Thursday, June 13, 2019 1:25 AM

There are two sets of changes you need to make to the BotServices.cs file.

Diff screen shot to show first set of changes to BotServices.cs

```
Diff - BotServices.c...D vs. BotServices.cs   ⇒  X
BotServices.cs
 QnAMultiturnVirtualAssistant

    qual Multiturn Virtual Assistant. Services. Bot Services

▼ a_httpClient

             // Copyright (c) Microsoft Corporation. All rights reserved.
             // Licensed under the MIT License.
             using System.Collections.Generic;
             using Microsoft.ApplicationInsights;
             using Microsoft.Bot.Builder.AI.Luis;
             using Microsoft.Bot.Builder.AI.QnA;
             using Microsoft.Bot.Builder.ApplicationInsights;
             using Microsoft.Bot.Builder.Solutions;
             using System.Net.Http;
             using QnA.MultiturnQnAMaker;
     13
             namespace QnAMultiturnVirtualAssistant.Services
     14
                           s | Russ Williams, 6 hours ago | 1 author, 1 change
     15
                 public class BotServices
      16
                      HttpClient _httpClient;
      18
                      1 reference | Russ Williams, 6 hours ago | 1 author, 1 change | 0 exceptions
                      public BotServices()
      20
     21
     22
                      O references | O changes | O authors, O changes | O exceptions public BotServices(BotSettings settings, HttpClient httpClient)
     23
      25
                           _httpClient = httpClient;
     26
27
28
                           foreach (var pair in settings.CognitiveModels)
                               var set = new CognitiveModelSet();
                                var language = pair.Key;
      31
                               var config = pair.Value;
      33
                               var telemetryClient = new BotTelemetryClient(new TelemetryClient(settings.AppInsights));
                                var luisOptions = new LuisPredictionOptions()
                                    TelemetryClient = telemetryClient,
```

Snippet for easy cut & paste (copy bolded lines)

```
using System.Collections.Generic;
using Microsoft.ApplicationInsights;
using Microsoft.Bot.Builder.Al.Luis;
using Microsoft.Bot.Builder.Al.QnA;
using Microsoft.Bot.Builder.ApplicationInsights;
using Microsoft.Bot.Builder.Solutions;
using System.Net.Http;
using QnA.MultiturnQnAMaker;
name space\ Qn AMultiturn Virtual Assistant. Services
  public class BotServices
    HttpClient httpClient:
    public BotServices()
     public BotServices(BotSettings settings, HttpClient httpClient)
      _httpClient = httpClient;
       foreach (var pair in settings.CognitiveModels)
        var set = new CognitiveModelSet();
        var language = pair.Key;
var config = pair.Value;
```

Diff screen shot to show second set of changes to BotServices.cs

```
Diff - BotServices.c...D vs. BotServices.cs □ X
  QnAMultiturnVirtualAssistant

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                                                                                                                                                                                                                                                                                                                                             ▼ BotServices(BotSettings settings, HttpClient httpClient)
                                                                                        TelemetryClient = telemetryClient,
                                                                                       LogPersonalInformation = true,
               38
                                                                            var dispatchApp = new LuisApplication(config.DispatchModel.AppId, config.DispatchModel.SubscriptionKey, config.DispatchModel.GetEndpoint());
               41
               42
                                                                            set.DispatchService = new LuisRecognizer(dispatchApp, luisOptions);
               43
                                                                            if (config.LanguageModels != null)
                45
               46
                                                                                       foreach (var model in config.LanguageModels)
               47
                                                                                                  var luisApp = new LuisApplication(model.AppId, model.SubscriptionKey, model.GetEndpoint());
               48
                                                                                                  set.LuisServices.Add(model.Id, new LuisRecognizer(luisApp, luisOptions));
               51
               52
               53
                                                                            foreach (var kb in config.Knowledgebases)
                55
                                                                                       var qnaEndpoint = new QnAMakerEndpoint()
               56
57
                                                                                                  KnowledgeBaseId = kb.KbId.
               58
                                                                                                  EndpointKey = kb.EndpointKey,
                                                                                                  Host = kb.Hostname,
               60
               61
                                                                                       var qnaMaker = new MultiturnQnaMaker (qnaEndpoint, httpClient, telemetryClient: telemetryClient, logPersonalInformation: true);
               62
               63
                                                                                       set.QnAServices.Add(kb.Id, qnaMaker);
               65
               66
                                                                            CognitiveModelSets.Add(language, set);
               67
                                                                 }
               68
                                                      4 references | Russ Williams, 6 hours ago | 1 author, 1 change | 0 exceptions public Dictionary<string, CognitiveModelSet> CognitiveModelSets { get; set; } = new Dictionary<string, CognitiveModelSet>();
                71
                72
```

Snippet for easy cut & paste (copy bolded lines)

```
foreach (var kb in config.Knowledgebases)
{
    var qnaEndpoint = new QnAMakerEndpoint()
    {
        KnowledgeBaseId = kb.KbId,
        EndpointKey = kb.EndpointKey,
        Host = kb.Hostname,
    };

    var qnaMaker = new MultiturnQnAMaker(qnaEndpoint, _httpClient, telemetryClient: telemetryClient, logPersonalInformation: true);
    set.QnAServices.Add(kb.Id, qnaMaker);
```