



# How to Connect Web API Guide

Version 1.1

## Contents

Version 1.1 .....	1
Introduction .....	3
How to register on the User Authentication Service (UAS).....	3
How to Connect .....	3
Supported Formats .....	4
Code Snippets .....	4
Client-Side Examples with AJAX.....	4
Server-Side examples with C# .....	7
How to get AccessToken Method.....	7
Using AccessToken to Call Endpoint.....	8
APPENDIX 1 .....	9
References .....	9



A client system will be required to submit an access token with each request to the eCert API endpoints. The url for issuing of the access token is as follows:

**Authorization URL:** <https://uas.ecert.co.za/oauth2/token>

Note: Testing can be done on any rest client (e.g. Postman, RestClient) to ensure you retrieve the expected results before development.

## Supported Formats

Messages (data) are delivered via two response types namely XML and JSON. In order to receive data in a specific format, you need to specify the content type in the response header as such:

**Content-Type: 'application/xml'**

Or

**Content-Type: 'application/json'**

## Code Snippets

### Client-Side Examples with AJAX

Following are code snippet examples to illustrate how to call the eCert API endpoint using AJAX on the Client side. The examples show how clients can specify which format they want to receive as a response between **JSON** and **XML**.

## JSON Format

```
<script>
$(document).ready(function()
{
    var clientId="your client_id";
    var clientSecret="your client_secret";
    var applicationRefNo="your application_ref_no";
    var authurl=" https://uas.ecert.co.za/oauth2/token"
    var url="https://app.ecert.co.za/api/phytostatus";

$.ajax(
    {
        //Call authentication endpoint
        url: authurl,
        type: 'GET',
        dataType: 'json',
        headers: {
            'client_id': clientId,
            'client_secret': clientSecret,
            'grant_type': 'client_credentials'
        },
        contentType: 'application/json; charset=utf-8',
        success: function (result,textStatus, xhr) {
            token=data.access_token;

            //on successful authentication get API Data
            $.ajax({
                url: url,
                type: 'POST',
                dataType: 'json',
                contentType: 'application/json',
                headers: {
                    "Authorization": "bearer " + token,
                },
                success: function (result) {
                    console.log(result);
                },
                error: function (xhrXmlHttpRequest, textStatus, error) {
                    console.log('Error occured, please try again');
                }
            });
        },
        error: function (xhrXmlHttpRequest, textStatus, error) {
            console.log("Error occured,please try again")
        }
    });
});
</script>
```

## XML Format

```
<script>
$(document).ready(function()
{
  var clientId="your client_id";
  var clientSecret="your client_secret";
  var applicationRefNo="your application_ref_no";
  var authurl=" https://uas.ecert.co.za/oauth2/token"
  var url="https://app.ecert.co.za/api/phytostatus";

$.ajax(
  {

    //Call authentication endpoint
    url: authurl,
    type: 'GET',
    dataType: 'json',
    headers: {
      'client_id': clientId,
      'client_secret': clientSecret,
      'grant_type': 'client_credentials'
    },
    contentType: 'application/json; charset=utf-8',
    success: function (result, textStatus, xhr) {
      token=data.access_token;

      //on successful authentication get API Data
      $.ajax({
        url: url,
        type: 'POST',
        dataType: 'xml',
        contentType: 'application/xml',
        headers: {
          "Authorization": "bearer " + token,
        },
        success: function (result) {
          console.log(result);
        },
        error: function (xhrXmlHttpRequest, textStatus, errorThrown) {
          console.log('Error occured,please try again');
        }
      });
    },
    error: function (xhrXmlHttpRequest, textStatus, errorThrown) {
      console.log("Error occured,please try again")
    }
  });
})
</script>
```

## Server-Side examples with C#

The examples below show C# code snippets of how a Client application can call the eCert Web API authentication endpoint to get the access token and use it to call another authenticated endpoint.

### How to get AccessToken Method

```
public static async Task<string> GetWebAPIAccessToken()
{
    var url = "https://uas.ecert.co.za/oauth2/token"
    string clientId = "client_id";
    string clientSecret = "client_secret";

    using (var client = new HttpClient(new HttpClientHandler()))
    {
        var request = new HttpRequestMessage()
        {
            RequestUri = new Uri(url),
            Method = HttpMethod.Post,
            Content = null
        };
        //client_id here
        client.DefaultRequestHeaders.Add("client_id", clientId);
        //client_secret here
        client.DefaultRequestHeaders.Add("client_secret",
clientSecret);
        //grant_type here
        client.DefaultRequestHeaders.Add("grant_type",
"client_credentials");
        var response = await client.SendAsync(request);
        var result = await response.Content.ReadAsStringAsync();

        if (response.IsSuccessStatusCode == true)
        {
            //Deserialize to your token object

            var token = JsonConvert.DeserializeObject<Token>(result);

            return token.access_token;
        }

    }

    //return null if client not authenticated
    return "";
}
```

## Using AccessToken to Call Endpoint

```
public static async Task<Status> GetPhytoStatus(string RefNo)
{
    string accessToken = await GetWebAPIAccessToken();
    ApplicationStatus applicationStatus=new ApplicationStatus();

    //check if client is authenticated
    if(accessToken!=null)
    {
        using (var client = new HttpClient(new HttpClientHandler()))
        {
            var url =
"https://www.ecert.co.za/api/phytostatus?ApplicationRefNo=" + RefNo;

            var request = new HttpRequestMessage()
            {
                RequestUri = new Uri(url),
                Method = HttpMethod.POST,
                Content = null
            };
            // insert token here
            client.DefaultRequestHeaders.Add("Authorization", "Bearer "
+ accessToken);
            var response = await client.SendAsync(request);
            var result = await response.Content.ReadAsStringAsync();

            if (response.IsSuccessStatusCode == true)
            {
                applicationStatus
=JsonConvert.DeserializeObject<Status>(result);

                return applicationStatus;
            }
        }
    }

    //return null if client not authenticated or request fails
    return null;
}
```



## APPENDIX 1

### References

- <https://oauthlib.readthedocs.io/en/latest/oauth2/grants/credentials.html>
- <https://oauth.net/2/grant-types/client-credentials/>
- [Register a Business on the Central Business Register](#)
- [Request Web API Access on CBR](#)
- [eLot Notice Web API User Guide](#)
- [eCert Web API User Guide](#)