



*Using LINKAR REST API with
Javascript, .NET, JAVA, PHP,
cURL.*

March 2020

by Kosday Solutions



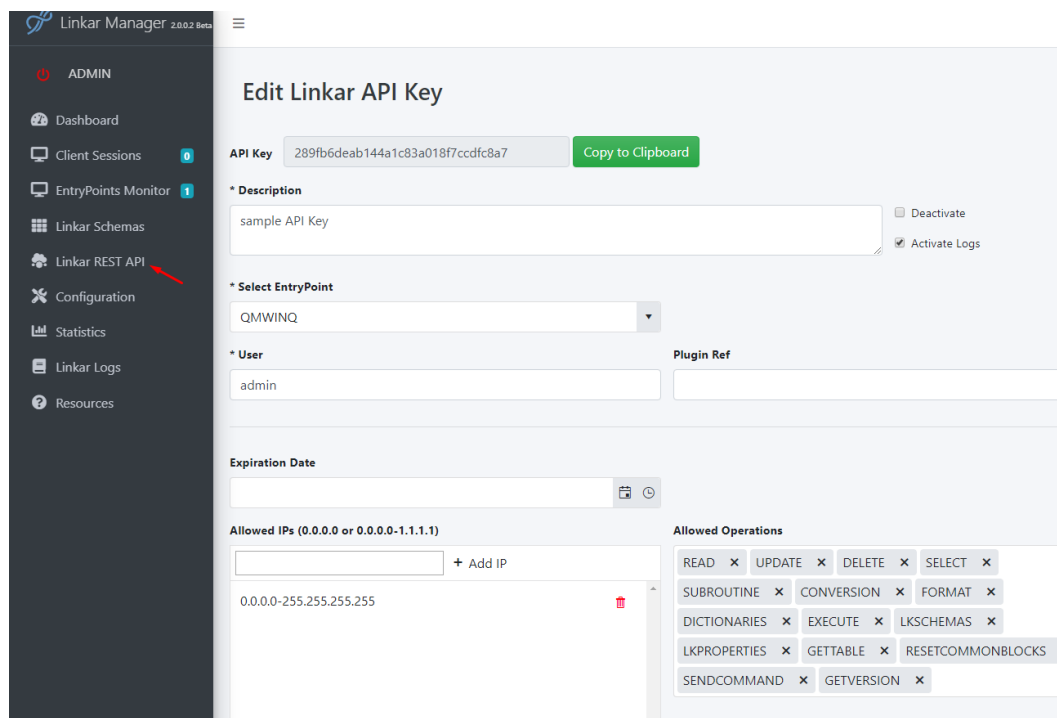
Using LINKAR REST API with JavaScript, .NET, JAVA, PHP, cURL

Linkar REST API provides an interface for applications to interact with your Linkar Suite by sending and receiving data as JSON or XML objects.

This document will show some examples of calls to **Linkar REST API** from the most popular programming languages.

We need two things to make a call to the **Linkar REST API**:

- **URL**: this url refers to the web address (host and position) where **Linkar Manager** is listening for http requests.
- **APIKey**: this **APIKey** must be created in **Linkar Manager** and the IP addresses and operations allowed for this client must be defined in it.



The app passes the request to the **Linkar REST API** URL with the operation that it wants to perform, for example, for a READ: <http://yourdomain.com:11201/api/read> .

Using LINKAR REST API with JavaScript, .NET, JAVA, PHP, cURL

Linkar REST API uses all Linkar *Sendcommand Function Templates*:

READ, UPDATE, NEW, DELETE, SELECT, SUBROUTINE, CONVERSION, FORMAT,
DICTIONARIES, EXECUTE, LKSCHEMAS, LKSCHEMASSQLMODE,
LKSCHEMASDICTIONARIES, LKPROPERTIES, LKPROPERTIESSQLMODE,
LKPROPERTIESDICTIONARIES, GETTABLE, GETTABLESQLMODE,
GETTABLEDICTIONARIES, GETTABLENONE, GETVERSION, RESETCOMMONBLOCKS.

The call can be made in two formats, JSON and XML; the call will vary depending on the format chosen to make the communication so that the web service accepts it.

You must change the following according to the chosen format:

- **ContentType:**
JSON: value "application/json".
XML: value "text/xml".
- **DataType:** (not necessary in all languages)
JSON: value "json".
XML: value "text".
- **Data:**
JSON: It must be a JSON object converted to plain text.
XML: Text string in XML format.

These are the requirements for the call to be accepted, but the data sent must follow a predetermined structure for the service to be understood.

We call this structure an **LkCommand**. If you execute the code of this example, you will easily see every command that can be executed. Let's try to explain how they are formed.

In XML, there must be a main node called **<LkCommand>**. You will find all the content of the command inside this node.

In JSON the main object is the **LkCommand** itself and must not be defined as a property within a parent object.

Wrong: `{ "LkCommand" : { "APIKey" : "my_apikey", "Data": "..." } }`
Right: `{ "APIKey" : "my_apikey", "Data": "..." }`

As you can see in this example, a command needs to contain two variables to work:

Using LINKAR REST API with JavaScript, .NET, JAVA, PHP, cURL

APIKey: The APIKey provided by Linkar Manager.

Data: The data of the operation that we are going to carry out.

Data is itself another package embedded within the **LkCommand**, and it is here where we will give the operation the necessary and optional arguments to obtain the desired result.

Each operation has a specific template. We will use the **READ** operation template in these examples.

We recommend that you consult the help manual for more information on all available templates.

Using LINKAR REST API with JavaScript, .NET, JAVA, PHP, cURL

READ in JAVASCRIPT

```
var data = JSON.stringify({ APIKey : my_apikey, Data: ... });
$.ajax({
  url: "http://yourdomain.com:11201/api/read",
  contentType: "application/json",
  type: "POST",
  dataType: "json",
  data: data,
  success: function (result) {
  },
  error: function (error) {
  }
});
```

```
var data = '<LkCommand><APIKey>my_apikey</APIKey><Data>...</Data></LkCommand>';
$.ajax({
  url: "http://yourdomain.com:11201/api/read",
  contentType: "text/xml",
  type: "POST",
  dataType: "text",
  data: data,
  success: function (result) {
  },
  error: function (error) {
  }
});
```

Using LINKAR REST API with JavaScript, .NET, JAVA, PHP, cURL

READ in .NET

```
HttpClient client = new HttpClient();
    HttpContent httpContent = new StringContent("{ \"APIKey\": \"my_apikey\", \"Data\"
: { \"CALCULATED\": \"False\", \"DICTIONARIES\": \"False\", \"CONVERSION\": \"False\",
\"FORMAT_SPEC\": \"False\", \"ORIGINAL_RECORDS\": \"False\", \"CUSTOM_VARS\": \"\"
, \"OUTPUT_FORMAT\": \"MV\", \"FILE_NAME\": \"LK.CUSTOMERS\", \"RECORD_IDS\": [{
\"ID\": \"2\"}, { \"ID\": \"3\" }]}, \"RECORD_DICTCLAUSE\": \"\" }\", Encoding.UTF8,
\"application/json\");
    HttpResponseMessage response =
client.PostAsync("http://yourdomain.com:11201/api/read", httpContent).Result;
    response.EnsureSuccessStatusCode();
    string responseBody = response.Content.ReadAsStringAsync().Result;
```

```
HttpClient client = new HttpClient();
    HttpContent httpContent = new
StringContent("<LkCommand><APIKey>my_apikey</APIKey><Data><CALCULATED>False</CALC
ULATED><DICTIONARIES>False</DICTIONARIES><CONVERSION>False</CONVERSION><FORMA
T_SPEC>False</FORMAT_SPEC><ORIGINAL_RECORDS>False</ORIGINAL_RECORDS><CUSTOM_
VARS></CUSTOM_VARS><OUTPUT_FORMAT>MV</OUTPUT_FORMAT><FILE_NAME>LK.CUSTO
MERS</FILE_NAME><RECORD_IDS><ID>2</ID><ID>3</ID></RECORD_IDS><RECORD_DICTCLAU
SE></RECORD_DICTCLAUSE></Data></LkCommand>", Encoding.UTF8, "text/xml");
    HttpResponseMessage response =
client.PostAsync("http://yourdomain.com:11201/api/read", httpContent).Result;
    response.EnsureSuccessStatusCode();
    string responseBody = response.Content.ReadAsStringAsync().Result;
```

Using LINKAR REST API with JavaScript, .NET, JAVA, PHP, cURL

READ in JAVA

```
try
{
    URL url = new URL("http://yourdomain.com:11201/api/read");
    HttpURLConnection conn = (HttpURLConnection)
url.openConnection();
    conn.setDoOutput(true);
    conn.setRequestMethod("POST");
    conn.setRequestProperty("Content-Type", "application/json");
    String input = "{ \"APIKey\" : \"my_apikey\", \"Data\" : {
    \"CALCULATED\" : \"False\", \"DICTIONARIES\" : \"False\", \"CONVERSION\" : \"False\",
    \"FORMAT_SPEC\" : \"False\", \"ORIGINAL_RECORDS\" : \"False\", \"CUSTOM_VARS\" : \"\"
    , \"OUTPUT_FORMAT\" : \"MV\", \"FILE_NAME\" : \"LK.CUSTOMERS\", \"RECORD_IDS\" : [ {
    \"ID\" : \"2\" }, { \"ID\" : \"3\" } ], \"RECORD_DICTCLAUSE\" : \"\" } }";

    OutputStream os = conn.getOutputStream();
    os.write(input.getBytes());
    os.flush();

    if (conn.getResponseCode() ==
HttpURLConnection.HTTP_BAD_REQUEST)
    {
        throw new RuntimeException("Failed: HTTP error code: " +
conn.getResponseCode());
    }

    BufferedReader br = new BufferedReader(new
InputStreamReader(conn.getInputStream(), "UTF-8"));
    String output;
    System.out.println("Output from Server ... \n");
    while ((output = br.readLine()) != null ) {
        System.out.println(output);
    }
}
catch(MalformedURLException e) {
    e.printStackTrace();
}
catch(IOException e) {
    e.printStackTrace();
}
```

Using LINKAR REST API with JavaScript, .NET, JAVA, PHP, cURL

```
try
    {
        URL url = new URL("http://yourdomain.com:11201/api/read");
        HttpURLConnection conn = (HttpURLConnection)
url.openConnection();
        conn.setDoOutput(true);
        conn.setRequestMethod("POST");
        conn.setRequestProperty("Content-Type", "text/xml");
        String input =
        "<LkCommand><APIKey>my_apikey</APIKey><Data><CALCULATED>False</CALCULATED><DICTIONARIES>False</DICTIONARIES><CONVERSION>False</CONVERSION><FORMAT_SPEC>False</FORMAT_SPEC><ORIGINAL_RECORDS>False</ORIGINAL_RECORDS><CUSTOM_VARS></CUSTOM_VARS><OUTPUT_FORMAT>MV</OUTPUT_FORMAT><FILE_NAME>LK.CUSTOMERS</FILE_NAME><RECORD_IDS><ID>2</ID><ID>3</ID></RECORD_IDS><RECORD_DICTCLAUSE></RECORD_DICTCLAUSE></Data></LkCommand>";

        OutputStream os = conn.getOutputStream();
        os.write(input.getBytes());
        os.flush();

        if (conn.getResponseCode() ==
HttpURLConnection.HTTP_BAD_REQUEST)
        {
            throw new RuntimeException("Failed: HTTP error code: " +
conn.getResponseCode());
        }

        BufferedReader br = new BufferedReader(new
InputStreamReader(conn.getInputStream(), "UTF-8"));
        String output;
        System.out.println("Output from Server ... \n");
        while ((output = br.readLine()) != null ) {
            System.out.println(output);
        }
    }
    catch(MalformedURLException e) {
        e.printStackTrace();
    }
    catch(IOException e) {
        e.printStackTrace();
    }
}
```


Using LINKAR REST API with JavaScript, .NET, JAVA, PHP, cURL

Read in PHP

```
try
{
    $curl = curl_init();
    curl_setopt($curl, CURLOPT_POST, 1);
    curl_setopt($curl, CURLOPT_POSTFIELDS, "{ \"APIKey\": \"my_apikey\", \"Data\": {
    \"CALCULATED\": \"False\", \"DICTIONARIES\": \"False\", \"CONVERSION\": \"False\", \"FORMAT_SPEC\"
    : \"False\", \"ORIGINAL_RECORDS\": \"False\", \"CUSTOM_VARS\": \"\", \"OUTPUT_FORMAT\": \"MV\"
    , \"FILE_NAME\": \"LK.CUSTOMERS\", \"RECORD_IDS\": [ { \"ID\": \"2\" }, { \"ID\": \"3\" } ]
    , \"RECORD_DICTCLAUSE\": \"\" } }");
    curl_setopt($curl, CURLOPT_HTTPHEADER, array('Content-Type: application/json'));
    curl_setopt($curl, CURLOPT_URL, "http://yourdomain.com:11201/api/read");
    curl_setopt($curl, CURLOPT_RETURNTRANSFER, 1);
    $result = curl_exec($curl);
    curl_close($curl);

} catch (Exception $e) {
    $result = $e->getMessage();
}
```

```
try
{
    $curl = curl_init();
    curl_setopt($curl, CURLOPT_POST, 1);
    curl_setopt($curl, CURLOPT_POSTFIELDS,
    "<LkCommand><APIKey>my_apikey</APIKey><Data><CALCULATED>False</CALCULATED><DICTIONARIES
    >False</DICTIONARIES><CONVERSION>False</CONVERSION><FORMAT_SPEC>False</FORMAT_SPEC><OR
    IGINAL_RECORDS>False</ORIGINAL_RECORDS><CUSTOM_VARS></CUSTOM_VARS><OUTPUT_FORMAT>
    MV</OUTPUT_FORMAT><FILE_NAME>LK.CUSTOMERS</FILE_NAME><RECORD_IDS><ID>2</ID><ID>3</ID
    ></RECORD_IDS><RECORD_DICTCLAUSE></RECORD_DICTCLAUSE></Data></LkCommand>");
    curl_setopt($curl, CURLOPT_HTTPHEADER, array('Content-Type: text/xml'));
    curl_setopt($curl, CURLOPT_URL, "http://yourdomain.com:11201/api/read");
    curl_setopt($curl, CURLOPT_RETURNTRANSFER, 1);
    $result = curl_exec($curl);
    curl_close($curl);

} catch (Exception $e) {
    $result = $e->getMessage();
}
```

Using LINKAR REST API with JavaScript, .NET, JAVA, PHP, cURL

READ in cURL

```
"curl -d "{ \"APIKey\": \"xxxxxxx\", \"Data\": { \"FILE_NAME\": \"LK.CUSTOMERS\"  
, \"RECORD_IDS\": [ { \"ID\": \"2\" } ] } }" -H "Content-Type: application/json"  
http://linkerserverip:linkarmanagerport/api/read"
```

Thanks

www.kosday.com

support@kosday.com

Using LINKAR REST API with JavaScript, .NET, JAVA, PHP, cURL