decode("utf-8"))

import json
obj=json.loads(data.decode("utf-8"));
JData=obj['data'];
#Jneed=JData['id', 'type', 'name']
#print(JData)

import pandas as pd
df=pd.DataFrame(JData);
filtered_df = df[['id', 'name', 'type', 'regionCode']]
print(filtered_df)
```

	id	name	type	regionCode
0	3458993	Abbotsford	CITY	OTA
1	3401902	Acacia Bay	CITY	WKO
2	3529320	Adair	CITY	CAN
3	3617971	Adams Island	ISLAND	NaN
4	3357962	Addington	CITY	CAN