

# **API Covid. Manual de uso.**

## 1. Paso primero.

El primer paso consiste en obtener una clave publica con la que generar una transmisión de datos segura entre el usuario y la aplicación. Para ello se realiza una petición get (petición 1 proyecto postman):

The screenshot shows the Postman interface with a GET request to `http://193.176.87.187:44444/api/user`. The response is a large JSON object, displayed in the 'Text' view. The response status is 200 OK, with a response time of 250 ms and a body size of 725 B.

```
1 <RSAKeyValue><Modulus>vxPE1sNNU5k6Jd8wXS1m1D2B0ckPFL0BvecDLfGYLvrEXFgIzsoQaMw5Gq2rHn9TF6o5CdCj1Kb65iT4g1W2VvKneMDuTMfRTLg8figAIkUM100HsdeeFK4AdhA1fxwKUX9FAGgGek8qW+HR/9Wv+Lzuf0nWdsp+CV40oBSpJ4fR9BQ327e48dD5YbGy2Uq+BAje+bYxKs0nj0MwCPV1tC8A+CYxdCyuS8ecvay3tEK3rcVpiPmdmzw50gstGp3A70IXyyfNd/DPYw8eajXhxWZ223Yo8sh7s0a3wX57QTBjXQa0JoeT6RKIm5GjJnYusrIhhFNG26as9Y0m2h05X+r9J3lK/a9dep+syZZPdd4t0l0J99mcr06TVUB4Tp8Ck6cw5Z29mj2JKDr6DnjNU5eddw2vKhCOglytfdvN1zukImDA6MTWS0w2mWruESC2jmplY8DXMj+1y5F0YwAXKVLFA+wD03PLAx+zhk1y4BvPALCwjeJqIliZRzEBDP</Modulus><Exponent>AQAB</Exponent></RSAKeyValue>
```

## 2. Paso segundo.

La clave pública devuelta por la aplicación la usaremos para encriptar el usuario que daremos de alta. La aplicación esta pensada para que este proceso lo realice el usuario mediante un programa y que los datos sensibles sean solo transmitidos de manera encriptada, pero se ha habilitado este servicio para que la aplicación pueda ser probada desde un programa con interfaz gráfica.

The screenshot displays a REST client interface with a sidebar on the left containing a 'Collections' tab and a list of requests under 'CovidAPI'. The main area shows a selected POST request '2. Encrypt user mail' to the endpoint 'http://193.176.87.187:44444/api/EncryptionService'. The 'Body' tab is active, showing a JSON payload in the left pane and its raw text representation in the right pane. The JSON payload includes an RSA key value and a text field with the email 'newuser@myuser.com'. The right pane shows the raw text of the JSON, which is a long string of escaped characters. The interface also includes a 'Send' button, a 'Save' button, and a 'Beautify' button. The status bar at the bottom indicates '200 OK' with a response time of 324 ms and a body size of 654 B.

```
1 {
2   "key":
3     "<RSAKeyValue><Modulus>vxPE1sNNU5k6Jd8wXS1mID280ckPfLQBvecDLfGYLVrEXFgIzsoQaMw5Gq2
4     rhWn9TF6o5CdCj lKb65iT4g1W2VvKneMDuTMfRTLg8figAIkUM100HsdeeFK4AdhA1fxWkUx9FAgGek8q
5     W+HR/9Ww+lzuF0nWdSp+CV40oBSpJ4fR9BQ327e48dD5YbGy2Uq+BAJ e+bYxKs0nj0MwCPV1tC8A
6     +CYxdCyU58ecvay3tEK3rcVpiPmdmzw5QgstGp3A7QIXyyfNd/
7     DPYw8eajXhxWZ223Yo8sh7s0a3WXS7QTBjXQaDJoeT6RKImSGjJnYusrIhhFNG26as9Y0m2h0SX
8     +r9J3lK/a9dep
9     +syZZPdd4t0l0J99mcr06TVUB4Tp8Ck6cw5Z29mj2JKDr6DnjNU5eddw2vKhCOglytfdvN1zukImDA6MT
10    W50w2mWUeSC2jmplY8DXMj+1y5F0YWAxKVLFA+w0o3PLAx+zhkly4BvPALCwjeJqILiZRzEBDP</
11    Modulus><Exponent>AQAB</Exponent></RSAKeyValue>",
12   "text": "newuser@myuser.com"
```

```
1 U30utTiF+mYnI7qn7wtLwi00AXP3/uwLpUZkLSA9h/
jTDS5lCf2STIbD4azSnga001Phudvshb2ypwKrK6PckJtai4N
+8GjS3Y5mMyL4JA49adScnecVaLyV6IDkUUFuU0yCEh6F9rlrXQMPQnCYb6Xr7id
+2oLugwINPwPrpGM5x5zkF9sdtL7YYNzRT9HEEUgQFcCSWux8QeOpOueMttr2aLMII5d/V/wzZiePY
+uIwaU1VuiWtbJ3TqC6afN/3+ndqEJp6PkLmAjpmz1m00kCZVxm11y
+KDZRR0IcmlP6cYT4jJHVSKlgZy2aeiaukhW0dSXD0mIE2wAmMLJ93T0Bo61bPeaCFG04Gt4BQI2HvK1gN2Di
YSK1zbXy0SfximzGRHR/LQaExA2n1HKEZZ50bRLMfdfsVHVY4XoDGcCT5C9phm1LwBuPdIQMa1kCgocqU/
Dncb5Cq7E/Eptal4gX9VBEZL6cEgEc/QAFihknvdCGrQvy6L7YxN
```

### 3. Paso tercero.

Es idéntico al anterior solo que esta vez encriptaremos la contraseña para el nuevo usuario.

The screenshot shows the Postman application interface. On the left, the 'Collections' tab is active, displaying a collection named 'CovidAPI' with 8 requests. The third request, '3. Encrypt user pass', is selected. The main panel shows the details of this request:

- Method:** POST
- URL:** http://193.176.87.187:4444/api/EncryptionService
- Body:** The 'Body' tab is selected, showing a JSON payload in raw format:

```
1 {
2   "key":
3     "<RSAKeyValue><Modulus>vxPE1sNNU5k6Jd8wXS1m1D2B0ckPflQ8vecDLfGYLvrEXfGIzsoQaMw5Gq2
4     rhWn9TF6o5CdCjlkB65iT4g1W2VvKneMDuTMfRTLg8figAIkUMi00HsdeeFK4AdhA1fXwKUx9FAGgGek8q
5     W+HR/9Wv+lzufOnWdSp+CV40oBSpJ4fR9BQ327e48dD5YbGy2Uq+BAje+bYxKs0nj0MwCPV1tC8A
      +CYxdCyus8ecvay3tEK3rcVpiPmdmzw50gstGp3A7QIXyYfNd/
      DPYw8eajXhxWZ223Yo8sh7s0a3WX57QTBjXQaDJoeT6RKImS6jJnYusrIhhFNG26as9Y0m2h0SX
      +r9J3lK/a9dep
      +syZZPdd4t0l0J99mcr06TVUB4Tp8Ck6cw5Z29mj2JKDr6DnjNU5eddw2vKhCOGLytfDvN1zukImDA6MT
      W50w2mWUeSC2jmplY8DXMj+1y5F0YWAxKVLFA+wD03PLAx+zhk1y4BvPALCwjeJqIlIiZRzEBDP</
      Modulus><Exponent>AQAB</Exponent></RSAKeyValue>",
6   "text": "newpass"
7 }
```
- Response:** The 'Body' tab shows a long, base64-encoded string representing the encrypted password.

The bottom status bar indicates the request was successful with a 200 OK status, 175 ms response time, and 654 B of data.

## 4. Paso cuarto.

En este paso solicitaremos el alta de un nuevo usuario. Para ello copiaremos las respuestas de los dos pasos anteriores (usuario encriptado y contraseña encriptada) a una nueva petición. Esta petición puede encontrarse con el número 4 en el proyecto de Postman CovidAPI.

The screenshot displays the Postman application interface. On the left sidebar, the 'Collections' tab is active, showing a collection named 'CovidAPI' with 8 requests. The main workspace shows a REST client request for the endpoint 'http://193.176.87.187:4444/api/user' with the method 'POST'. The 'Body' tab is selected, showing a JSON payload. The response is visible on the right, showing a 200 OK status and a large JSON object representing an RSA key value.

File Edit View Help

+ New Import Runner

My Workspace Invite

Filter

History Collections APIs

+ New Collection Trash

CovidAPI 8 requests

GET 1. GetPublicKeyToCommunicate

POST 2. Encrypt user mail

POST 3. Encrypt user pass

POST 4. Sign up new user

POST 5. Encrypt user with its own public key

POST 6. Encrypt user pass with its own public key

POST 7. Authorize user

POST 8. Send covid requests

4. Sign up new user

POST http://193.176.87.187:4444/api/user

Send Save

Params Auth Headers (9) Body Pre-req. Tests Settings

raw JSON Beautify

```
1 {
2   "email": "U30utTiF+mYnI7qn7wt\Wi0AXP3/uwLpUZkLSA9h/
jTD55lCf2STiBd4azSnga001Phudvshb2ypwKrk6PckJtai4N
+8GjS3Y5mMyL4JA49ad5CnecVaLyV6IDkUUFuUQyCEh6F9rlrXQMPQnCyb6Xr7id
+2oLUgwiNPwPpGMS5xzkF9sdtXL7YYNzRT9HEUug0FcCSWux80ueOp0ueMtr2aLMIIId5d/V/wzZiePY
+uIwaU1VUitwbJ3Tq0C6afN/3+ndqE3p6PkLmaJpmz1m00kCZVxm1ly
+KDZRR0IcmLP6cYT4jJHVskLgZy2aeiaukhW0d5XD0mIE2wAMmLJ93I0B061b6PeaCFG04GT48QIZHvK1gN2Di
YSK1zbxY0SfximzGRHR/LQaExA2n1HKEZZ50bRLMfdsVHVY4XoDGCCT5C9phm1LwBuPdiQMA1kCGocqsU/
Dncb5Cq7E/EPta14gX9VBEZ16cEgEc/QAFihknvdCGrQvy6L7YxN",
3   "pass": "nqQ06nlr0g26jX40BDKuB1vZHj90LF9vyzqRkPCfXo5qH/
ksNhC6Yb220VLuFeRXBuN06aCGpoohzKUDsa6D8Nn0RGPC2hzU4UMmG8R0QAYMYj0Bz3o
+iwYSNDsR12FrLTm6MTSyGjMmudcL6Ls/TnThvyT4j1ygbGLvHTmPnEAMew6s6A
+byGEs02E0easZ3T25NFTP1956L9W83q/Gb9P8Jea7IqXYH/
V0kyCaXcILP03cG22PC0J0SNBMck0Eb8TeqgMY6g5a4na41A1BvLFNVCRWsLjHqJ3s2sX24N0q2AHaYzhFPwPMb
F73P5PLtdxteXYLn2LkLa6QjRGN9t37mphJBxTF80oP02KbftvBaIpmvVBLbqab8UzRcsjt/
0M2CaX3tZ16Sp6gtadpB+yZEaELZyGBsWmHrF71h1xe0tcjDS/wW2suc3egoE/sFp2em/
Sjsr6sNIsuH8bV93XF8+aLSipm6EQlwL0sCYUyuyYF18CDuRRZUyDkSR",
4   "new": true
5 }
```

Body

200 OK 1 m 0.48 s 725 B Save Response

Pretty Raw Preview Visualize Text

```
1 <RSAKeyValue><Modulus>xd1IcgTrav8jV+N5U+i0KuJd020vQjGmqdU/Roo/FgpPb75oKJ
+wh9iyCs5TdJ1A0fgsv+Y7dmL2F4C0HeZTT4F1VAGnsNw2DzgictG1mGzTaCQJR5wL5C
+M3aMbsCP7eZitetTHuSCetLIypHQztoy2Lf8sThirT0+W6U27Kw8Qq4Y4
+FFEMhZAAyUomp7H9ZTDHkaxf3P0GsU7h6ftjUilAN8D15w0IcyJkx3eCdvC5meGrtr/P
+PA1LVhXYfFL3xUHPZ+XuICPgGdqE0Uryt3AqiyRBrLwvunnF1DZZCCmJy
+eo9yUDL4CjxbYugpYSBsNd4i0yHfzc/hWdf/
zDqhAf5t5ur1se6ExzEUfvrp1JzY5CVp6oTmoqKJFUETiTv54P35dddrINPcpiEDGh20Dvo8M1pFm5Bc5v
lktTJqgaykaajY/uPumsBpYKGUjNL10B0LoBG5jrYmPdbJb0XA32LqUjxbx3Z5244539RjxwDhF7Jb0s7v</
Modulus><Exponent>AQAB</Exponent></RSAKeyValue>
```

Find and Replace Console

Bootcamp Build Browse

## 5. Paso quinto.

Ahora repetiremos el paso 2. Pero en esta ocasión emplearemos la clave pública devuelta como respuesta en el paso 4. Ésta será la clave única de usuario y debe de almacenarse para evitar su pérdida.

The screenshot displays the Postman API client interface. On the left, a sidebar shows a 'Collections' tab with a collection named 'CovidAPI' containing 8 requests. The main workspace shows a REST client request for '5. Encrypt user with its own public key'. The request is a POST to 'http://193.176.87.187:4444/apl/EncryptionService'. The 'Body' tab is selected, showing a JSON payload. The payload includes a 'key' field with a long RSA public key string and a 'text' field with the value 'newuser@myuser.com'. The response tab shows a 200 OK status with a long JSON response string. The bottom status bar indicates 'Bootcamp' and 'Build' buttons.

File Edit View Help

+ New Import Runner

My Workspace Invite

Filter

History Collections APIs

+ New Collection Trash

COVIDAPI 8 requests

GET 1. GetPublicKeyToCommunicate

POST 2. Encrypt user mail

POST 3. Encrypt user pass

POST 4. Sign up new user

POST 5. Encrypt user with its own public key

POST 6. Encrypt user pass with its own public key

POST 7. Authorize user

POST 8. Send covid requests

POST 2. Encrypt user mail

POST 3. Encrypt user pass

POST 4. Sign up new user

POST 5. Encrypt user with its own public key

5. Encrypt user with its own public key

Examples 0 BUILD

POST http://193.176.87.187:4444/apl/EncryptionService Send Save

Params Auth Headers (8) Body Pre-req. Tests Settings

raw JSON Beautify

```
1 {
2   "key": "<RSAKeyValue><Modulus>xd1IcgTrav8jV+N5U+i0KuJd020vQjGmqdU/Roo/FgpPb75oKJ
+wh9iyCs5TdjlA0fGsv+Y7dmL2F4C0HeZTT4F1VAGnsNw2DzgictG1ImGzTaCQJr5wL5C
+M3aMbsCP7eZitetThUSCetLIypHQztoy2l f8sTHi rT0+W6UZy7Kw8Q4Y4
+FEHhZAAyU0mp7H9ZTdHkaxf3P0GsU7h6ftjUilAn8D15w0IcyJkx3eCdvC5meGrtr/P
+PA1LVhXYfFL3xUHPZ+XuICPgGdqCE0Uryt3AqiyRBrLwvunnF1DZZCCmjy
+eo0yUDL4CjxbYuapYSBsNd4i0yHfzc/hWdf/
zDqhAf5t5ur1se6ExzEUfvrpiJzY5CVp6oTmoqoKJFUETiTvS4PJ5dddrINPcpiEDGh20Dvo8Mlp1pFm5
Bc5vLkTTJqgaykaajY/
uPumsBpYKGUjNl1Q8OLoBG5j rYmPdbJb0XA32LqUjxbx3ZS244539RjxwDhF7Jb0s7v</
Modulus><Exponent>AQAB</Exponent></RSAKeyValue>",
3
4   "text": "newuser@myuser.com"
5 }
```

Body

Pretty Raw Preview Visualize Text

```
1 xMAQ5+a8l7LyZjsE8n83PNcgVJeRMYNQEZ7TnAKxa03q/
F0W0N0SkTiAkDdxDrLsRy6MQ6q6dlqYY3fUuzvsW3v6LBp/17f5GfGDDfDk8CiYRDX1Fx
+RcqYMYNysk5FwzDr17Yp1SAaHXvoEa20GHmYxHXpJ9f8Tmb380XXGZ+dBZ/
dTTNE09qz6lm9NDs13RE5B7PXBrcjykc2y5xncqmQK6Tu2EWZ7L1gu1p1r99qyQcQSLycLSCVwnSntzp4esq
5tzkYe8ppY0aj5NvLE2ZcieUcooy8s/MwCrjs7JelCs8GDReVAGymBzvgI0bsBLrvciB+3GtfV038xH8oGqX
+GqCAlejaMYTjQMr29rFfd83HcEkgGbe05crYYgCcuZxeo02gvC3nJ1ah4S2df5tp4dAuusW0CAhf1A23I3M/
seHQczfaIkx7k4PlxXkdTIFj8LX2VeI0+kLMiA1Ztr/6aQxM3u5D0FyI/XA0jj/whc9trvTWdLYTbzhGIF
```

200 OK 183 ms 654 B Save Response

Find and Replace Console

Bootcamp Build Browse

## 6. Paso sexto.

Aquí repetimos el paso 3. Esta vez con la clave pública de usuario al igual que en el paso anterior.

The screenshot displays the Postman API client interface. On the left, a sidebar shows a 'Collections' tab with a collection named 'CovidAPI' containing 8 requests. The main workspace shows a REST client request for step 6: '6. Encrypt user pass with its own public key'. The request is a POST to 'http://193.176.87.187:44444/api/EncryptionService'. The 'Body' tab is selected, showing a JSON payload. The response is displayed on the right, showing a 200 OK status with a response body containing a long string of characters.

**Request Details:**

- Method: POST
- URL: http://193.176.87.187:44444/api/EncryptionService
- Body (JSON):

```
{  "key": "<RSAKeyValue><Modulus>xd1IcgTrav8jV+N5U+i0KuJd020vQjGmqdU/Roo/FgpPb75oKJ+wh9iyCsSTdj1A0fGsv+Y7dm12F4C0HeZTT4F1VAGnsNw2DzgictGI1mGzTaCQJr5wL5C+M3aMbsCP7eZitetTHuSCetLIypHQzt0y2lf8sThiRT0+W6UZY7Kw8Qq4Y4+FFEMhzAAyU0mp7H9ZTdHkaxf3P0GsU7h6ftjUilaN8D15wD1cyJkx3eCdvC5meGr rt/P+PA1LVhYfFL3xUHPZ+XuICPgGdqCE0Uryt3AqiyRBRlWvunnF1DZZCCmJy+eo0yUDL4CjxbYuqpYSBsNd4i0yHfzc/hWdf/zDqhAf5t5ur1se6ExeUufvrpiJzY5CVp6oTmoqoKJFUETZiTvS4PJ5dddrINPcpiEDGh20Dvo8M1pFm5Bc5v1kTTJqgaykaaJY/uPumsBpYKGUjNl1Q80LoBGSjrYmPdbJb0XA32LqUjxbx3ZS244539RjxwDh7Jb0s7v</Modulus><Exponent>AQAB</Exponent></RSAKeyValue>",  "text": "newpass"}
```

**Response Details:**

- Status: 200 OK
- Response Body (Pretty):

```
r5/AdqGVF3aVw7yF84ZtoQQUAeD9fczEoPSKJcGf5K4Y3+NKKDRS0ay6zeoAjaM1lQblZn+UZPix+XRUIERmCunvowhZ1tDl7/Gyy+1VuWnyw7LKEzYDCLerkwPji3dp2wC5xHjPrI9FQ51U7xE8llkHanll1IyA9dgHNtR5GP1tcef8p/GrnfCk3xbUvxBN6v3zgNj8YK5oLvY8tC589VXjSnuuqDGBvcsbm53BRMr/50d/yzsrPaIBctFWjbtLV0mNe04hK3ddPXtFU0rbvCsXyVaWsfrrIsr8BWzLA3RCYVIN8G0GwmSozp3ijVphkLH6H0HfJBUFNK/UcUy4x8w6oNeeh4bXnL4mpvEUsmhtG478qQREJ0hpc/MV6mjKflbcqCF3GLvc+cFJyhzuQc5hG1CfGEf1axWrhdaeWbF7cAIg0yydUmv0JQXJehrf2E9N+uG0aFK41karB0yeaZv8DMYx2YcBmzGWTt3KB9I42E1KHDP/K5aGj
```

## 7. Paso séptimo.

Ahora resta autorizar al usuario para obtener un token de acceso percedero. Igual que en el paso cuarto pegaremos el usuario encriptado en el paso quinto, la contraseña encriptada en el paso sexto y la clave pública de usuario obtenida como respuesta al paso cuarto. Esta vez el atributo “new” está establecido a “false”. La petición está numerada como 7 en el proyecto de Postman CovidAPI:

The screenshot displays the Postman interface for a REST client. On the left, a sidebar shows a collection named 'CovidAPI' with 8 requests. The main area shows a POST request to 'http://193.176.87.187:4444/api/authorize'. The request body is in JSON format, containing 'email', 'pass', 'new', and 'public\_key' fields. The 'new' field is set to 'false'. The response area on the right shows a 200 OK status with a response time of 953 ms and a body containing a long JWT token.

**Request Details:**

- Method:** POST
- URL:** http://193.176.87.187:4444/api/authorize
- Body (JSON):**

```
{  "email": "xMAQ5+a8l7LyZjsE8n8JPNcgvJrMYNQEZ7TnAKxa03q/F0W0N05KtiAkDdxDrLsRy6Mq6qdLqYY3fU0zvsW3v6LBP/17f5GfGDDFd8CiYRDX1Fx+RcQYMYNysk5FwzDrL7YpiSAaHXvEa20GhmYxHxpJ9f8Tmb380XXGZ+dBZ/dTTNE09qz6lm9NDs3RE5B7PXBrcJykcn2y5xncqcmQK6Tu2EWZ7Llgu1plr99qyQcQ5LycLSCVwnSntzp4esq5tZkYe8ppY0ajSNvLE2ZcieUCooy8s/MmCrjs7JelCs8G0ReVAgymBzvgI0bsLrrvcIB+3GtKFVo38xH8oGqX+GgCAlejaMYTjMr29rFfd83HcEkgGbe05crYYgCcuZxee02gvC3nJ1ah452dfStp4dAuuS0CAhfA123I3M/seHQCZfaIkx7k4PLxXkdtIFj8LX2Veio+KLmiA1ZtR/6aQxM3uSD0FyI/XA0jj/whc9tRvTWdLYTbzHGI",  "pass": "r5/AdqGVF3aVwv7yF84ZtoQQUAeD9fzEoP5kJCgF5K4Y3+NKKDRS0ay6zeoAjAm1lQbLzn+U2P1x+XRUUERmMunvowhZ1tDl7/Gyy+iVuWnyw7LKEzYDCLerkwPji3dp2wC5xHjpRi9FQ5Iu7xE8llkHanllIyA9dgHNtR5GP1tcef8p/GrnfCk3xbUvx8N6v3zgNj8YK5oLvY8tC589VXjSnuuqQ6BvcsbmS3BRMr/50d/yzsrPaIBctFwjbTLV0mNe04hK3ddPxtFu0rbvCsXyVaWs ffrIsr8BWzLA3RCYVIN8G0GwmS0zp31jVphkLH6H0HfJBuFNK/UcUy4x8w6oNeeh4bXnL4mpvEUsmhtG478qQrE30hhpC/MV6MjKflbcqCF3GLVc+cFJyhzuQc5hG1CFGEf1axWrhdaeWbF7cAIG0yydUmv0JQ0XJehrf2E9N+uG0aFK41karB0yeaZv8DMYx2YcBmzGwTt3K89I42E1KHDP/K5aGj",  "new": false,  "public_key": "<RSAKeyValue><Modulus>xd1IcgTrav8jV+N5U+i0KuJd020vQqjGmqdU/Roo/FgpPb75oKj+wh9iYCsStDj1A0fGsv+Y7dm12F4C0HeZTT4F1VAGnsNw2DzgictG1lmgZTaCQJr5wL5C+M3aMbsCP7eZitetThUSCetLIypHQztoy2lF8sThi rTO+W6UZY7Kw8Q4Y4+FfEMhzAAyUomp7H9ZTDHkaxf3P0GsU7h6ftUilAN8D15wDIcyJk3x3eCdvC5meGrtrt/P+PA1LVhXyFfL3xUHPZ+XuICPgGdqE0Uryt3AqiyRBRLwvunnF1DZCCmjj+e0yUDL4CjxbYuqYsB8Nd4i0yHfz/hWDF/zDqhA5tSur1se6ExzEuFvrpiJzY5CVp6oTmoqQKFUETZiTv54PJ5ddrINPcpiEDGh20Dvo8M1p1pFm5Bc5vLkTJggaykaajY/uPumsBpYGuJNl1Q80LoBG5j rYmPdbJb0XA32LqUjxbx3Z5244539RjxwDhF7Jb0s7v</Modulus><Exponent>AQAB</Exponent></RSAKeyValue>"}
```

**Response Details:**

- Status:** 200 OK
- Time:** 953 ms
- Size:** 1.16 KB
- Body (Text):**

```
eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJzdWIiOiI1NBS2V5VmFsdWUuPEIvZHVsdXMueG0xSWNnVHJhdjhgVit0NVUraU9LdUpkMDIwdlFxaKdtdwRVLL1jb3p3ZjZlY290VGRqMUFpZkdzditZnR2bD0JGNEMwSGVafV00RjFWQdu0uc053MkR6Z2ljdEdJMW1HeLrhQ1FKcjV3TDVDR00zYU1ic0NQNZVaaXRldFRiRVNDZXRMSXlwSFF6dG95MmxmOHNUSGlyVE8rVzZWVlK3S3c4UXE0WTQrRmZFWmh6QUFZdU9tcDIdOVpUZEhrYXhm1BPR3NVN2g2ZnRqVWlsYU44RDEld0RjY3lKa3gzZUNkdM1bWVhcnJ0L1ArUEEFTFZwFmRkweFVIUForkHVJQ1BnR2RxxY0UwVXJ5dDNBcWl5UKjYThd2dW5uRjFEWlpDQ21qeStlbzB5VURMNEqGJZdXFwVWNCc05kNGkweUhmMvaFdeZi96RHFoQWY1d0V1cjFzZTZFeHpfVWZ2cnBpSnZUNWcdZvVG1vcw9LSkZVRXRAaVR2uzR0SjVkgZGRySU5QY3BpRURHaDJPd0V0E0xcDfWm01Qm1dmxrVFRKcWdhewhYwPZL3VQVWlZQnBzS0dVak5sMVFCT0xvQkdTanJZbVbKypkpiMFhBMzJMcVvUeGJ4M1pTMjQ0NTM5Ump4d0RoRjdyK9zN3Y8L01vZHVsdXMPEV4cG9uZW50PkFRQUI8L0V4cG9uZW50PjwvU1NBS2V5VmFsdWUuIiwianRpIjoiodhLYTZkNzEtMGZiYy00ZTYxLWJmN2YtMzhmZmZyYzFkMDJjIiwibmJmIjoxNjA3MDEzMjA2LjleHA1OjE2MDcwOTk2MDYsImZcyI6ImNvdmlkV69rZW5jcn3N1ZXIiLCJhdW0iOiJjb3p3ZFRva2V0UXVkaWUyZU1fQy40d8s2T0MUUvFsA7bmy4ANuH1BzSPuIg5u4dKwS9fB0
```



## 8. Paso octavo. Parte primera.

Como respuesta al paso anterior habremos recibido un token. Lo copiaremos y pegaremos como Auth (cabecera de mensaje) de la petición del paso 8 del proyecto de Postman seleccionando Bearer Token como tipo de la misma:

The screenshot shows the Postman interface with the following details:

- Top Bar:** Includes buttons for '+ New', 'Import', 'Runner', and 'My Workspace'. The environment is set to 'No Environment'.
- Left Sidebar:** Shows a 'Collections' view with a 'CovidAPI' collection containing 8 requests. The 8th request, '8. Send covid requests', is selected.
- Main Panel:**
  - Request:** Method is 'POST', URL is 'http://193.176.87.187:4444/api/covid'.
  - Auth Tab:** Selected. Type is 'Bearer Token'. A warning message is displayed: 'Heads up! These parameters hold sensitive data. To keep this data secure while working in a collaborative environment, we recommend using variables. Learn more about variables'.
  - Token:** A long alphanumeric string is entered in the 'Token' field.
  - Response Tab:** Empty, showing a placeholder image and the text 'Hit Send to get a response'.
- Bottom Bar:** Includes a 'Find and Replace' search bar, a 'Console' tab, and buttons for 'Build', 'Browse', and 'Bootcamp'.

## 9. Paso octavo. Parte segunda.

Ahora es posible (durante 24 horas antes de volver a autenticarse) emplear la petición número 8 del proyecto de Postman CovidAPI para solicitar información. Las distintas formas de la misma están disponibles desde

[https://github.com/alvaroMaleno/CovidAPI/blob/master/Documentation/Covid\\_API/SimpleUserGuide/ManualSimpleUsuario\\_Covid\\_API.md](https://github.com/alvaroMaleno/CovidAPI/blob/master/Documentation/Covid_API/SimpleUserGuide/ManualSimpleUsuario_Covid_API.md)

The screenshot displays the Postman REST client interface. On the left, a sidebar shows a collection named 'CovidAPI' with 8 requests. The main workspace shows the details of the 8th request, '8. Send covid requests', which is a POST request to the URL 'http://193.176.87.187:4444/api/covid'. The 'Body' tab is selected, showing a JSON payload in raw format. The JSON structure includes a 'covid\_data' object with 'countries' (an array containing 'ES'), 'dates' (an object with 'startDate', 'endDate', and 'separator'), and 'dataType' (set to 'any'). The right pane shows the response body in 'Pretty' format, which is a large JSON array of objects representing COVID-19 data for various locations and dates. The status bar at the bottom indicates a 200 OK response with a 325 ms response time and 20.56 KB of data.

```
POST http://193.176.87.187:4444/api/covid

{
  "covid_data": {
    "countries": [
      "ES"
    ],
    "dates": {
      "startDate": "01/05/2020",
      "endDate": "08/10/2020",
      "separator": "/"
    },
    "dataType": "any"
  }
}
```

```
[{"father":null,"sonList":null,"geoID":"ES","code":"ESP","name":"Spain",
"population":46937060,"dataList":[{"id":283,"cases":12423,"deaths":126,"cured":0,
"date":{"id":283,"date":"08/10/2020","dateSeparator":"/","dateFormat":"dd/MM/yyyy"}},
{"id":282,"cases":10491,"deaths":76,"cured":0,"date":{"id":282,"date":"07/10/2020",
"dateSeparator":"/","dateFormat":"dd/MM/yyyy"}}, {"id":281,"cases":11998,"deaths":261,
"cured":0,"date":{"id":281,"date":"06/10/2020","dateSeparator":"/","dateFormat":"dd/
MM/yyyy"}}, {"id":280,"cases":23480,"deaths":139,"cured":0,"date":{"id":280,"date":"05/
10/2020","dateSeparator":"/","dateFormat":"dd/MM/yyyy"}}, {"id":279,"cases":0,
"deaths":0,"cured":0,"date":{"id":279,"date":"04/10/2020","dateSeparator":"/",
"dateFormat":"dd/MM/yyyy"}}, {"id":278,"cases":0,"deaths":0,"cured":0,"date":{"id":278,
"date":"03/10/2020","dateSeparator":"/","dateFormat":"dd/MM/yyyy"}}, {"id":277,
"cases":11325,"deaths":113,"cured":0,"date":{"id":277,"date":"02/10/2020",
"dateSeparator":"/","dateFormat":"dd/MM/yyyy"}}, {"id":276,"cases":9419,"deaths":182,
"cured":0,"date":{"id":276,"date":"01/10/2020","dateSeparator":"/","dateFormat":"dd/
MM/yyyy"}}, {"id":275,"cases":11016,"deaths":177,"cured":0,"date":{"id":275,"date":"30/
09/2020","dateSeparator":"/","dateFormat":"dd/MM/yyyy"}}, {"id":274,"cases":9906,
"deaths":203,"cured":0,"date":{"id":274,"date":"29/09/2020","dateSeparator":"/",
"dateFormat":"dd/MM/yyyy"}}, {"id":273,"cases":31785,"deaths":179,"cured":0,"date":
{"id":273,"date":"28/09/2020","dateSeparator":"/","dateFormat":"dd/MM/yyyy"}},
{"id":272,"cases":0,"deaths":0,"cured":0,"date":{"id":272,"date":"27/09/2020",
"dateSeparator":"/","dateFormat":"dd/MM/yyyy"}}, {"id":271,"cases":0,"deaths":0,
"cured":0,"date":{"id":271,"date":"26/09/2020","dateSeparator":"/","dateFormat":"dd/
MM/yyyy"}}, {"id":270,"cases":12272,"deaths":114,"cured":0,"date":{"id":270,"date":"25/
09/2020","dateSeparator":"/","dateFormat":"dd/MM/yyyy"}}, {"id":269,"cases":10653,
"deaths":84,"cured":0,"date":{"id":269,"date":"24/09/2020","dateSeparator":"/",
"dateFormat":"dd/MM/yyyy"}}, {"id":268,"cases":11289,"deaths":130,"cured":0,"date":
{"id":268,"date":"23/09/2020","dateSeparator":"/","dateFormat":"dd/MM/yyyy"}},
{"id":267,"cases":10799,"deaths":241,"cured":0,"date":{"id":267,"date":"22/09/2020",
"dateSeparator":"/","dateFormat":"dd/MM/yyyy"}}, {"id":266,"cases":31428,"deaths":168,
"cured":0,"date":{"id":266,"date":"21/09/2020","dateSeparator":"/","dateFormat":"dd/
MM/yyyy"}}, {"id":265,"cases":0,"deaths":0,"cured":0,"date":{"id":265,"date":"20/09/
2020","dateSeparator":"/","dateFormat":"dd/MM/yyyy"}}, {"id":264,"cases":0,"deaths":0,
"cured":0,"date":{"id":264,"date":"19/09/2020","dateSeparator":"/","dateFormat":"dd/
MM/yyyy"}}, {"id":263,"cases":14389,"deaths":90,"cured":0,"date":{"id":263,"date":"18/
09/2020","dateSeparator":"/","dateFormat":"dd/MM/yyyy"}}, {"id":262,"cases":11291,
"deaths":162,"cured":0,"date":{"id":262,"date":"17/09/2020","dateSeparator":"/",
"dateFormat":"dd/MM/yyyy"}}, {"id":261,"cases":11193,"deaths":239,"cured":0,"date":
{"id":261,"date":"16/09/2020","dateSeparator":"/","dateFormat":"dd/MM/yyyy"}},
```

Más información en <https://github.com/alvaroMaleno/CovidAPI> .