Developing and Deploying Intelligent Chat Bots

Microsoft

Connect directly to a Bot - Direct Line

Objectives

In certain scenarios such as testing, communication directly to your bot may be required. Communication between your bot and your own client application can be performed using Direct Line API. This hands-on lab introduces key concepts related to Direct Line API.

Setup

For this lab, you can use a published Bot to talk to via Direct Line API.

Download the sample from:
https://github.com/Microsoft/BotBuilder-Samples/tree/master/CSharp/core-DirectLine and import the solution in Visual Studio.

In the DirectLineBot solution, you will find two projects – DirectLineBot and DirectLineSampleClient. If you do not have a published app, you can publish DirectLineBot. The previous labs should have prepared you with the steps related to publishing bots.

DirectLineSampleClient is the client that will send messages to the bot.
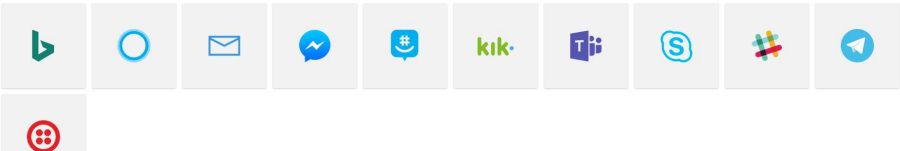
Authentication

Direct Line API requests can be authenticated either by using a secret that you obtain from the Direct Line channel configuration page in the Bot Framework Portal. Go to the Bot Framework Portal and find your bot. Add Direct Line via *Connect to channels* for your bot.

bots4   CHANNELS   ANALYTICS   SETTINGS   **Test**

Connect to channels

Name	Health	Published	
🌐 Direct Line	Running	--	Edit ✏
Ⓢ Skype	Running	--	Edit ✏
🔲 Web Chat	Running	--	Edit ✏

Get bot embed codes

Add a channel

You can obtain a Secret Key from the Direct Line channel after adding as shown below:

Configure Direct Line

+ Add new site	Default Site ✏		☐ Disable	🗑
Default Site				

Secret keys

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	Show	Regenerate
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	Show	Regenerate

Version

Select which versions of the Direct Line protocol are enabled on this site. More information about these versions can be found in the Direct Line reference documentation.

☑ 1.1
☑ 3.0 [PREVIEW]
☐ High-speed storage [PREVIEW]

App Config

The Secret key obtained from *Configure Direct Line* in the Bot Framework Portal is then added to the Configuration settings in App.config file as shown below. In addition, for the published bot, capture the

bot id and enter in the appSettings part of App.config from DirectLineSampleClient project. The relevant lines of App.config to enter in the App.config are listed as follows:

```xml
<add key="DirectLineSecret" value="YourBotDirectLineSecret" />
<add key="BotId" value="YourBotId" />
```

```xml
1    <?xml version="1.0" encoding="utf-8"?>
2  <configuration>
3    <appSettings>
4      <add key="DirectLineSecret" value="YourBotDirectLineSecret" />
5      <add key="BotId" value="YourBotId" />
6    </appSettings>
7    <startup>
8        <supportedRuntime version="v4.0" sku=".NETFramework,Version=v4.6.1" />
9    </startup>
10   <runtime>
11     <assemblyBinding xmlns="urn:schemas-microsoft-com:asm.v1">
12       <dependentAssembly>
13         <assemblyIdentity name="Newtonsoft.Json" publicKeyToken="30ad4fe6b2a6aeed" culture="neutral" />
14         <bindingRedirect oldVersion="0.0.0.0-9.0.0.0" newVersion="9.0.0.0" />
15       </dependentAssembly>
16     </assemblyBinding>
17   </runtime>
18 </configuration>
19
```
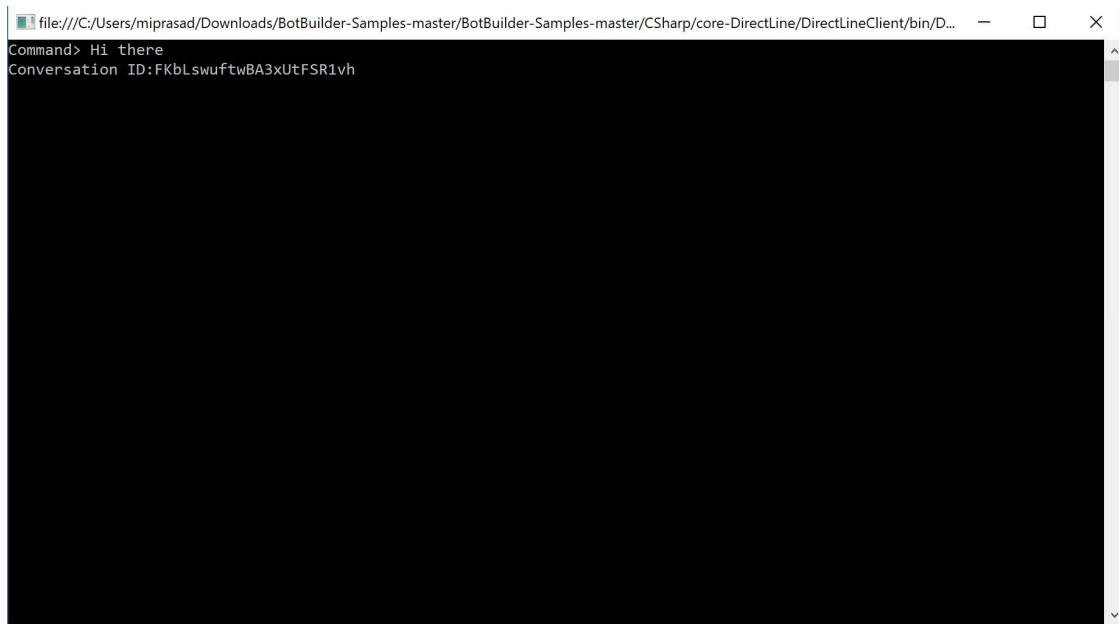
Sending and Receiving Messages

Using Direct Line API, a client can send messages to your bot by issuing HTTP Post requests. A client can receive messages from your bot either via WebSocket stream or by issuing HTTP GET requests. In this lab, we will explore HTTP Get option to receive messages.

1. Run project DirectLineSampleClient after making the Config changes.

2. Submit a message via console and obtain the conversation id using the below line:

```csharp
Console.WriteLine("Conversation ID:" + conversation.ConversationId);
```

file:///C:/Users/miprasad/Downloads/BotBuilder-Samples-master/BotBuilder-Samples-master/CSharp/core-DirectLine/DirectLineClient/bin/D...

```
Command> Hi there
Conversation ID:FKbLswuftwBA3xUtFSR1vh
```

3. Once you have the conversation id, you can retrieve user and bot messages using HTTP Get. To retrieve messages for a specific conversation, you can issue a GET request to the /api/conversations/{conversationId}/activities endpoint, optionally specifying the watermark parameter to indicate the most recent message seen by the client.

4. Use any Rest Client to receive messages via HTTP Get. In this lab, https://advancedrestclient.com/ is used for receiving messages from the bot. The below images indicate the conversations obtained from *Advanced Rest client*. Note the conversation "Hi there" and the corresponding bot response that is echoed back.

HTTP request

Socket

History

Saved

Projects

https://directline.botframework.com/api/conversations/AkTiZgmNpqZDNWT7gkju1J/messages

GET   POST   PUT   DELETE   PATCH   Other methods

Raw headers   Headers form   Headers sets   Variables

Authorization: Bearer EnziuKarqjI.cwA.o4A.NDCWDMDFn8TuuyL11KIg8-frNF0cofo_NMDKuYmKh5M

85 bytes

SEND

200 OK   823.00 ms   DETAILS ˅

Raw   JSON

```
{
  -"messages": [Array[7]
    -0: {
        "id": "AkTiZgmNpqZDNWT7gkju1J|0000001",
        "conversationId": "AkTiZgmNpqZDNWT7gkju1J",
        "created": "2017-07-09T10:06:14.2347777Z",
        "from": "bots4",
        "text": "Welcome to the Bot to showcase the DirectLine API. Send 'Show me a hero card' or 'Send me a BotFramework image'
to see how the DirectLine client supports custom channel data. Any other message will be echoed.",
        "images": [Array[0]],
        "attachments": [Array[0]],
        "eTag": "W/"datetime'2017-07-09T10%3A06%3A14.8126544Z'""
    },
    -1: {
        "id": "AkTiZgmNpqZDNWT7gkju1J|0000002"
```

Selected environment: default

```
        "created": "2017-07-09T10:08:14.9439072Z",
        "from": "DirectLineSampleClientUser",
        "text": "ss",
        "images": [Array[0]],
        "attachments": [Array[0]],
        "eTag": "W/"datetime'2017-07-09T10%3A08%3A16.6655137Z'""
    },
    -4: {
        "id": "AkTiZgmNpqZDNWT7gkju1J|0000005",
        "conversationId": "AkTiZgmNpqZDNWT7gkju1J",
        "created": "2017-07-09T10:08:17.7988054Z",
        "from": "bots4",
        "text": "You said 'ss'",
        "images": [Array[0]],
        "attachments": [Array[0]],
        "eTag": "W/"datetime'2017-07-09T10%3A08%3A18.5609275Z'""
    },
    -5: {
        "id": "AkTiZgmNpqZDNWT7gkju1J|0000006",
        "conversationId": "AkTiZgmNpqZDNWT7gkju1J",
        "created": "2017-07-09T10:19:55.9397425Z",
        "from": "DirectLineSampleClientUser",
        "text": "Hi there",
        "images": [Array[0]],
        "attachments": [Array[0]],
        "eTag": "W/"datetime'2017-07-09T10%3A19%3A57.4759915Z'""
    },
    -6: {
        "id": "AkTiZgmNpqZDNWT7gkju1J|0000007",
        "conversationId": "AkTiZgmNpqZDNWT7gkju1J",
        "created": "2017-07-09T10:19:58.6430365Z",
        "from": "bots4",
        "text": "You said 'Hi there'",
        "images": [Array[0]],
        "attachments": [Array[0]],
        "eTag": "W/"datetime'2017-07-09T10%3A19%3A59.629077Z'""
    }
  ],
  "watermark": "7"
}
```

Selected environment: default