FRC EVENTS API DEMO TOOL

The FRC Events API Testing Tool is a simple command line tool used for making requests to all the endpoints on the public FRC Events API. It can also be used in a testing environment for the API by using batch request config files. Please refer to the FRC Events API Documentation website for more detailed information on the API itself. The documentation website can be found here: https://frc-api-docs.firstinspires.org/
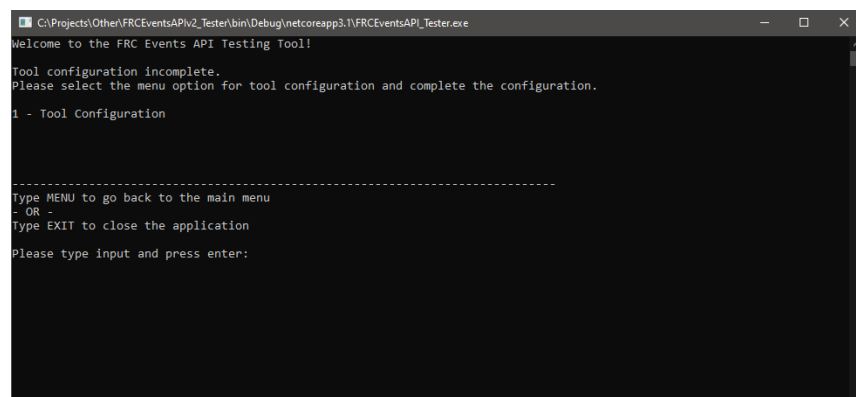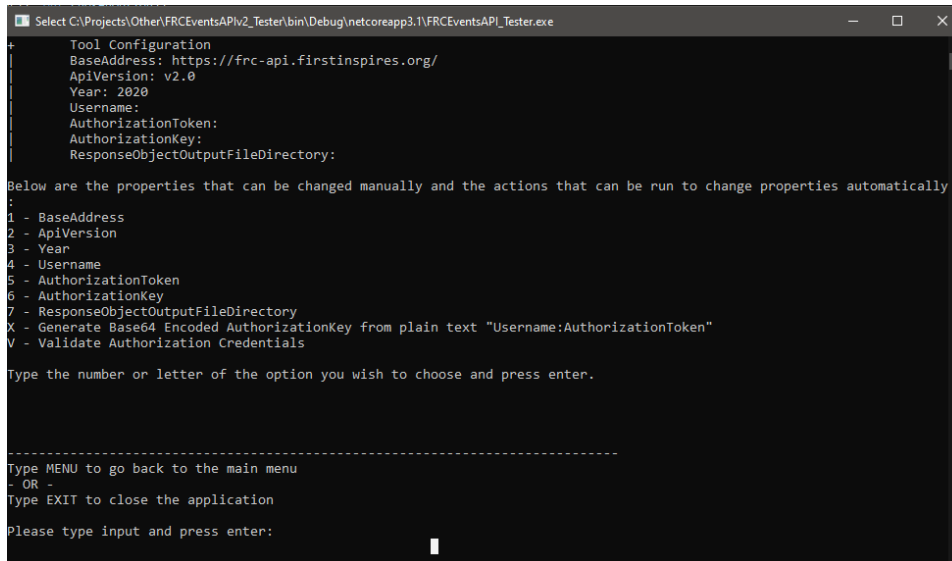
INITIAL RUN

Figure 1-1 Protected PC

On initial run, you may need to allow the program by clicking "More Info" and then "Run anyway" from the Windows popup message.

FIRST TIME SETUP

Figure 1-1 Initial startup Main

When the app is launched for the first time, a message is displayed telling the user that the configuration is incomplete shown in *FIGURE 1-1*. Configuration is required in order to use the app. Configuration is simple and straightforward. Follow the menu to enter the Tool Configuration menu.

Figure 1-2 Tool Configuration menu

The vertical size of the window may need to be adjusted in order to show all the text being displayed in this menu. The menu will display the current configuration of the app as well as menu options for setting the values for the configuration shown in *FIGURE 1-2*. In order to properly configure the app, Authorization credentials must be created at https://frc-events.firstinspires.org/services/API. Once created, the user will be emailed credentials that are used in this menu to configure the app. The properties of the tool configuration are as follows:

- **BaseAddress**, **ApiVersion**, and **Year** have default values as they will likely not change between users.
- **Username** is the username entered in the webpage mentioned above
- **AuthorizationToken** is the code the user is given in the email confirmation of creating a user for the API. The user then needs to use that Token combined with their username (format – "username:AuthToken") to create a Base64Encoded string for the AuthorizationKey.
- **AuthorizationKey** is a Base64Encoded string generated from the username and AuthorizationToken (format – "username:AuthToken"). This can be done on any website or application that performs Base64Encoding or by selecting the "X" option in this menu.
- The "V" option in this menu will make a request to the API and ensure the credentials authenticated correctly.

Once the configuration is complete, follow the menu prompts to return to the Main Menu.

MAKING AN API REQUEST MANUALLY

Figure 2-1 Main Menu with completed configuration

If Configuration has been fully setup, the Main Menu should now be populated with options for using the tool to interact with the API shown in *FIGURE 2-1*. Follow the menu to enter the "Make API Request" menu.

Figure 2-2 API Request Menu

The API Request Menu will display all available Endpoints on the FRC Events API shown in *FIGURE 2-2*. Follow the menu to choose the endpoint you wish to make a request to.

Figure 2-3 API Endpoint Request Menu

The API Endpoint Request Menu will display the name of the chosen endpoint, all currently configured parameters, and all available parameters for the GET request shown in *FIGURE 2-3*. All required parameters are appended with an asterisk in the menu. There are additional options for telling the tool whether to output the response to a file and to use a config file for sending the request instead of typing each parameter into the tool manually. Once you have entered all desired/required parameters for the request, follow the menu to execute the request to the endpoint.
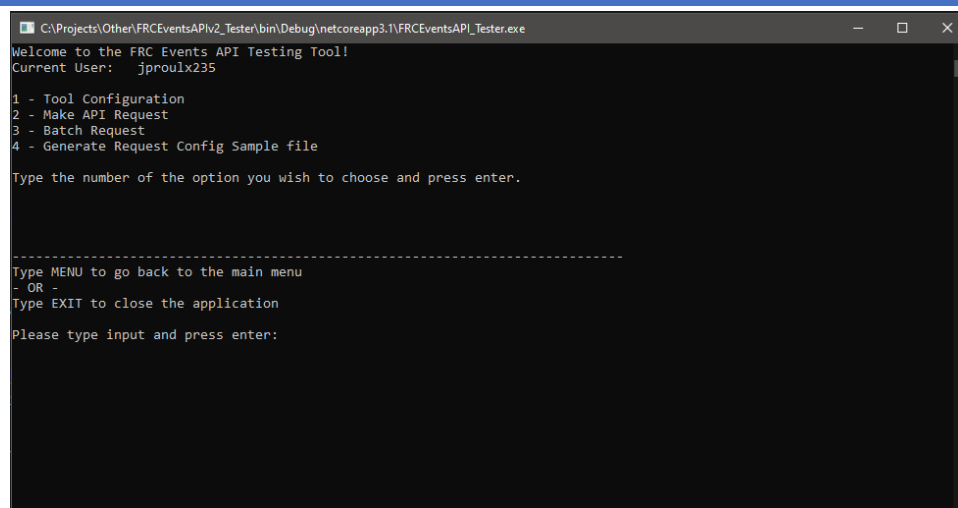

Figure 2-4 API Endpoint Request response output

A deserialized output of the response object will be then be displayed on screen as well as the complete URL used to make the request shown in *FIGURE 2-4*.

BATCH REQUESTS USING REQUEST CONFIG FILES
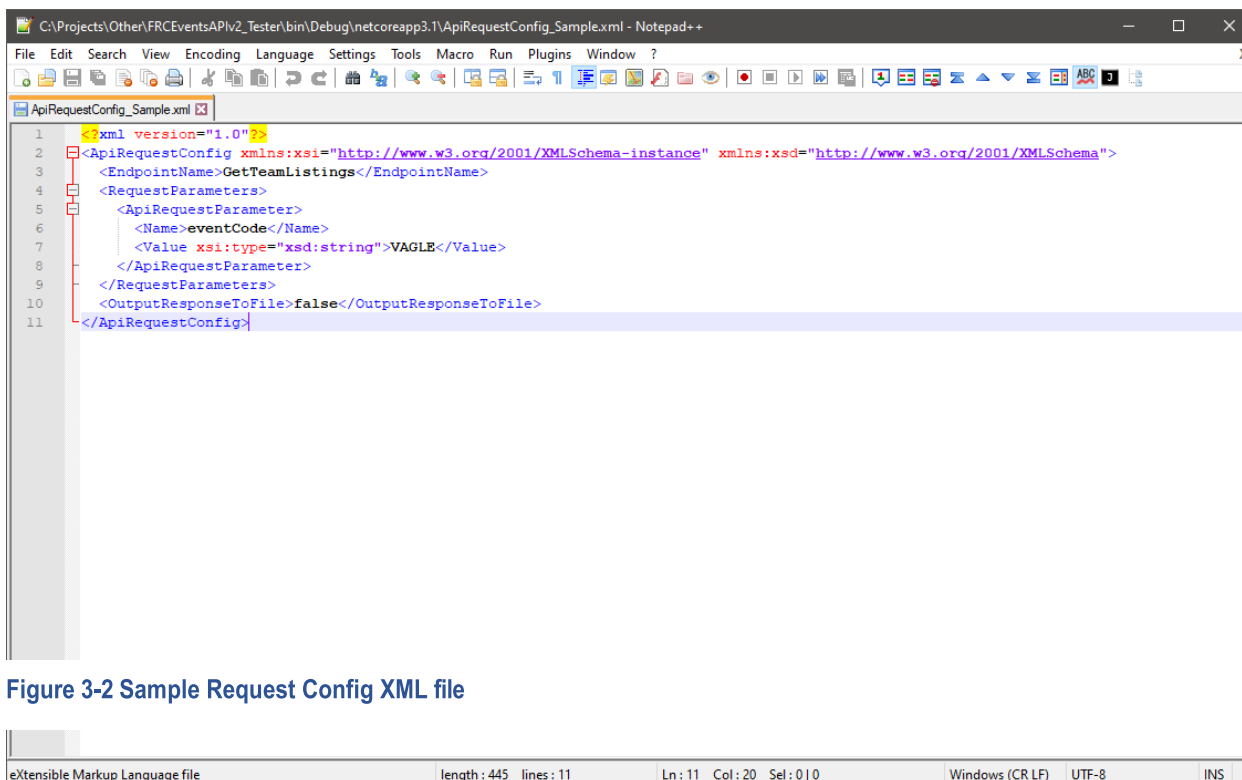
Figure 3-1 Make Batch Request from Main Menu

Before the user can make Batch Requests using this tool, the format of the config files must be understood. Follow the Main Menu to generate a sample of the config file shown in *FIGURE 3-1*. The location of the generated file will be displayed on screen for 3 seconds and the menu will be refreshed. It is created in the same folder as the .exe for the app.


Figure 3-2 Sample Request Config XML file

The sample file is hardcoded to generate a request to the GetTeamListings endpoint for the event code "VAGLE" and not output the response to a file shown in *FIGURE 3-2*. This XML element structure must be followed, including element names. The request config file can also be a collection of **<ApiRequestConfig>** elements for batching requests. XML format rules must be followed. In this case, a collection of elements must be contained in a single root element. For the config files, the root element can have any name. The tool does not read for the root element, only the **<ApiRequestConfig>** element and all descendents.
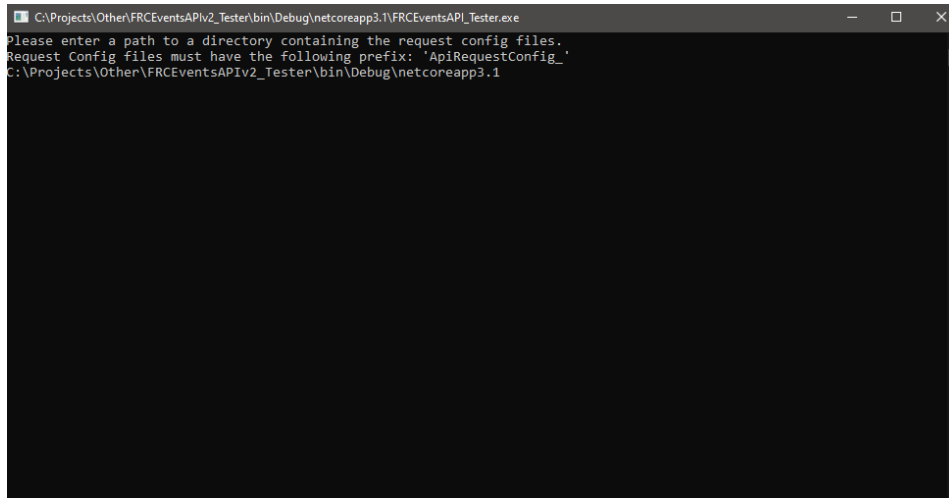
Figure 3-3 Batch Request Menu

Follow the Main Menu to enter the Batch Request menu. In the Batch Request menu, enter the folder containing the request config files shown in *FIGURE 3-3*. The Batch Request menu **DOES NOT** output responses to the console app window. It is advised to set that property to true for all request config objects if you wish to capture the responses.
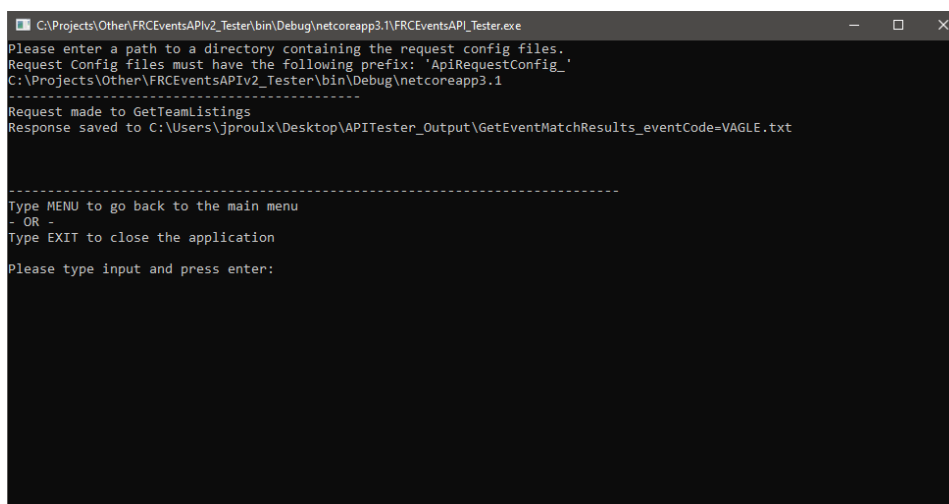
Figure 3-4 Batch Request output

For each request made using the file(s), the app will output the name of the endpoint and the name of the response output file (if generated) shown in *FIGURE 3-4*. Batch requests can be done using multiple files each with a single request, a single file with a collection of requests, or a combination of the two. The app reads all xml files with the pattern stated in the menu and serializes all **<ApiRequestConfig>** elements within them.

This tool is intended to be a demonstration of the functionality of Version 2 of the FRC Events API. It is not intended for production purposes, but rather for things like validating your token is active, the address you are requesting from is valid, or the output format of the data matches the documentation. For additional advice or questions, consider posting on the TeamForge website or finding more information on our API Information page.