

Users' Guide

# Application XML



## **Application XML Guide**

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# Application XML

The Interactive Brokers Application XML is available for Registered Advisors and Fully Disclosed Brokers who want to develop their own version of the Interactive Brokers account application for their clients.

 **Note:** Application XML is intended for Advisors and Brokers who either have working knowledge of XML or have access to support staff with working knowledge of XML.

## What is Application XML?

Application XML is a process that lets Registered Advisors and Fully Disclosed Brokers provide their clients with their own customized Interactive Brokers account application experience based on IB's Application XML Schema. In Application XML, you use our schema as the basis for your own client account application, collect all of the required information about your client applicants, and then return all of the client information back to us in XML documents for processing. For example, an Advisor may want his clients to complete an IB account application on his or her own website instead of using Interactive Brokers' electronic client account application.

You can control the look and feel of your client account applications, as long you submit that information to us as properly formatted XML files.

## What We Provide

IB provides everything you need to program your own XML-based client account application solution:

- » **Application XML Agreement** - You must sign the Application XML Agreement and return it to us via email for approval by our Compliance Department.

Once we have approved your signed Application XML Agreement, we will provide the following supporting documents via email:

- » **IB Application XML Schema** - The Application XML Schema is described in two XML Schema Definition (.XSD) files: *IBCust\_import.xsd* and *IBCustEnumerations.xsd*. The .XSD files describe the structure and data types for the XML documents that contain your clients' application information.
- » **Application XML Schema Documentation** - This is a zipped online help system automatically generated from the .XSD files that completely documents the Application XML Schema, including all elements, data types, attributes and values. Once you download and unzip this file, open the *index.html* in your browser to open the documentation.



**Note:** The Application XML Schema Documentation includes information about five elements: *AcctMgmtRequests*, *AllDVPInstructions*, *Applications*, *ExtPositionsTransfers* and *Synchronization*. Use ONLY the *Applications* element and ignore the other elements.

- » **Application XML Response File Schema** - This is the file you use to format your custom client application profile to send back to Interactive Brokers.
- » **XML Samples** - Application XML currently supports Individual, Joint, and IRA client accounts for an Advisor or Fully Disclosed Broker account, so we provide a group of sample files for the most common client account types and sample response files. Your programming or technical resources can use the XML samples as models for the XML files that you will send back to us.
- » **ACAT Broker ID/Name List** - This Excel spreadsheet (file name *ACAT Broker Entries.xls*) lists all brokers who are eligible for ACATS transfers. Refer to this spreadsheet for any clients that using ACATS to fund their accounts.
- » **EmployeeTrack Company IDs** - This Excel spreadsheet (file name *ET\_Company\_ID.xls*) lists IDs that correspond to our internal EmployeeTrack company IDs. Refer to this spreadsheet for any clients

who are employed by a broker/dealer with an IB EmployeeTrack account.



**Note:** This is related to the Affiliation regulatory question.

- » **Financial Ranges** - Net Worth, Liquid Net Worth, Annual Net Income and Total Assets are required attributes in the Financial Information section of your client account applications. We allow either absolute values or ranges of values for these four attributes. The *Financial\_Ranges.xls* Excel spreadsheet lists ranges of values and their corresponding IDs. If you choose to use financial ranges instead of absolute values for these attributes, include the IDs for the appropriate financial range from this spreadsheet.
- » **Bundle Based/Capability Based Guidelines for Trading Permissions** - We provide three text files (*BundleBased.txt*, *CapabilityBased-Country.txt* and *CapabilityBased-State-Country.txt*) that list the form numbers of disclosures, agreements and acknowledgments that are required to support different trading permissions for your client applicants. The actual forms are located in the outgoing/Forms folder on our anonymous FTP site and are listed by the form numbers included in these three text files.
- » **Trading Permission Codes** - This Excel spreadsheet, (file name *TradingPermissions.xlsx*), lists all of the available trading permission codes that identify the asset classes and countries that your clients want to trade. You use these codes to indicate requested trading permissions in the XML files containing your clients' application information that you send back to us. For example, a trading permission code of US-Sec means that a client is requesting permission to trade US Stocks.
- » **Country Codes** - This comma-separated values file, (file name *Country\_Codes.csv*), lists all available countries. See [FAQ 10](#) for more information.

- » **Broker Client Market Data Service IDs** - For Fully Disclosed Brokers only, this Excel spreadsheet (filename *IBrokerClient\_MarketDataServices.xls*) lists all market data subscription and their Service IDs, along with the price and currency of each subscription. When sending us your client applicant data, use this spreadsheet to find the correct Service ID for each requested market data subscription, and include the Service IDs in the MDServices element in the client application XML file.
- » **Interactive Brokers Public PGP Key** - When you submit your client application information and signed forms and agreements in XML and zip files, you will need IB's public PGP key. The file name is *IBKR\_CI.PubKey.asc*.
- » **ECA XML Processing** - Outlines PGP exchange and signature signing.
- » **List of acceptable documents for Proof of ID and Address**

## Accessing the Agreements and Disclosures at Our FTP Site

All of the agreements and disclosures that you will need are located at our anonymous FTP site. Use the following information to access the FTP site. Note that we use anonymous FTP, which means that you can access the forms using your web browser.

### FTP Site Information

- » Agreements and Disclosures Location:  
<ftp://ftp.interactivebrokers.com/outgoing/Forms>

## How to Get Started

1. Learn more about the [XML Sample Files](#) that we will provide via email.
2. Read the [Summary](#) to familiarize yourself with the main steps involved in the Application XML process.
3. Go to [How to Set Up Application XML](#) and follow all of the detailed steps to initiate the process, prepare and test your XML files, and complete the delivery of your final XML files.



# About the XML Sample Files

Read this section to learn more about the XML sample files that we provide.

Application XML currently supports Individual, Joint and IRA clients for an Advisor or Fully Disclosed Broker account. Once we have approved your signed Application XML Agreement, we will provide the XML sample files via email. Your programming or technical resources can use the XML samples as models for the XML documents containing your clients' application information that you send back to us.

## Advisor Client Types - Sample Files


The sample files include XML application data and required PDF forms for the following types of client accounts:

 **Note:** Additional non-US samples files (dual language) are also included.


- » **Individual** - *Individual\_US\_Sample.zip*
- » **Joint** - *Joint\_Sample.zip*
- » **IRA - Traditional Rollover** - *TraditionalRolloverIRA\_Sample.zip*
- » **IRA - Roth** - *RothIRA\_Sample.zip*

# Application XML Summary

Here is a summary of the steps required to complete the Application XML process. Read this section if you would like to familiarize yourself with the overall process before you begin.

 **Note:** You can skip this section and go directly to the detailed steps in [How to Set Up Application XML](#) if you prefer.

1. Send a request to implement Application XML to [salesengineering@interactivebrokers.com](mailto:salesengineering@interactivebrokers.com).
2. We will send you our XML Agreement. Sign and send the agreement back to us at the email provided above. We will submit it to our Compliance Department for approval, which typically can take 3-5 days. Once you are approved, we will email you with details about our secure FTP site.
3. Once approved, we will send you the supporting documents and IB hosted FTP details via email, and then you can build your user interface to collect client data and sign agreements, and then prepare XML files with sample data for testing.
4. You will collect all general data about your client applicants, including name, address, employment and other information, and get those applicants to sign Interactive Brokers' agreements and disclosures on your own website. Use the XML Samples as models for the XML files that you send us, or use the All-In-One zip file, which includes both an example XML file and signed agreements and disclosures.
5. You will work with the sales engineering team to test the process.
6. Upload all applicant data, funding notifications and electronic signatures in XML files along with copies of the required PDF forms in an encrypted zip file to the secure FTP site.
7. We retrieve and process the files and then post encrypted response XML files to the secure FTP site. The response files will have a status of Success or Error. You correct any errors and then resubmit the corrected XML files to the secure FTP site.
8. If no additional documentation is needed, the account will be submitted for approval.
9. As Advisor or Broker, you are responsible for providing the account numbers, usernames and temporary passwords to your clients.
10. Each client must log in to reset his or her password to access Account Management once his or her client account has been approved and opened.

-  **Note:** Temporary passwords do not expire; however, all clients **MUST** reset their temporary passwords upon logging in for the first time.


# How to Set Up Application XML

The following steps describe how a Registered Advisor or Introducing Broker initiates the application XML process, what details are required in the application XML files, and details about delivery methods. The entire process is presented here in the following sections:

1. Preliminary Steps
2. Build and Test Your User Interface
3. Rules for Submitting Files
4. Testing Phase
5. Production Phase

## 1. Preliminary Steps

1. Send a request to implement Application XML to [salesengineering@interactivebrokers.com](mailto:salesengineering@interactivebrokers.com).
2. We will send you our XML Agreement. Sign and send the agreement back to us at the email provided above. We will submit it to our Compliance Department for approval, which typically can take 3-5 days.
3. Once you are approved, we will send you all supporting documentation, files and XML samples via email. You can download the agreements and disclosure forms from the [Forms folder](#) on our anonymous FTP site.
4. The supporting documentation that we email you will include our public PGP key. You will need this to encrypt files that you submit to IB later. The file name of the public PGP key is *IBKR\_CI.PubKey.asc*.
5. Later, during the testing and production steps of the process, you will upload the zip files containing the Application XML and PDF forms to the FTP site provided by IB and retrieve our encrypted response XML files from the same FTP site. Once your initial agreement has been approved, we will email you with details about how to access this secure FTP site , including your own unique login credentials.
6. Provide us with your PGP key so that you will be able to retrieve our XML response files from the secure FTP site.
7. Review all supporting documents and files and email any questions you may have to us at [salesengineering@interactivebrokers.com](mailto:salesengineering@interactivebrokers.com).

 **Note:** See [What We Provide](#) for more information about the supporting documentation, files and samples.

## 2. Build and Test Your User Interface

1. Build the user interface that you plan to use to collect client application data and prompt clients to sign agreements. You and your programming team can use the XML schema documentation and other supporting files as reference while you build your interface.
2. Test your user interface with sample data.

## 3. Rules for Submitting Files

IB will provide you with the expected file naming convention prefix. **You will need this information to prepare and submit both test XML files and final production XML files.** Note that the same secure FTP site is used for both testing and production.

- » To submit client applicant information, upload one or more XML files along with copies of the accompanying PDF agreement and disclosure forms in an encrypted zip file. This method lets you submit the XML application information and PDF forms for one or multiple clients together in a single, encrypted zip file. The zip file must be encrypted with IB's PGP key and signature signed. Note that you can upload multiple zip files if you prefer, as long as each zip file contains both XML files and PDF forms, and each zip file is encrypted with IB's PGP key.

### 3. Rules for Submitting Files

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- » You must follow this naming convention for your zip file(s):

Tester\_YYYY-MM-DD\_HHMMSS.zip.gpg

where the first segment is the same prefix as your xml files, the second segment is the date (YYYY-MM-DD) and the third segment is the time (HHMMSS). The file name extension must be *.zip.gpg*.

For example, Tester\_2015-07-29\_125345.zip.gpg



**Note:** If you are not sure how to name your zip files, Interactive Brokers will provide you with the proper file name prefix.

- » Do not upload individual XML files without the accompanying PDF forms because this will delay processing.
- » Do not upload encrypted XML files with PDF forms in a zip file. The zip file must be encrypted, NOT the individual XML file(s).
- » If there are two accounts (U101/U102) sending three agreements (A1/A2/A3), it is acceptable to have only three PDF files (A1.pdf; A2.pdf; and A3.pdf). In this case, the XML file should specify the same file names for each account. No specific naming convention is needed for the PDF files. Avoid using spaces and special characters in the PDF file names because they tend to create problems.

### Important Information About Regulatory Information AFFILIATION Status

In the XML file, there is a section about Regulatory Information which includes the RegulatoryDetails code "AFFILIATION." In your XML file, this is the line that reads **<RegulatoryDetails status="true" code="AFFILIATION" />**. For clients for whom the value of this code is set to true, you have two options:

#### Option 1: For EmployeeTrack Accounts

Reference the ET\_Company\_ID Excel spreadsheet. For example, modify the code in your XML file to read as follows:

```
<AffiliationDetails>  
<affiliation_relationship>Wife is Employee</affiliation_relationship>  
<person_name>Jane Nueman</person_name>  
<company_id>14</company_id>  
</AffiliationDetails>
```

#### Option 2: Not an EmployeeTrack Account

For example, modify the code in your XML file to read as follows:

```
<AffiliationDetails>  
<affiliation_relationship>Self</affiliation_relationship>  
<person_name>Karl Gustav Martin Eriksson</person_name>  
<company>Covestor</company>  
<company_mailing_address postal_code="02110" country="United States"  
state="MA" city="Boston" street_1="175 Federal street, suite 825"/>  
<company_phone>18668253005</company_phone>  
</AffiliationDetails>
```


### 4. Testing Phase

When you are ready, we will test the sample data in your XML files in our QA environment and work with you to correct any errors. Here are the detailed steps in the testing process:

1. Prepare your XML files with sample client information. Use the sample XML files and Application XML Schema online documentation as guides.

Your Application XML files (for testing and production) must include:

- All required client information.
- Each client account application must include a unique [external ID](#), which we use to identify the account. Specify the external ID in the `external_id` attribute in the XML for the client. We cannot process two applications with the same external ID. Note that you can use your own user ID as the external ID.
- While funding (deposit notification) information is not required in your XML files, we encourage you to include it.
- Interactive Brokers agreements and disclosures, which must contain:
  - Electronic signatures (in our XML schema, this is the element `Signed By`, which is a child of the element `Document`);
  - The file name of each agreement or disclosure form sent, with each form sent separately in PDF format by account;
  - File length in number of bytes;
  - SHA1 checksum
  - Two timestamps: `exec_login_ts`, which represents the moment that the client logged in to your system; and `exec_ts`, the time at which the client effectively signed.

 **Note:** The PDF agreements and disclosures are locked; there is no reason for you to have to edit these files because actual client signatures are not required in the PDF forms that you send us. They ARE required in the XML file as indicated above.

2. Save the XML files and their accompanying PDF agreement and disclosure forms in a zip file encrypted with IB's public PGP key as described in [Rules for Submitting Files](#).
3. Upload the zip file(s) to the applications/incoming folder on our secure FTP site.



If you know that you uploaded a file that contains errors and we have not yet processed the file, let us know, and then delete the incorrect file from the secure FTP site, correct the errors, and replace it with the corrected file.

4. We retrieve the files that you uploaded and process them in our QA environment, and then we post encrypted test response XML files to our secure FTP site.
5. Download the test response files and ensure that you can decrypt them using your PGP key. Response file names follow this naming convention:

Prefix\_yyyy-mm-dd\_HHMMS.xml.report.asc

where the first segment is the same prefix as the xml files that you submitted, the second segment is the date (YYYYMMDD) and the third segment is the time (HHMMSS).


6. Once you decrypt and open the test response files, you will be able to see their contents:
  - The status of your application: `Success` or `Error`.
  - Details of any errors.

If the status is `Success` (there are no errors), the response file will include the Interactive Brokers account number, username, temporary password and accepted or pending agreements and disclosures.

If the status is `Error`, you must correct the errors and then resubmit your file(s). When you resubmit the corrected XML files, you can continue to use the same external ID for each client application.


### 5. Production Phase

When you have successfully loaded several test accounts, let us know that you are ready to prepare and submit your client applications for production. The steps for preparing and uploading XML files and PDF forms and retrieving response files are nearly identical to the steps in the testing phase. The only difference is now you will be submitting actual client applications instead of sample applications.

 **Note:** Your application must be reviewed and approved by compliance prior to switching to production.

Follow these steps:

1. Collect the real data from your applicants (your clients) via the user interface that you built.
2. Ensure that your XML files adhere to the guidelines listed in Step 1 in the section [Testing Phase](#) above.
3. Prepare one zip file for a single client account application for upload according to the guidelines listed in the section [Rules for Submitting Files](#) above. Make sure the zip file is encrypted, NOT the XML file contained therein.
4. Upload the zip file to our secure FTP site.
5. We will process the file. Files are processed only once; files that have been already processed are ignored.
6. Check the secure FTP site for our XML response file. Decrypt the response file. If there are any errors, correct them and resubmit the file. See Steps 5-6 in the section [Testing Phase](#) above for details.
7. If you need to update a client application that you have already submitted (for example, the client's marital status changed), and the application has not yet been successfully processed, you must resubmit the XML file using the same external ID as the original (resubmit the updated XML file along with the PDF forms in an encrypted zip file). If the application you need to update and resubmit has already been successfully processed, you must resubmit the XML file using a new external ID, and then [delete the incorrect client application using the Manage Clients > Dashboard page in Account Management](#).
8. If you forget to submit all of the required agreements and disclosure forms, you can submit a special XML file as described in the [FAQs](#) section.

9. Once that first file has been verified as being completely error-free, we will begin automatically checking the secure FTP site every 15 minutes from 03:00 AM EST to 16:10 PM EST (default). You can prepare and upload additional zip files for your client account applications.
  10. Retrieve the response files from our secure FTP site.
  11. Correct any errors indicated in the response files, and resubmit your files.
    - If we ask for additional documents (i.e. Proof of Address or Proof of Identity), email them to: [newaccounts@interactivebrokers.com](mailto:newaccounts@interactivebrokers.com). Be sure to include only the new Interactive Brokers account number in the subject line.
    - If no additional documentation is required, each client account will be submitted for approval. You can check the status of each account application on the [Manage Clients > Dashboard page in Account Management](#).
  12. As Advisor or Broker, you are responsible for providing the account numbers, usernames and temporary passwords to your clients.
  13. Each client must log in to reset his or her password to access Account Management once his or her client account has been approved and opened.
-  **Note:** Temporary passwords do not expire; however, all clients MUST reset their temporary passwords upon logging in for the first time.

# Frequently Asked Questions

## 1. How do I submit XML files in Unicode (dual language encoding)?

Currently Chinese is the only non-English language we support in Application XML.

In ASCII, one character is coded with 1 byte, but in Unicode (UTF-8), up to 4 bytes are allowed per character to represent non-ASCII range characters such as Chinese symbols.

If you are submitting XML files with Unicode (non-ASCII) characters in Chinese, you must include the following in your XML files:

- » Indicate that you are using UTF-8 encoding by including the line `<?xml version="1.0" encoding="UTF-8" standalone="yes" ?>` in the standard header of the XML file(s).
- » Specify your language in the `Application` element by adding `input_language = '<language>[-<script>]'` to the element where `<language>` represents the shortest ISO 639 code (2 or 3 characters) and `<script>` represents the ISO 15924 code (4 characters).

For example, for Simplified Chinese, your `Application` element with `input_language` would look like this (not case sensitive):

```
<Application input_language = 'zh-Hans'>.
```

If you do not indicate UTF=8 encoding, encoding is defaulted to ASCII. If the `input_language` attribute is missing, then the default value `en` (for English) is used.

## 2. What is the External ID?

The external ID is a unique identifier that is represented in the XML file by the attribute `external_id`. The external ID must be unique for each account application; we cannot process two applications with the same external ID. You can use your own user ID in this field.

The `external_id` is an attribute of the following complex types in the XML file:

- » Customer
- » Individual

- » Account
- » User

The external IDs can be the same for all four unless there are multiple individuals. If there are multiple individuals in an application (i.e., secondary holder in a joint account or IRA beneficiaries), then the external ID must be unique for each individual.

The user external ID would be the same ID as the account holder.

Individual Example:


- » Customer external\_ID= ANAGY001
- » Individual (account holder) external\_ID= ANAGY001
- » Account external\_ID= ANAGY001
- » User external\_ID= ANAGY001

IRA Example:

- » Customer external\_ID= ANAGY002
- » Individual (account holder) external\_ID= ANAGY002
- » Individual (beneficiary) external\_ID= ANAGY00248
- » Account external\_ID= ANAGY002
- » User external\_ID= ANAGY002

### 3. Which funding methods can I use to fund new accounts?

Only ACATS (full or partial), ATON, ACH (initiated by bank only), wire and check deposits are supported.

-  **Note:** If you are submitting a wire deposit notification in Hong Kong Dollars (HKD), ask sales engineering for more information.

### 4. What is the minimum deposit required to open a client account?

5,000 USD.

### 5. What are the rules for account usernames?

Username are eight or nine characters long and must contain five or six lower-case letters and three numbers. You only need to provide the five lowercase letters; Interactive Brokers will append three or four numbers to complete the username.

### 6. What format do I use for Advisor Fees using Percent of Net Liquidation Value (%NLV)?

Enter your %NLV using the following example:

For 2%, enter 2, not 0.02.



**Note:** You can set the advisor fee or use an existing fee template in the XML application.

### 7. What do I use for the Identification element?

For US: Social Security Number (`SSN` attribute).

For non-US, one of the following:

- » License (`DriversLicense` attribute)
- » National ID (`NationalCard` attribute)
- » Passport (`Passport` attribute)
- » Alien ID (`AlienCard` attribute).

### 8. Which XML element do I use for a new application?

The only XML element you will use is `Applications`. Disregard all other XML elements.

### 9. For the `AccreditedInvestorInformation` complex type, there are five unnamed booleans == q1,q2,q3,q4,q5. What do these do?

You can ignore these obsolete items.

**10. What values are allowed in the `country` attribute?**

The full country name as shown in the NAME column of the *Country\_Codes.csv* file or the 3 character ISO code, part of the supporting documentation that we email you.

 **Note:** The ISO code must be used for states.

**11. What happens if I submit a new application with an older timestamp than a previously submitted application?**

The order of application submission has no effect on the Application XML.

**12. What time zone should I use for the two timestamps `exec_login_ts` and `exec_ts`?**

All of our times are based in New York (EST or EDT).

**13. What encryption options are available?**

PGP only.

**14. What if I forget to submit specific required agreements or disclosures?**

You can submit them by uploading an XML file to our FTP site. Name your file *submit\_additional\_docs.xml* and use the following sample as a guide:

```
<?xml version="1.0" encoding="US-ASCII" standalone="yes"?>
<AcctMgmtRequests xmlns="http://www.interactivebrokers.com/schemas/IBCust_import">
<DocumentSubmission reference_account_id="U1110000">
  <Document form_no="3007" exec_ts="20140620165825" exec_login_
  ts="20140620195825">
    <SignedBy>Test Tester</SignedBy>
    <AttachedFile file_name="3007.pdf" file_length="10896" sha1_
    checksum="d3da37913817130fa62479905267361bffd090c7" />
  </Document>
</DocumentSubmission>
</AcctMgmtRequests>
```

**15. What happens if exactly the same file name gets submitted for two separate clients - for example, two clients open accounts at the same time and we generate one xml file per client - at the exact same time (hour-minute-seconds)?**

If both files have exactly the same file name, the second file will overwrite the first. The file names must be different.