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What is the Bing News Search API?

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The Bing News Search API makes it easy to integrate Bing's cognitive news searching capabilities into your applications. The API provides a similar experience to Bing News, letting you send search queries and receive relevant news articles.

Be aware that the Bing News Search API provides news search results only. Use the Bing Web Search API, Video Search API and Image Search API for other types of web content.

Bing News Search API features

While the Bing News Search API primarily finds and returns relevant news articles, it provides several features for intelligent, and focused news retrieval on the web.

FEATURE	DESCRIPTION
Suggesting and using search terms	Improve your search experience by using the Bing Autosuggest API to display suggested search terms as they're typed.
Get general news	Find news by sending a search query to the Bing News Search API, and getting back a list of relevant news articles.
Today's top news	Get the top news stories for the day, across all categories.
News by category	Search for news in specific categories.
Headline news	Search for top headlines across all categories.

Workflow

The Bing News Search API is a RESTful web service, making it easy to call from any programming language that can make HTTP requests and parse JSON. You can use the service using either the REST API, or the SDK.

1. Create a Cognitive Services API account with access to the Bing Search APIs. If you don't have an Azure subscription, you can create an account for free.
2. Send a request to the API, with a valid search query.
3. Process the API response by parsing the returned JSON message.

Next steps

First, try the interactive demo for the Bing News Search API. This demo shows how you can quickly customize a search query and find news on the web.

To quickly get started with your first API request, try a quickstart for the REST API or one of the SDKs.

See also

- The Bing News Search API v7 reference section contains definitions and information on the endpoints,

headers, API responses, and query parameters that you can use to request image-based search results.

- The Bing Use and Display Requirements specify acceptable uses of the content and information gained through the Bing search APIs.

What are the Bing Search APIs?

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The Bing Search APIs enable you to build web-connected apps and services that find webpages, images, news, locations, and more without advertisements. By sending search requests using the Bing Search REST APIs or SDKs, you can get relevant information and content for web searches. Use this article to learn about the various Bing search APIs and how you can integrate cognitive searches into your applications and services. Pricing and rate limits may vary between APIs.

The Bing Web Search API

The Bing Web Search API returns webpages, images, video, news, and more. The search queries sent to this API can be filtered to include or exclude certain content types.

Consider using the Bing Web Search API in applications that may need to search for all types of relevant web content. If your application searches for a specific type of online content, consider one of the search APIs below:

Content-specific Bing search APIs

The following Bing search APIs return specific content from the web such as images, news, local businesses, and videos.

BING API	DESCRIPTION
Entity Search	The Bing Entity Search API returns search results containing entities, which can be people, places, or things. Depending on the query, The API will return one or more entities that satisfy the search query, which can include noteworthy individuals, local businesses, landmarks, destinations, and more.
Image Search	The Bing Image Search API enables you to search for and find high-quality static and animated images similar to Bing.com/images. You can refine searches to include or exclude images by attribute, including size, color, license, and freshness. You can also search for trending images, upload images to gain insights about them, and display thumbnail previews.
News Search	The Bing News Search API enables you to find news stories similar to Bing.com/news. The API returns news articles from either multiple sources or specific domains. You can search across categories to get trending articles, top stories, and headlines.
Video Search	The Bing Video Search API enables you to find videos across the web. Get trending videos, related content, and thumbnail previews.
Visual Search	Upload an image or use a URL to get insightful information about it, like visually similar products, images, and related searches.

BING API	DESCRIPTION
Local Business Search	The Bing Local Business Search API enables your applications to find contact and location information about local businesses based on search queries.

The Bing Custom Search API

Creating a custom search instance with the Bing Custom Search API enables you to create a search experience focused only on content and topics you care about. For example, after specifying the domains, websites, and specific webpages that Bing will search, results will be tailored to that specific content. You can incorporate the Bing Custom Autosuggest, Image, and Video Search APIs to further customize your search experience.

Additional Bing Search APIs

The following Bing Search APIs enable you to improve your search experience by combining them with other Bing search APIs.

API	DESCRIPTION
Bing Autosuggest	Improve your application's search experience with The Bing Autosuggest API by returning suggested searches in real time.
Bing Statistics	Bing Statistics provides analytics for the Bing Search APIs your application uses. Some of the available analytics include call volume, top query strings, and geographic distribution.

Next steps

- Bing Search API pricing details
- The Bing Use and Display Requirements specify acceptable uses of the content and information gained through the Bing search APIs.

Quickstart: Search for news using C# and the Bing News Search REST API

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Use this quickstart to make your first call to the Bing News Search API and view the JSON response. This simple C# application sends a news search query to the API, and displays the response. The full code to this sample can be found on GitHub.

While this application is written in C#, the API is a RESTful Web service compatible with most programming languages.

Prerequisites

- Any edition of Visual Studio 2017.
- The Json.NET framework, available as a NuGet package.
- If you are using Linux/MacOS, this application can be run using Mono.

You must have a Cognitive Services API account with access to the Bing Search APIs. If you don't have an Azure subscription, you can create an account for free. Before continuing, You will need the access key provided after activating your free trial, or a paid subscription key from your Azure dashboard.

See also Cognitive Services Pricing - Bing Search API.

Create and initialize a project

1. create a new C# console solution in Visual Studio. Then add the following namespaces into the main code file.

```
using System;
using System.Text;
using System.Net;
using System.IO;
using System.Collections.Generic;
```

2. Create variables for the API endpoint, your subscription key, and search term.

```
const string accessKey = "enter key here";
const string uriBase = "https://api.cognitive.microsoft.com/bing/v7.0/news/search";
const string searchTerm = "Microsoft";
```

Create a struct to format the Bing News Search response

3. Define a `SearchResult` struct to contain the image search results, and JSON header information.

```
struct SearchResult
{
    public String jsonResult;
    public Dictionary<String, String> relevantHeaders;
}
```

Create and handle a news search request

Create a method named `BingNewsSearch` to perform the call to the API, and set the return type to the `SearchResult` struct created earlier. In the method, perform the following steps:

1. Construct the URI for the search request. Note that the search term `toSearch` must be formatted before being appended to the string.

```
static SearchResult BingNewsSearch(string toSearch){

    var uriQuery = uriBase + "?q=" + Uri.EscapeDataString(toSearch);
//...
```

2. Perform the web request and get the response as a JSON string.

```
WebRequest request = WebRequest.Create(uriQuery);
request.Headers["Ocp-Apim-Subscription-Key"] = subscriptionKey;
HttpWebResponse response = (HttpWebResponse)request.GetResponseAsync().Result;
string json = new StreamReader(response.GetResponseStream()).ReadToEnd();
```

3. Create the search result object, and extract the Bing HTTP headers. Then return `searchResult`.

```
// Create the result object for return
var searchResult = new SearchResult()
{
    jsonResult = json,
    relevantHeaders = new Dictionary<String, String>()
};

// Extract Bing HTTP headers
foreach (String header in response.Headers)
{
    if (header.StartsWith("BingAPIs-") || header.StartsWith("X-MSEdge-"))
        searchResult.relevantHeaders[header] = response.Headers[header];
}
return searchResult;
```

4. Create the search result object, and extract the Bing HTTP headers. Then return `searchResult`.

```
// Create the result object for return
var searchResult = new SearchResult()
{
    jsonResult = json,
    relevantHeaders = new Dictionary<String, String>()
};

// Extract Bing HTTP headers
foreach (String header in response.Headers)
{
    if (header.StartsWith("BingAPIs-") || header.StartsWith("X-MSEdge-"))
        searchResult.relevantHeaders[header] = response.Headers[header];
}
return searchResult;
```

Process the response

1. In the main method, call `BingNewsSearch()` and store the returned response. Then deserialize the JSON into an object. You can then view the values of the response.

```
SearchResult result = BingNewsSearch(searchTerm);
//deserialize the JSON response
dynamic jsonObj = Newtonsoft.Json.JsonConvert.DeserializeObject(result.jsonResult);
Console.WriteLine(jsonObj["value"][0])
```

JSON Response

A successful response is returned in JSON, as shown in the following example:


```
{
   "_type": "News",
   "readLink": "https:\/\/api.cognitive.microsoft.com\/api\/v7\/news\/search?q=Microsoft",
   "totalEstimatedMatches": 36,
   "sort": [
      {
         "name": "Best match",
         "id": "relevance",
         "isSelected": true,
         "url": "https:\/\/api.cognitive.microsoft.com\/api\/v7\/news\/search?q=Microsoft"
      },
      {
         "name": "Most recent",
         "id": "date",
         "isSelected": false,
         "url": "https:\/\/api.cognitive.microsoft.com\/api\/v7\/news\/search?q=Microsoft&sortby=date"
      }
   ],
   "value": [
      {
         "name": "Microsoft to open flagship London brick-and-mortar retail store",
         "url": "http:\/\/www.contoso.com\/article\/microsoft-to-open-flagshi...",
         "image": {
            "thumbnail": {
               "contentUrl": "https:\/\/www.bing.com\/th?id=ON.F9E4A49EC010417...",
               "width": 220,
               "height": 146
             }
         },
         "description": "After years of rumors about Microsoft opening a brick-and-mortar...",
         "about": [
           {
             "readLink": "https:\/\/api.cognitive.microsoft.com\/api\/v7\/entiti...",
             "name": "Microsoft"
           },
           {
             "readLink": "https:\/\/api.cognitive.microsoft.com\/api\/v7\/entit...",
             "name": "London"
           }
         ],
         "provider": [
           {
             "_type": "Organization",
             "name": "Contoso"
           }
         ],
          "datePublished": "2017-09-21T21:16:00.0000000Z",
          "category": "ScienceAndTechnology"
      },

      . . .

      {
         "name": "Microsoft adds Availability Zones to its Azure cloud platform",
         "url": "https:\/\/contoso.com\/2017\/09\/21\/microsoft-adds-availability...",
         "image": {
```

```
            "thumbnail": {
               "contentUrl": "https:\/\/www.bing.com\/th?id=ON.0AE7595B9720...",
               "width": 700,
               "height": 466
            }
         },
         "description": "Microsoft has begun adding Availability Zones to its...",
         "about": [
            {
               "readLink": "https:\/\/api.cognitive.microsoft.com\/api\/v7\/entities\/a093e9b...",
               "name": "Microsoft"
            },
            {
               "readLink": "https:\/\/api.cognitive.microsoft.com\/api\/v7\/entities\/cf3abf7d-e379-...",
               "name": "Windows Azure"
            },
            {
               "readLink": "https:\/\/api.cognitive.microsoft.com\/api\/v7\/entities\/9cdd061c-1fae-d0...",
               "name": "Cloud"
            }
         ],
         "provider": [
            {
               "_type": "Organization",
               "name": "Contoso"
            }
         ],
         "datePublished": "2017-09-21T09:01:00.0000000Z",
         "category": "ScienceAndTechnology"
      }
   ]
}
```


Next steps

Create a single-page web app

Quickstart: Perform a news search using Java and the Bing News Search REST API

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Use this quickstart to make your first call to the Bing News Search API and view the JSON response. This simple Java application sends a news search query to the API, and displays the response.

While this application is written in Java, the API is a RESTful Web service compatible with most programming languages.

The source code for this sample is available on GitHub

Prerequisites

- The Java Development Kit(JDK) 7 or 8
- The Gson library

You must have a Cognitive Services API account with access to the Bing Search APIs. If you don't have an Azure subscription, you can create an account for free. Before continuing, You will need the access key provided after activating your free trial, or a paid subscription key from your Azure dashboard.

See also Cognitive Services Pricing - Bing Search API.

Create and initialize a project

1. Create a new Java project in your favorite IDE or editor, and import the following libraries.

```
import java.net.*;
import java.util.*;
import java.io.*;
import javax.net.ssl.HttpsURLConnection;
import com.google.gson.Gson;
import com.google.gson.GsonBuilder;
import com.google.gson.JsonObject;
import com.google.gson.JsonParser;
```

2. Create a new class, with variables for the API endpoint, your subscription key, and search term.

```
public static SearchResults SearchNews (String searchQuery) throws Exception {
    static String subscriptionKey = "enter key here";
    static String host = "https://api.cognitive.microsoft.com";
    static String path = "/bing/v7.0/news/search";
    static String searchTerm = "Microsoft";
//...
}
```

Construct the search request, and receive a JSON response

1. Use the variables from the last step to format a search URL for the API request. Note that your search term must be URL-encoded before being appended to the request.

```
public static SearchResults SearchNews (String searchQuery) throws Exception {
    // construct the search request URL (in the form of URL + query string)
    URL url = new URL(host + path + "?q=" +  URLEncoder.encode(searchQuery, "UTF-8"));
    HttpsURLConnection connection = (HttpsURLConnection)url.openConnection();
    connection.setRequestProperty("Ocp-Apim-Subscription-Key", subscriptionKey);
}
```

2. Receive the JSON response from the Bing News Search API, and construct the result object.

```
// receive JSON body
InputStream stream = connection.getInputStream();
String response = new Scanner(stream).useDelimiter("\\A").next();
// construct result object for return
SearchResults results = new SearchResults(new HashMap<String, String>(), response);
```

Process the JSON response

1. Separate the Bing-related HTTP headers from the JSON body, then close the stream and return the API response.

```
// extract Bing-related HTTP headers
Map<String, List<String>> headers = connection.getHeaderFields();
for (String header : headers.keySet()) {
    if (header == null) continue;      // may have null key
    if (header.startsWith("BingAPIs-") || header.startsWith("X-MSEdge-")) {
        results.relevantHeaders.put(header, headers.get(header).get(0));
    }
}
stream.close();
return results;
```

2. Create a method to parse and reserialize JSON

```
// pretty-printer for JSON; uses GSON parser to parse and re-serialize
public static String prettify(String json_text) {
    JsonParser parser = new JsonParser();
    JsonObject json = parser.parse(json_text).getAsJsonObject();
    Gson gson = new GsonBuilder().setPrettyPrinting().create();
    return gson.toJson(json);
}
```

3. In the main method of your application, call the search method, and display the results.

```
public static void main (String[] args) {
   System.out.println("Searching the Web for: " + searchTerm);
   SearchResults result = SearchNews(searchTerm);

   System.out.println("\nRelevant HTTP Headers:\n");
   for (String header : result.relevantHeaders.keySet())
         System.out.println(header + ": " + result.relevantHeaders.get(header));
System.out.println("\nJSON Response:\n");
System.out.println(prettify(result.jsonResponse));
}
```

JSON Response

A successful response is returned in JSON, as shown in the following example:

```
{
   "_type": "News",
   "readLink": "https:\/\/api.cognitive.microsoft.com\/api\/v7\/news\/search?q=Microsoft",
   "totalEstimatedMatches": 36,
   "sort": [
      {
         "name": "Best match",
         "id": "relevance",
         "isSelected": true,
         "url": "https:\/\/api.cognitive.microsoft.com\/api\/v7\/news\/search?q=Microsoft"
      },
      {
         "name": "Most recent",
         "id": "date",
         "isSelected": false,
         "url": "https:\/\/api.cognitive.microsoft.com\/api\/v7\/news\/search?q=Microsoft&sortby=date"
      }
   ],
   "value": [
      {
         "name": "Microsoft to open flagship London brick-and-mortar retail store",
         "url": "http:\/\/www.contoso.com\/article\/microsoft-to-open-flagshi...",
         "image": {
            "thumbnail": {
               "contentUrl": "https:\/\/www.bing.com\/th?id=ON.F9E4A49EC010417...",
               "width": 220,
               "height": 146
            }
         },
         "description": "After years of rumors about Microsoft opening a brick-and-mortar...",
         "about": [
           {
             "readLink": "https:\/\/api.cognitive.microsoft.com\/api\/v7\/entiti...",
             "name": "Microsoft"
           },
           {
             "readLink": "https:\/\/api.cognitive.microsoft.com\/api\/v7\/entit...",
             "name": "London"
           }
         ],
         "provider": [
           {
             "_type": "Organization",
             "name": "Contoso"
           }
         ],
          "datePublished": "2017-09-21T21:16:00.0000000Z",
          "category": "ScienceAndTechnology"
      },

      . . .

      {
         "name": "Microsoft adds Availability Zones to its Azure cloud platform",
         "url": "https:\/\/contoso.com\/2017\/09\/21\/microsoft-adds-availability...",
         "image": {
            "thumbnail": {
               "contentUrl": "https:\/\/www.bing.com\/th?id=ON.0AE7595B9720...",
               "width": 700,
               "height": 466
            }
         },
         "description": "Microsoft has begun adding Availability Zones to its...",
         "about": [
            {
               "readLink": "https:\/\/api.cognitive.microsoft.com\/api\/v7\/entities\/a093e9b...",
               "name": "Microsoft"
            },
```

```
            {
               "readLink": "https:\/\/api.cognitive.microsoft.com\/api\/v7\/entities\/cf3abf7d-e379-...",
               "name": "Windows Azure"
            },
            {
               "readLink": "https:\/\/api.cognitive.microsoft.com\/api\/v7\/entities\/9cdd061c-1fae-d0...",
               "name": "Cloud"
            }
         ],
         "provider": [
            {
               "_type": "Organization",
               "name": "Contoso"
            }
         ],
         "datePublished": "2017-09-21T09:01:00.0000000Z",
         "category": "ScienceAndTechnology"
      }
   ]
}
```


Next steps

Create a single-page web app

Quickstart: Perform a news search using Node.js and the Bing News Search REST API

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Use this quickstart to make your first call to the Bing Image Search API and receive a JSON response. This simple JavaScript application sends a search query to the API and displays the raw results.

While this application is written in JavaScript and runs in Node.js, the API is a RESTful Web service compatible most programming languages.

The source code for this sample is available on GitHub.

Prerequisites

- The latest version of Node.js.
- The JavaScript Request Library

You must have a Cognitive Services API account with access to the Bing Search APIs. If you don't have an Azure subscription, you can create an account for free. Before continuing, You will need the access key provided after activating your free trial, or a paid subscription key from your Azure dashboard.

See also Cognitive Services Pricing - Bing Search API.

Create and initialize the application

1. Create a new JavaScript file in your favorite IDE or editor, and set the strictness and https requirements.

```
'use strict';
let https = require('https');
```

2. Create variables for the API endpoint, image API search path, your subscription key, and search term.

```
let subscriptionKey = 'enter key here';
let host = 'api.cognitive.microsoft.com';
let path = '/bing/v7.0/news/search';
let term = 'Microsoft';
```

Handle and parse the response

1. define a function named `response_handler` that takes an HTTP call, `response`, as a parameter. within this function, perform the following steps:

   a. Define a variable to contain the body of the JSON response.

```
let response_handler = function (response) {
    let body = '';
};
```

   b. Store the body of the response when the **data** flag is called

```
response.on('data', function (d) {
    body += d;
});
```

c. When an **end** flag is signalled, the JSON and headers can be viewed.

```
response.on('end', function () {
    console.log('\nRelevant Headers:\n');
    for (var header in response.headers)
        // header keys are lower-cased by Node.js
        if (header.startsWith("bingapis-") || header.startsWith("x-msedge-"))
            console.log(header + ": " + response.headers[header]);
    body = JSON.stringify(JSON.parse(body), null, '  ');
    console.log('\nJSON Response:\n');
    console.log(body);
 });
```

JSON Response

A successful response is returned in JSON, as shown in the following example:


```
{
   "_type": "News",
   "readLink": "https:\/\/api.cognitive.microsoft.com\/api\/v7\/news\/search?q=Microsoft",
   "totalEstimatedMatches": 36,
   "sort": [
      {
         "name": "Best match",
         "id": "relevance",
         "isSelected": true,
         "url": "https:\/\/api.cognitive.microsoft.com\/api\/v7\/news\/search?q=Microsoft"
      },
      {
         "name": "Most recent",
         "id": "date",
         "isSelected": false,
         "url": "https:\/\/api.cognitive.microsoft.com\/api\/v7\/news\/search?q=Microsoft&sortby=date"
      }
   ],
   "value": [
      {
         "name": "Microsoft to open flagship London brick-and-mortar retail store",
         "url": "http:\/\/www.contoso.com\/article\/microsoft-to-open-flagshi...",
         "image": {
            "thumbnail": {
               "contentUrl": "https:\/\/www.bing.com\/th?id=ON.F9E4A49EC010417...",
               "width": 220,
               "height": 146
             }
         },
         "description": "After years of rumors about Microsoft opening a brick-and-mortar...",
         "about": [
           {
             "readLink": "https:\/\/api.cognitive.microsoft.com\/api\/v7\/entiti...",
             "name": "Microsoft"
           },
           {
             "readLink": "https:\/\/api.cognitive.microsoft.com\/api\/v7\/entit...",
             "name": "London"
           }
         ],
         "provider": [
           {
```

```
              "_type": "Organization",
              "name": "Contoso"
            }
          ],
           "datePublished": "2017-09-21T21:16:00.0000000Z",
           "category": "ScienceAndTechnology"
       },

       . . .

       {
          "name": "Microsoft adds Availability Zones to its Azure cloud platform",
          "url": "https:\/\/contoso.com\/2017\/09\/21\/microsoft-adds-availability...",
          "image": {
             "thumbnail": {
                "contentUrl": "https:\/\/www.bing.com\/th?id=ON.0AE7595B9720...",
                "width": 700,
                "height": 466
             }
          },
          "description": "Microsoft has begun adding Availability Zones to its...",
          "about": [
             {
                "readLink": "https:\/\/api.cognitive.microsoft.com\/api\/v7\/entities\/a093e9b...",
                "name": "Microsoft"
             },
             {
                "readLink": "https:\/\/api.cognitive.microsoft.com\/api\/v7\/entities\/cf3abf7d-e379-...",
                "name": "Windows Azure"
             },
             {
                "readLink": "https:\/\/api.cognitive.microsoft.com\/api\/v7\/entities\/9cdd061c-1fae-d0...",
                "name": "Cloud"
             }
          ],
          "provider": [
             {
                "_type": "Organization",
                "name": "Contoso"
             }
          ],
          "datePublished": "2017-09-21T09:01:00.0000000Z",
          "category": "ScienceAndTechnology"
       }
    ]
}
```


Next steps

Create a single-page web app

Quickstart: Perform a news search using PHP and the Bing News Search REST API

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Use this quickstart to make your first call to the Bing Image Search API and receive a JSON response. This simple JavaScript application sends a search query to the API and displays the raw results.

While this application is written in PHP, the API is a RESTful Web service compatible most programming languages.

Prerequisites

- PHP 5.6 or later

You must have a Cognitive Services API account with access to the Bing Search APIs. If you don't have an Azure subscription, you can create an account for free. Before continuing, You will need the access key provided after activating your free trial, or a paid subscription key from your Azure dashboard.

See also Cognitive Services Pricing - Bing Search API.

Run the application

The Bing News Search API returns news results from the Bing search engine.

1. Make sure secure HTTP support is enabled in your `php.ini` as described in the code comment.
2. Create a new PHP project in your favorite IDE or editor.
3. Add the code provided below.
4. Replace the `accessKey` value with an access key valid for your subscription.
5. Run the program.

```
<?php

// NOTE: Be sure to uncomment the following line in your php.ini file.
// ;extension=php_openssl.dll

// **********************************************
// *** Update or verify the following values. ***
// **********************************************

// Replace the accessKey string value with your valid access key.
$accessKey = 'enter key here';

// Verify the endpoint URI.  At this writing, only one endpoint is used for Bing
// search APIs.  In the future, regional endpoints may be available.  If you
// encounter unexpected authorization errors, double-check this value against
// the endpoint for your Bing Search instance in your Azure dashboard.
$endpoint = 'https://api.cognitive.microsoft.com/bing/v7.0/news/search';

$term = 'Microsoft';

function BingNewsSearch ($url, $key, $query) {
    // Prepare HTTP request
    // NOTE: Use the key 'http' even if you are making an HTTPS request. See:
    // http://php.net/manual/en/function.stream-context-create.php
    $headers = "Ocp-Apim-Subscription-Key: $key\r\n";
    $options = array ('http' => array (
                          'header' => $headers,
                          'method' => 'GET' ));

    // Perform the Web request and get the JSON response
    $context = stream_context_create($options);
    $result = file_get_contents($url . "?q=" . urlencode($query), false, $context);

    // Extract Bing HTTP headers
    $headers = array();
    foreach ($http_response_header as $k => $v) {
        $h = explode(":", $v, 2);
        if (isset($h[1]))
            if (preg_match("/^BingAPIs-/", $h[0]) || preg_match("/^X-MSEdge-/", $h[0]))
                $headers[trim($h[0])] = trim($h[1]);
    }

    return array($headers, $result);
}

print "Searching news for: " . $term . "\n";

list($headers, $json) = BingNewsSearch($endpoint, $accessKey, $term);

print "\nRelevant Headers:\n\n";
foreach ($headers as $k => $v) {
    print $k . ": " . $v . "\n";
}

print "\nJSON Response:\n\n";
echo json_encode(json_decode($json), JSON_PRETTY_PRINT);
?>
```

Response

A successful response is returned in JSON, as shown in the following example:


```
{
   "_type": "News",
   "readLink": "https:\/\/api.cognitive.microsoft.com\/api\/v7\/news\/search?q=Microsoft",
   "totalEstimatedMatches": 36,
```

```
  "sort": [
     {
        "name": "Best match",
        "id": "relevance",
        "isSelected": true,
        "url": "https:\/\/api.cognitive.microsoft.com\/api\/v7\/news\/search?q=Microsoft"
     },
     {
        "name": "Most recent",
        "id": "date",
        "isSelected": false,
        "url": "https:\/\/api.cognitive.microsoft.com\/api\/v7\/news\/search?q=Microsoft&sortby=date"
     }
  ],
  "value": [
     {
        "name": "Microsoft to open flagship London brick-and-mortar retail store",
        "url": "http:\/\/www.contoso.com\/article\/microsoft-to-open-flagshi...",
        "image": {
           "thumbnail": {
              "contentUrl": "https:\/\/www.bing.com\/th?id=ON.F9E4A49EC010417...",
              "width": 220,
              "height": 146
           }
        },
        "description": "After years of rumors about Microsoft opening a brick-and-mortar...",
        "about": [
          {
            "readLink": "https:\/\/api.cognitive.microsoft.com\/api\/v7\/entiti...",
            "name": "Microsoft"
          },
          {
            "readLink": "https:\/\/api.cognitive.microsoft.com\/api\/v7\/entit...",
            "name": "London"
          }
        ],
        "provider": [
          {
            "_type": "Organization",
            "name": "Contoso"
          }
        ],
         "datePublished": "2017-09-21T21:16:00.0000000Z",
         "category": "ScienceAndTechnology"
     },

     . . .

     {
        "name": "Microsoft adds Availability Zones to its Azure cloud platform",
        "url": "https:\/\/contoso.com\/2017\/09\/21\/microsoft-adds-availability...",
        "image": {
           "thumbnail": {
              "contentUrl": "https:\/\/www.bing.com\/th?id=ON.0AE7595B9720...",
              "width": 700,
              "height": 466
           }
        },
        "description": "Microsoft has begun adding Availability Zones to its...",
        "about": [
           {
              "readLink": "https:\/\/api.cognitive.microsoft.com\/api\/v7\/entities\/a093e9b...",
              "name": "Microsoft"
           },
           {
              "readLink": "https:\/\/api.cognitive.microsoft.com\/api\/v7\/entities\/cf3abf7d-e379-...",
              "name": "Windows Azure"
           },
           {
```

```
            "readLink": "https:\/\/api.cognitive.microsoft.com\/api\/v7\/entities\/9cdd061c-1fae-d0...",
            "name": "Cloud"
         }
      ],
      "provider": [
         {
            "_type": "Organization",
            "name": "Contoso"
         }
      ],
      "datePublished": "2017-09-21T09:01:00.0000000Z",
      "category": "ScienceAndTechnology"
   }
]
}
```


Next steps

Create a single-page web app

Quickstart: Perform a news search using Python and the Bing News Search REST API

2/7/2019 • 2 minutes to read • Edit Online

Use this quickstart to make your first call to the Bing News Search API and receive a JSON response. This simple JavaScript application sends a search query to the API and processes the results. While this application is written in Python, the API is a RESTful Web service compatible most programming languages.

You can run this code sample as a Jupyter notebook on MyBinder by clicking on the launch Binder badge:

The source code for this sample is also available on GitHub.

Prerequisites

You must have a Cognitive Services API account with access to the Bing Search APIs. If you don't have an Azure subscription, you can create an account for free. Before continuing, You will need the access key provided after activating your free trial, or a paid subscription key from your Azure dashboard.

See also Cognitive Services Pricing - Bing Search API.

Create and initialize the application

1. Create a new Python file in your favorite IDE or editor, and import the request module. Create variables for your subscription key, endpoint and a search term. You can find your endpoint in the Azure dashboard.

```
import requests

subscription_key = "your subscription key"
search_term = "Microsoft"
search_url = "https://api.cognitive.microsoft.com/bing/v7.0/news/search"
```

Create parameters for the request

1. Add your subscription key to a new dictionary, using `"Ocp-Apim-Subscription-Key"` as the key. Do the same for your search parameters.

```
headers = {"Ocp-Apim-Subscription-Key" : subscription_key}
params  = {"q": search_term, "textDecorations": True, "textFormat": "HTML"}
```

Send a request and get a response

1. Use the requests library to call the Bing Visual Search API using your subscription key, and the dictionary objects created in the last step.

```
response = requests.get(search_url, headers=headers, params=params)
response.raise_for_status()
search_results = response.json()
```

2. `search_results` contains the response from the API as a JSON object. Access the descriptions of the articles contained in the response.

```
descriptions = [article["description"] for article in search_results["value"]]
```

Displaying the results

These descriptions can then be rendered as a table with the search keyword highlighted in **bold**.

```
from IPython.display import HTML
rows = "\n".join(["<tr><td>{0}</td></tr>".format(desc) for desc in descriptions])
HTML("<table>"+rows+"</table>")
```

Next steps

Create a single-page web app

Quickstart: Perform a news search using Ruby and the Bing News Search REST API

2/7/2019 • 2 minutes to read • Edit Online

Use this quickstart to make your first call to the Bing News Search API and receive a JSON response. This simple JavaScript application sends a search query to the API and processes the results.

While this application is written in Python, the API is a RESTful Web service compatible most programming languages. The source code for this sample is available on GitHub.

Prerequisites

- Ruby 2.4 or later

You must have a Cognitive Services API account with access to the Bing Search APIs. If you don't have an Azure subscription, you can create an account for free. Before continuing, You will need the access key provided after activating your free trial, or a paid subscription key from your Azure dashboard.

See also Cognitive Services Pricing - Bing Search API.

Create and initialize the application

1. import the following packages into your code file.

```
require 'net/https'
require 'uri'
require 'json'
```

2. Create variables for the API endpoint, News search URL, your subscription key, and search term.

```
accessKey = "enter key here"
uri  = "https://api.cognitive.microsoft.com"
path = "/bing/v7.0/news/search"
term = "Microsoft"
```

Format and make an API request

Use the variables from the last step to format a search URL for the API request. Then send the request.

```
uri = URI(uri + path + "?q=" + URI.escape(term))
request = Net::HTTP::Get.new(uri)
request['Ocp-Apim-Subscription-Key'] = accessKey
response = Net::HTTP.start(uri.host, uri.port, :use_ssl => uri.scheme == 'https') do |http|
   http.request(request)
end
```

Process and print the JSON response

After the response is received, you can parse the JSON, and print both the response body, and its headers:

```
puts "\nRelevant Headers:\n\n"
response.each_header do |key, value|
   # header names are coerced to lowercase
   if key.start_with?("bingapis-") or key.start_with?("x-msedge-") then
      puts key + ": " + value
   end
end
puts "\nJSON Response:\n\n"
puts JSON::pretty_generate(JSON(response.body))
```

JSON Response

A successful response is returned in JSON, as shown in the following example:


```
{
   "_type": "News",
   "readLink": "https:\/\/api.cognitive.microsoft.com\/api\/v7\/news\/search?q=Microsoft",
   "totalEstimatedMatches": 36,
   "sort": [
      {
         "name": "Best match",
         "id": "relevance",
         "isSelected": true,
         "url": "https:\/\/api.cognitive.microsoft.com\/api\/v7\/news\/search?q=Microsoft"
      },
      {
         "name": "Most recent",
         "id": "date",
         "isSelected": false,
         "url": "https:\/\/api.cognitive.microsoft.com\/api\/v7\/news\/search?q=Microsoft&sortby=date"
      }
   ],
   "value": [
      {
         "name": "Microsoft to open flagship London brick-and-mortar retail store",
         "url": "http:\/\/www.contoso.com\/article\/microsoft-to-open-flagshi...",
         "image": {
            "thumbnail": {
               "contentUrl": "https:\/\/www.bing.com\/th?id=ON.F9E4A49EC010417...",
               "width": 220,
               "height": 146
            }
         },
         "description": "After years of rumors about Microsoft opening a brick-and-mortar...",
         "about": [
           {
             "readLink": "https:\/\/api.cognitive.microsoft.com\/api\/v7\/entiti...",
             "name": "Microsoft"
           },
           {
             "readLink": "https:\/\/api.cognitive.microsoft.com\/api\/v7\/entit...",
             "name": "London"
           }
         ],
         "provider": [
           {
             "_type": "Organization",
             "name": "Contoso"
           }
         ],
          "datePublished": "2017-09-21T21:16:00.0000000Z",
          "category": "ScienceAndTechnology"
      },

      . . .
```

```
      {
         "name": "Microsoft adds Availability Zones to its Azure cloud platform",
         "url": "https:\/\/contoso.com\/2017\/09\/21\/microsoft-adds-availability...",
         "image": {
            "thumbnail": {
               "contentUrl": "https:\/\/www.bing.com\/th?id=ON.0AE7595B9720...",
               "width": 700,
               "height": 466
            }
         },
         "description": "Microsoft has begun adding Availability Zones to its...",
         "about": [
            {
               "readLink": "https:\/\/api.cognitive.microsoft.com\/api\/v7\/entities\/a093e9b...",
               "name": "Microsoft"
            },
            {
               "readLink": "https:\/\/api.cognitive.microsoft.com\/api\/v7\/entities\/cf3abf7d-e379-...",
               "name": "Windows Azure"
            },
            {
               "readLink": "https:\/\/api.cognitive.microsoft.com\/api\/v7\/entities\/9cdd061c-1fae-d0...",
               "name": "Cloud"
            }
         ],
         "provider": [
            {
               "_type": "Organization",
               "name": "Contoso"
            }
         ],
         "datePublished": "2017-09-21T09:01:00.0000000Z",
         "category": "ScienceAndTechnology"
      }
   ]
}
```


Next steps

Create a signle-page app

Quickstart: Get news results using the Bing News Search REST API and Go

3/4/2019 • 3 minutes to read • Edit Online

This quickstart uses the Go language to call the Bing News Search API. The results include names and URLs of news sources identified by the query string.

Prerequisites

- Install the Go binaries
- Install the go-spew library for it pretty printer to display results
  - Install this libarary: `$ go get -u https://github.com/davecgh/go-spew`

This quickstart requires an Azure Cognitive Services account with Bing Search APIs. If you don't have an account, you can use the free trial to get a subscription key.

Create a project and import libraries

Create a new Go project in your IDE or editor. Then import `net/http` for requests, `ioutil` to read the response, and `encoding/json` to handle the JSON text of results. The go-spew library is needed to parse JSON.

```
package main

import (
    "fmt"
    "net/http"
    "io/ioutil"
    "encoding/json"
    "github.com/davecgh/go-spew/spew"
)
```

Create a struct to format the News search results

The `NewsAnswer` struct formats the data provided in the response. The response JSON is multilevel and quite complex. The following implementation covers the essentials.

```
// This struct formats the answer provided by the Bing News Search API.
type NewsAnswer struct {
    ReadLink       string `json: "readLink"`
    QueryContext   struct {
        OriginalQuery   string   `json: "originalQuery"`
        AdultIntent     bool        `json: "adultIntent"`
    } `json: "queryContext"`
    TotalEstimatedMatches   int  `json: totalEstimatedMatches"`
    Sort  []struct {
        Name    string  `json: "name"`
        ID       string    `json: "id"`
        IsSelected       bool  `json: "isSelected"`
        URL      string   `json: "url"`
    }  `json: "sort"`
    Value   []struct   {
        Name     string   `json: "name"`
        URL   string    `json: "url"`
        Image   struct   {
            Thumbnail   struct  {
                ContentUrl  string  `json: "thumbnail"`
                Width   int  `json: "width"`
                Height  int   `json: "height"`
            } `json: "thumbnail"`
            Description  string  `json: "description"`
            Provider  []struct   {
                Type   string    `json: "_type"`
                Name  string     `json: "name"`
            } `json: "provider"`
            DatePublished   string   `json: "datePublished"`
        } `json: "image"`
    } `json: "value"`
}
```

Declare the main function and define variables

The following code declares the main function and assigns required variables. Confirm that the endpoint is correct and replace the `token` value with a valid subscription key from your Azure account.

```
func main() {
    // Verify the endpoint URI and replace the token string with a valid subscription key.
    const endpoint = "https://api.cognitive.microsoft.com/bing/v7.0/news/search"
    token := "YOUR-ACCESS-KEY"
    searchTerm := "Microsoft Cognitive Services"

    // Declare a new GET request.
    req, err := http.NewRequest("GET", endpoint, nil)
    if err != nil {
        panic(err)
    }

    // The rest of the code in this example goes here in the main function.
}
```

Query and header

Add the query string and access key header

```
// Add the query to the request.
param := req.URL.Query()
param.Add("q", searchTerm)
req.URL.RawQuery = param.Encode()

// Insert the subscription-key header.
req.Header.Add("Ocp-Apim-Subscription-Key", token)
```

Get request

Create the client and send the Get request.

```
// Instantiate a client.
client := new(http.Client)

// Send the request to Bing.
resp, err := client.Do(req)
if err != nil {
    panic(err)
}
```

Send the request

Send the request and read results using `ioutil`.

```
resp, err := client.Do(req)
    if err != nil {
        panic(err)
}

// Close the connection.
defer resp.Body.Close()

// Read the results
resbody, err := ioutil.ReadAll(resp.Body)
if err != nil {
    panic(err)
}
```

Handle the response

The `Unmarshall` function extracts information from the JSON text returned by the News Search API. Then you can display nodes from the results using the `go-spew` pretty printer.

```
// Create a new answer object
ans := new(NewsAnswer)
err = json.Unmarshal(body, &ans)
if err != nil {
    fmt.Println(err)
}

fmt.Print("Output of BingAnswer: \r\n\r\n")

// Iterate over search results and print the result name and URL.
for _, result := range ans.Value{
spew.Dump(result.Name, result.URL)
}
```

Results

The results contain name and URL of each result.

```
(string) (len=91) "Cognitive Services Market: Global Industry Analysis and Opportunity Assessment, 2019 - 2025"
(string) (len=142) "https://www.marketwatch.com/press-release/cognitive-services-market-global-industry-analysis-and-opportunity-assessment-2019---2025-2019-02-21"
(string) (len=104) "Microsoft calls for greater collaboration to harness the power of AI to empower people with disabilities"
(string) (len=115) "http://indiaeducationdiary.in/microsoft-calls-greater-collaboration-harness-power-ai-empower-people-disabilities-2/"
(string) (len=70) "Microsoft 'Intelligent Cloud Hub' to build AI-ready workforce in India"
(string) (len=139) "https://cio.economictimes.indiatimes.com/news/cloud-computing/microsoft-intelligent-cloud-hub-to-build-ai-ready-workforce-in-india/67187807"
(string) (len=81) "Skills shortage is stopping many Asian companies from embracing A.I., study shows"
(string) (len=106) "https://www.cnbc.com/2019/02/20/microsoft-idc-study-skills-shortages-stopping-companies-from-using-ai.html"
(string) (len=143) "Cognitive Computing in Healthcare Market Emerging Top Key Vendors- Apixio, MedWhat, Healthcare X.0, Apple, Google, Microsoft, and IBM 2017-2025"
(string) (len=40) "http://www.digitaljournal.com/pr/4163064"
(string) (len=49) "Microsoft launches AI skills initiative in Brazil"
(string) (len=80) "https://www.zdnet.com/article/microsoft-launches-ai-skills-initiative-in-brazil/"
(string) (len=45) "Kuwait's CITRA and Microsoft host AI OpenHack"
(string) (len=70) "http://www.itp.net/618639-kuwaits-citra-and-microsoft-host-ai-openhack"
(string) (len=51) "CITRA and Microsoft collaborate to host AI workshop"
(string) (len=123) "https://www.zawya.com/mena/en/press-releases/story/CITRA_and_Microsoft_collaborate_to_host_AI_workshop-ZAWYA20190212105751/"
```

Next steps

What is Bing News Search

Quickstart: Perform a news search with the Bing News Search SDK for C#

2/7/2019 • 2 minutes to read • Edit Online

Use this quickstart to begin searching for news with the Bing News Search SDK for C#. While Bing News Search has a REST API compatible with most programming languages, the SDK provides an easy way to integrate the service into your applications. The source code for this sample can be found on GitHub.

Prerequisites

- Any edition of Visual Studio 2017.
- The Json.NET framework, available as a NuGet package.
- If you are using Linux/MacOS, this application can be run using Mono.
- The Bing News Search SDK NuGet package. Installing this package also installs the following:
  - Microsoft.Rest.ClientRuntime
  - Microsoft.Rest.ClientRuntime.Azure
  - Newtonsoft.Json

To set up a console application using the Bing News Search SDK, browse to the `Manage NuGet Packages` option from the Solution Explorer in Visual Studio. Add the `Microsoft.Azure.CognitiveServices.Search.NewsSearch` package.

You must have a Cognitive Services API account with access to the Bing Search APIs. If you don't have an Azure subscription, you can create an account for free. Before continuing, You will need the access key provided after activating your free trial, or a paid subscription key from your Azure dashboard.

See also Cognitive Services Pricing - Bing Search API.

Create and initialize a project

1. create a new C# console solution in Visual Studio. Then add the following into the main code file.

```
using System;
using System.Linq;
using Microsoft.Azure.CognitiveServices.Search.NewsSearch;
```

2. Create a variable for your API key, a search term, and then instantiate the news search client with it.

```
var key = "YOUR-ACCESS-KEY";
var searchTerm = "Quantum Computing";
var client = new NewsSearchClient(new ApiKeyServiceClientCredentials(key));
```

Send a request, and parse the result

1. Use the client to send a search request to the Bing News Search service:

```
var newsResults = client.News.SearchAsync(query: searchTerm, market: "en-us", count: 10).Result;
```

2. If any results were returned, parse them:

```
if (newsResults.Value.Count > 0)
{
    var firstNewsResult = newsResults.Value[0];

    Console.WriteLine($"TotalEstimatedMatches value: {newsResults.TotalEstimatedMatches}");
    Console.WriteLine($"News result count: {newsResults.Value.Count}");
    Console.WriteLine($"First news name: {firstNewsResult.Name}");
    Console.WriteLine($"First news url: {firstNewsResult.Url}");
    Console.WriteLine($"First news description: {firstNewsResult.Description}");
    Console.WriteLine($"First news published time: {firstNewsResult.DatePublished}");
    Console.WriteLine($"First news provider: {firstNewsResult.Provider[0].Name}");
}

else
{
    Console.WriteLine("Couldn't find news results!");
}
Console.WriteLine("Enter any key to exit...");
Console.ReadKey();
```

Next steps

Create a single-page web app

Quickstart: Perform a news search with the Bing News Search SDK for Node.js

2/7/2019 • 2 minutes to read • Edit Online

Use this quickstart to begin searching for news with the Bing News Search SDK for Node.js. While Bing News Search has a REST API compatible with most programming languages, the SDK provides an easy way to integrate the service into your applications. The source code for this sample can be found on GitHub.

Prerequisites

- Node.js

To set up a console application using the Bing News Search SDK:

1. Run `npm install ms-rest-azure` in your development environment.
2. Run `npm install azure-cognitiveservices-newssearch` in your development environment.

You must have a Cognitive Services API account with access to the Bing Search APIs. If you don't have an Azure subscription, you can create an account for free. Before continuing, You will need the access key provided after activating your free trial, or a paid subscription key from your Azure dashboard.

Create and initialize the application

1. Create an instance of the `CognitiveServicesCredentials`. Create variables for your susbcription key, and a search term.

```
const CognitiveServicesCredentials = require('ms-rest-azure').CognitiveServicesCredentials;
let credentials = new CognitiveServicesCredentials('YOUR-ACCESS-KEY');
let search_term = 'Winter Olympics'
```

2. instantiate the client:

```
const NewsSearchAPIClient = require('azure-cognitiveservices-newssearch');
let client = new NewsSearchAPIClient(credentials);
```

Send a search query

1. Use the client to search with a query term, in this case "Winter Olympics":

```
client.newsOperations.search(search_term).then((result) => {
    console.log(result.value);
}).catch((err) => {
    throw err;
});
```

The code prints `result.value` items to the console without parsing any text. The results, if any per category, will include:

- `_type: 'NewsArticle'`

- `_type: 'WebPage'`
- `_type: 'VideoObject'`
- `_type: 'ImageObject'`

Next steps

Create a single-page web app

Quickstart: Perform a news search with the Bing News Search SDK for Python

2/7/2019 • 2 minutes to read • Edit Online

Use this quickstart to begin searching for news with the Bing News Search SDK for Python. While Bing News Search has a REST API compatible with most programming languages, the SDK provides an easy way to integrate the service into your applications. The source code for this sample can be found on GitHub.

Prerequisites

- Python 2.x or 3.x

It is recommended to use a virtual environment for your python development. You can install and initialize the virtual environment with the venv module. You must install a virtualenv for Python 2.7. You can create a virtual environment with:

```
python -m venv mytestenv
```

You can install the Bing News Search SDK dependencies with this command:

```
python -m pip install azure-cognitiveservices-search-newssearch
```

You must have a Cognitive Services API account with access to the Bing Search APIs. If you don't have an Azure subscription, you can create an account for free. Before continuing, You will need the access key provided after activating your free trial, or a paid subscription key from your Azure dashboard.

Create and initialize the application

1. Create a new Python file in your favorite IDE or editor, and import the following libraries. Create a variable for your subscription key, and your search term.

```
from azure.cognitiveservices.search.newssearch import NewsSearchAPI
from msrest.authentication import CognitiveServicesCredentials
subscription_key = "YOUR-SUBSCRIPTION-KEY"
search_term = "Quantum Computing"
```

Initialize the client and send a request

1. Create an instance of `CognitiveServicesCredentials`. Instantiate the client:

```
client = NewsSearchAPI(CognitiveServicesCredentials(subscription_key))
```

2. Send a search query to the News Search API, store the response.

```
news_result = client.news.search(query=search_term, market="en-us", count=10)
```

Parse the response

If any search results are found, print the first webpage result:

```
if news_result.value:
    first_news_result = news_result.value[0]
    print("Total estimated matches value: {}".format(news_result.total_estimated_matches))
    print("News result count: {}".format(len(news_result.value)))
    print("First news name: {}".format(first_news_result.name))
    print("First news url: {}".format(first_news_result.url))
    print("First news description: {}".format(first_news_result.description))
    print("First published time: {}".format(first_news_result.date_published))
    print("First news provider: {}".format(first_news_result.provider[0].name))
else:
    print("Didn't see any news result data..")
```

Next steps

Create a single-page web app

Quickstart: Search for news with the Bing News Search SDK for Java

2/7/2019 • 2 minutes to read • Edit Online

Use this quickstart to begin searching for news with the Bing News Search SDK for Java. While Bing News Search has a REST API compatible with most programming languages, the SDK provides an easy way to integrate the service into your applications. The source code for this sample can be found on GitHub.

Prerequisites

Install the Bing News Search SDK dependencies using Maven, Gradle, or another dependency management system. The Maven POM file requires the following declaration:

```
<dependencies>
<dependency>
    <groupId>com.microsoft.azure.cognitiveservices</groupId>
    <artifactId>azure-cognitiveservices-newssearch</artifactId>
    <version>0.0.1-beta-SNAPSHOT</version>
</dependency>
</dependencies>
```

You must have a Cognitive Services API account with access to the Bing Search APIs. If you don't have an Azure subscription, you can create an account for free. Before continuing, You will need the access key provided after activating your free trial, or a paid subscription key from your Azure dashboard.

Create and initialize a project

Create a new Java project in your favorite IDE or editor, and import the following libraries.

```
import com.microsoft.azure.cognitiveservices.newssearch.*;
import com.microsoft.azure.cognitiveservices.newssearch.implementation.NewsInner;
import com.microsoft.azure.cognitiveservices.newssearch.implementation.NewsSearchAPIImpl;
import com.microsoft.azure.cognitiveservices.newssearch.implementation.TrendingTopicsInner;
import com.microsoft.rest.credentials.ServiceClientCredentials;
import okhttp3.Interceptor;
import okhttp3.OkHttpClient;
import okhttp3.Request;
import okhttp3.Response;
import java.io.IOException;
```

Create a search client and store credentials

1. Create a method called `getClient()` that returns a new `NewsSearchAPIImpl` search client. Add your endpoint as the first parameter for the new `NewsSearchAPIImpl` object, and a new `ServiceClientCredentials` object to store your credentials.

```
public static NewsSearchAPIImpl getClient(final String subscriptionKey) {
    return new NewsSearchAPIImpl("https://api.cognitive.microsoft.com/bing/v7.0/",
            new ServiceClientCredentials() {
            });
}
```

2. To create the `ServiceClientCredentials` object, override the `applyCredentialsFilter()` function. Pass a `OkHttpClient.Builder` to the method, and use the builder's `addNetworkInterceptor()` method to create your credentials for the SDK call.

```
new ServiceClientCredentials() {
    @Override
    public void applyCredentialsFilter(OkHttpClient.Builder builder) {
        builder.addNetworkInterceptor(
                new Interceptor() {
                    @Override
                    public Response intercept(Chain chain) throws IOException {
                        Request request = null;
                        Request original = chain.request();
                        // Request customization: add request headers.
                        Request.Builder requestBuilder = original.newBuilder()
                                .addHeader("Ocp-Apim-Subscription-Key", subscriptionKey);
                        request = requestBuilder.build();
                        return chain.proceed(request);
                    }
                });
    }
});
```

Send and receive a search request

1. Create a method that calls `getClient()` and sends a search request to the Bing News Search service. Filter the search with the *market* and *count* parameters, then print information about the first news result: name, URL, publication date, description, provider name, and total number of estimated matches for your search.

```
public static void newsSearch(String subscriptionKey)
{
    NewsSearchAPIImpl client = getClient(subscriptionKey);
    String searchTerm = "Quantum Computing";

    NewsInner newsResults = client.searchs().list(searchTerm, null, null, null,
            null, null, 100, null, "en-us",
            null, null, null, null, null,
            null, null);

    if (newsResults.value().size() > 0)
    {
        NewsArticle firstNewsResult = newsResults.value().get(0);

        System.out.println(String.format("TotalEstimatedMatches value: %d",
newsResults.totalEstimatedMatches()));
        System.out.println(String.format("News result count: %d", newsResults.value().size()));
        System.out.println(String.format("First news name: %s", firstNewsResult.name()));
        System.out.println(String.format("First news url: %s", firstNewsResult.url()));
        System.out.println(String.format("First news description: %s", firstNewsResult.description()));
        System.out.println(String.format("First news published time: %s",
firstNewsResult.datePublished()));
        System.out.println(String.format("First news provider: %s",
firstNewsResult.provider().get(0).name()));
    }
    else
    {
        System.out.println("Couldn't find news results!");
    }

}
```

2. Add your search method to a `main()` method to execute the code.

```
public static void main(String[] args) {
    String subscriptionKey = "YOUR-SUBSCRIPTION-KEY";
    NewsSearchSDK.newsSearch(subscriptionKey);
}
```

Next steps

Create a single-page web app

Tutorial: Create a single-page web app

2/7/2019 • 13 minutes to read • Edit Online

The Bing News Search API lets you search the Web and obtain results of the news type relevant to a search query. In this tutorial, we build a single-page Web application that uses the Bing News Search API to display search results on the page. The application includes HTML, CSS, and JavaScript components. The source code for this sample is available on GitHub.

> **NOTE**
> The JSON and HTTP headings at the bottom of the page when clicked show the JSON response and HTTP request information. These details can be useful when exploring the service.

The tutorial app illustrates how to:

- Perform a Bing News Search API call in JavaScript
- Pass search options to the Bing News Search API
- Display news search results from four categories: any-type, business, health, or politics, from time-frames of 24 hours, the past week, month, or all available time
- Page through search results
- Handle the Bing client ID and API subscription key
- Handle errors that might occur

The tutorial page is entirely self-contained; it does not use any external frameworks, style sheets, or image files. It uses only widely supported JavaScript language features and works with current versions of all major Web browsers.

App components

Like any single-page Web app, this tutorial application includes three parts:

- HTML - Defines the structure and content of the page
- CSS - Defines the appearance of the page
- JavaScript - Defines the behavior of the page

Most of the HTML and CSS is conventional, so the tutorial doesn't discuss it. The HTML contains the search form in which the user enters a query and chooses search options. The form is connected to JavaScript that actually performs the search using the `onsubmit` attribute of the `<form>` tag:

```
<form name="bing" onsubmit="return newBingNewsSearch(this)">
```

The `onsubmit` handler returns `false`, which keeps the form from being submitted to a server. The JavaScript code does the work of collecting the necessary information from the form and performing the search.

The HTML also contains the divisions (HTML `<div>` tags) where the search results appear.

Managing subscription key

To avoid having to include the Bing Search API subscription key in the code, we use the browser's persistent

storage to store the key. Before the key is stored, we prompt for the user's key. If the key is later rejected by the API, we invalidate the stored key so the user will be prompted again.

We define `storeValue` and `retrieveValue` functions that use either the `localStorage` object (not all browsers support it) or a cookie. The `getSubscriptionKey()` function uses these functions to store and retrieve the user's key.

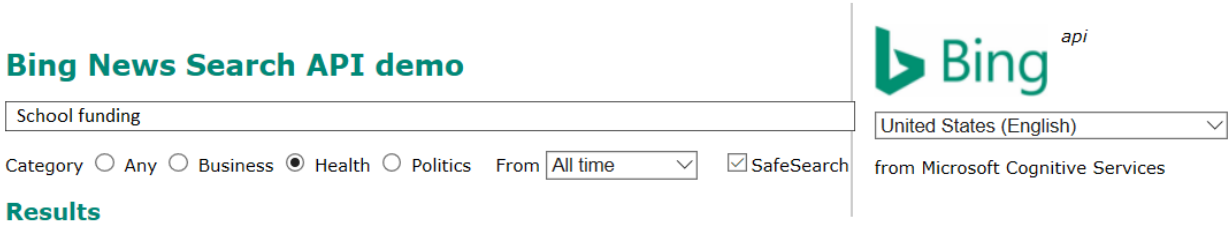
```
// Cookie names for data we store
API_KEY_COOKIE   = "bing-search-api-key";
CLIENT_ID_COOKIE = "bing-search-client-id";

// Bing Search API endpoint
BING_ENDPOINT = "https://api.cognitive.microsoft.com/bing/v7.0/news";

// ... omitted definitions of storeValue() and retrieveValue()
// Browsers differ in their support for persistent storage by
// local HTML files. See the source code for browser-specific
// options.

// Get stored API subscription key, or
// prompt if it's not found.
function getSubscriptionKey() {
    var key = retrieveValue(API_KEY_COOKIE);
    while (key.length !== 32) {
        key = prompt("Enter Bing Search API subscription key:", "").trim();
    }
    // always set the cookie in order to update the expiration date
    storeValue(API_KEY_COOKIE, key);
    return key;
}
```

The HTML `<form>` tag `onsubmit` calls the `bingWebSearch` function to return search results. `bingWebSearch` uses `getSubscriptionKey()` to authenticate each query. As shown in the previous definition, `getSubscriptionKey` prompts the user for the key if the key hasn't been entered. The key is then stored for continuing use by the application.

```
<form name="bing" onsubmit="this.offset.value = 0; return bingWebSearch(this.query.value,
    bingSearchOptions(this), getSubscriptionKey())">
```

Selecting search options

The following figure shows the query text box and options that define a search for news about school funding.



The HTML form includes elements with the following names:

ELEMENT	DESCRIPTION
`where`	A drop-down menu for selecting the market (location and language) used for the search.

ELEMENT	DESCRIPTION
`query`	The text field to enter the search terms.
`category`	Checkboxes for promoting particular kinds of results. Promoting Health, for example, increases the ranking of health news.
`when`	Drop-down menu for optionally limiting the search to the most recent day, week, or month.
`safe`	A checkbox indicating whether to use the Bing SafeSearch feature to filter out "adult" results.
`count`	Hidden field. The number of search results to return on each request. Change to display fewer or more results per page.
`offset`	Hidden field. The offset of the first search result in the request; used for paging. It's reset to `0` on a new request.

> **NOTE**
> Bing Web Search offers other query parameters. We're using only a few of them.

```
// build query options from the HTML form
function bingSearchOptions(form) {

    var options = [];
    options.push("mkt=" + form.where.value);
    options.push("SafeSearch=" + (form.safe.checked ? "strict" : "off"));
    if (form.when.value.length) options.push("freshness=" + form.when.value);

    for (var i = 0; i < form.category.length; i++) {
        if (form.category[i].checked) {
            category = form.category[i].value;
            break;
        }
    }
    if (category.valueOf() != "all".valueOf()) {
        options.push("category=" + category);
        }
    options.push("count=" + form.count.value);
    options.push("offset=" + form.offset.value);
    return options.join("&");
}
```

For example, the `SafeSearch` parameter in an actual API call can be `strict`, `moderate`, or `off`, with `moderate` being the default. Our form, however, uses a checkbox, which has only two states. The JavaScript code converts this setting to either `strict` or `off` (`moderate` is not used).

Performing the request

Given the query, the options string, and the API key, the `BingNewsSearch` function uses an `XMLHttpRequest` object to make the request to the Bing News Search endpoint.

```
// perform a search given query, options string, and API key
function bingNewsSearch(query, options, key) {

    // scroll to top of window
    window.scrollTo(0, 0);
    if (!query.trim().length) return false;     // empty query, do nothing

    showDiv("noresults", "Working. Please wait.");
    hideDivs("results", "related", "_json", "_http", "paging1", "paging2", "error");

    var request = new XMLHttpRequest();
     if (category.valueOf() != "all".valueOf()) {
        var queryurl = BING_ENDPOINT + "/search?" + "?q=" + encodeURIComponent(query) + "&" + options;
    }
    else
    {
        if (query){
        var queryurl = BING_ENDPOINT + "?q=" + encodeURIComponent(query) + "&" + options;
        }
        else {
            var queryurl = BING_ENDPOINT + "?" + options;
        }
    }

    // open the request
    try {
        request.open("GET", queryurl);
    }
    catch (e) {
        renderErrorMessage("Bad request (invalid URL)\n" + queryurl);
        return false;
    }

    // add request headers
    request.setRequestHeader("Ocp-Apim-Subscription-Key", key);
    request.setRequestHeader("Accept", "application/json");
    var clientid = retrieveValue(CLIENT_ID_COOKIE);
    if (clientid) request.setRequestHeader("X-MSEdge-ClientID", clientid);

    // event handler for successful response
    request.addEventListener("load", handleBingResponse);

    // event handler for erorrs
    request.addEventListener("error", function() {
        renderErrorMessage("Error completing request");
    });

    // event handler for aborted request
    request.addEventListener("abort", function() {
        renderErrorMessage("Request aborted");
    });

    // send the request
    request.send();
    return false;
}
```

Upon successful completion of the HTTP request, JavaScript calls the `load` event handler, the `handleBingResponse()` function, to handle a successful HTTP GET request to the API.

```
// handle Bing search request results
function handleBingResponse() {
    hideDivs("noresults");

    var json = this.responseText.trim();
    var jsobj = {};

    // try to parse JSON results
    try {
        if (json.length) jsobj = JSON.parse(json);
    } catch(e) {
        renderErrorMessage("Invalid JSON response");
    }

    // show raw JSON and HTTP request
    showDiv("json", preFormat(JSON.stringify(jsobj, null, 2)));
    showDiv("http", preFormat("GET " + this.responseURL + "\n\nStatus: " + this.status + " " +
        this.statusText + "\n" + this.getAllResponseHeaders()));

    // if HTTP response is 200 OK, try to render search results
    if (this.status === 200) {
        var clientid = this.getResponseHeader("X-MSEdge-ClientID");
        if (clientid) retrieveValue(CLIENT_ID_COOKIE, clientid);
        if (json.length) {
            if (jsobj._type === "News") {
                renderSearchResults(jsobj);
            } else {
                renderErrorMessage("No search results in JSON response");
            }
        } else {
            renderErrorMessage("Empty response (are you sending too many requests too quickly?)");
        }
    }

    // Any other HTTP response is an error
    else {
        // 401 is unauthorized; force re-prompt for API key for next request
        if (this.status === 401) invalidateSubscriptionKey();

        // some error responses don't have a top-level errors object, so gin one up
        var errors = jsobj.errors || [jsobj];
        var errmsg = [];

        // display HTTP status code
        errmsg.push("HTTP Status " + this.status + " " + this.statusText + "\n");

        // add all fields from all error responses
        for (var i = 0; i < errors.length; i++) {
            if (i) errmsg.push("\n");
            for (var k in errors[i]) errmsg.push(k + ": " + errors[i][k]);
        }

        // also display Bing Trace ID if it isn't blocked by CORS
        var traceid = this.getResponseHeader("BingAPIs-TraceId");
        if (traceid) errmsg.push("\nTrace ID " + traceid);

        // and display the error message
        renderErrorMessage(errmsg.join("\n"));
    }
}
```

> **IMPORTANT**
>
> A successful HTTP request does *not* necessarily mean that the search itself succeeded. If an error occurs in the search operation, the Bing News Search API returns a non-200 HTTP status code and includes error information in the JSON response. Additionally, if the request was rate-limited, the API returns an empty response.

Much of the code in both of the preceding functions is dedicated to error handling. Errors may occur at the following stages:

STAGE	POTENTIAL ERROR(S)	HANDLED BY
Building the JavaScript request object	Invalid URL	`try` / `catch` block
Making the request	Network errors, aborted connections	`error` and `abort` event handlers
Performing the search	Invalid request, invalid JSON, rate limits	tests in `load` event handler

Errors are handled by calling `renderErrorMessage()` with any details known about the error. If the response passes the full gauntlet of error tests, we call `renderSearchResults()` to display the search results in the page.

Displaying search results

The main function for displaying the search results is `renderSearchResults()`. This function takes the JSON returned by the Bing News Search service and renders the news results and the related searches, if any.

```
// render the search results given the parsed JSON response
    function renderSearchResults(results) {

    // add Prev / Next links with result count
    var pagingLinks = renderPagingLinks(results);
    showDiv("paging1", pagingLinks);
    showDiv("paging2", pagingLinks);

    showDiv("results", renderResults(results.value));
    if (results.relatedSearches)
        showDiv("sidebar", renderRelatedItems(results.relatedSearches));
}
```

The main search results are returned as the top-level `value` object in the JSON response. We pass them to our function `renderResults()`, which iterates through them and calls a separate function to render each item into HTML. The resulting HTML is returned to `renderSearchResults()`, where it is inserted into the `results` division in the page.

```
function renderResults(items) {
    var len = items.length;
    var html = [];
    if (!len) {
        showDiv("noresults", "No results.");
        hideDivs("paging1", "paging2");
        return "";
    }
    for (var i = 0; i < len; i++) {
        html.push(searchItemRenderers.news(items[i], i, len));
    }
    return html.join("\n\n");
}
```

The Bing News Search API returns up to four different kinds of related results, each in its own top-level object. They are:

RELATION	DESCRIPTION
`pivotSuggestions`	Queries that replace a pivot word in original search with a different one. For example, if you search for "red flowers," a pivot word might be "red," and a pivot suggestion might be "yellow flowers."
`queryExpansions`	Queries that narrow the original search by adding more terms. For example, if you search for "Microsoft Surface," a query expansion might be "Microsoft Surface Pro."
`relatedSearches`	Queries that have also been entered by other users who entered the original search. For example, if you search for "Mount Rainier," a related search might be "Mt. Saint Helens."
`similarTerms`	Queries that are similar in meaning to the original search. For example, if you search for "schools," a similar term might be "education."

As previously seen in `renderSearchResults()`, we render only the `relatedItems` suggestions and place the resulting links in the page's sidebar.

Rendering result items

In the JavaScript code the object, `searchItemRenderers`, contains *renderers:* functions that generate HTML for each kind of search result.

```
searchItemRenderers = {
    news: function(item) { ... },
    webPages: function (item) { ... },
    images: function(item, index, count) { ... },
    relatedSearches: function(item) { ... }
}
```

A renderer function can accept the following parameters:

PARAMETER	DESCRIPTION
`item`	The JavaScript object containing the item's properties, such as its URL and its description.
`index`	The index of the result item within its collection.
`count`	The number of items in the search result item's collection.

The `index` and `count` parameters can be used to number results, to generate special HTML for the beginning or end of a collection, to insert line breaks after a certain number of items, and so on. If a renderer does not need this functionality, it does not need to accept these two parameters.

The `news` renderer is shown in the following javascript excerpt:

```
    // render news story
    news: function (item) {
        var html = [];
        html.push("<p class='news'>");
        if (item.image) {
            width = 60;
            height = Math.round(width * item.image.thumbnail.height / item.image.thumbnail.width);
            html.push("<img src='" + item.image.thumbnail.contentUrl +
                "&h=" + height + "&w=" + width + "' width=" + width + " height=" + height + ">");
        }
        html.push("<a href='" + item.url + "'>" + item.name + "</a>");
        if (item.category) html.push(" - " + item.category);
        if (item.contractualRules) {    // MUST display source attributions
            html.push(" (");
            var rules = [];
            for (var i = 0; i < item.contractualRules.length; i++)
                rules.push(item.contractualRules[i].text);
                html.push(rules.join(", "));
                html.push(")");
            }
        html.push(" (" + getHost(item.url) + ")");
        html.push("<br>" + item.description);
        return html.join("");
    },
```

The news renderer function:

- Creates a paragraph tag, assigns it to the `news` class, and pushes it to the html array.
- Calculates image thumbnail size (width is fixed at 60 pixels, height calculated proportionately).
- Builds the HTML `<img>` tag to display the image thumbnail.
- Builds the HTML `<a>` tags that link to the image and the page that contains it.
- Builds the description that displays information about the image and the site it's on.

The thumbnail size is used in both the `<img>` tag and the `h` and `w` fields in the thumbnail's URL. The Bing thumbnail service then delivers a thumbnail of exactly that size.

Persisting client ID

Responses from the Bing search APIs may include an `X-MSEdge-ClientID` header that should be sent back to the API with successive requests. If multiple Bing Search APIs are being used, the same client ID should be used with all of them, if possible.

Providing the `X-MSEdge-ClientID` header allows the Bing APIs to associate all of a user's searches, which has two important benefits.

First, it allows the Bing search engine to apply past context to searches to find results that better satisfy the user. If a user has previously searched for terms related to sailing, for example, a later search for "knots" might preferentially return information about knots used in sailing.

Second, Bing may randomly select users to experience new features before they are made widely available. Providing the same client ID with each request ensures that users who see the feature always see it. Without the client ID, the user might see a feature appear and disappear, seemingly at random, in their search results.

Browser security policies (CORS) may prevent the `X-MSEdge-ClientID` header from being available to JavaScript. This limitation occurs when the search response has a different origin from the page that requested it. In a production environment, you should address this policy by hosting a server-side script that does the API call on the same domain as the Web page. Since the script has the same origin as the Web page, the `X-MSEdge-ClientID` header is then available to JavaScript.

> **NOTE**
>
> In a production Web application, you should perform the request server-side. Otherwise, your Bing Search API key must be included in the Web page, where it is available to anyone who views source. You are billed for all usage under your API subscription key, even requests made by unauthorized parties, so it is important not to expose your key.

For development purposes, you can make the Bing Web Search API request through a CORS proxy. The response from such a proxy has an `Access-Control-Expose-Headers` header that whitelists response headers and makes them available to JavaScript.

It's easy to install a CORS proxy to allow our tutorial app to access the client ID header. First, if you don't already have it, install Node.js. Then issue the following command in a command window:

```
npm install -g cors-proxy-server
```

Next, change the Bing Web Search endpoint in the HTML file to:

```
http://localhost:9090/https://api.cognitive.microsoft.com/bing/v7.0/search
```

Finally, start the CORS proxy with the following command:

```
cors-proxy-server
```

Leave the command window open while you use the tutorial app; closing the window stops the proxy. In the expandable HTTP Headers section below the search results, you can now see the `X-MSEdge-ClientID` header (among others) and verify that it is the same for each request.

Next steps

Bing News Search API reference

Using decoration markers to highlight text

2/7/2019 • 2 minutes to read • Edit Online

Bing supports hit highlighting which marks query terms (or other terms that Bing finds relevant) in the display strings of some of the answers. For example, a webpage's `name`, `displayUrl`, and `snippet` fields may mark the query terms.

By default, Bing doesn't include highlighting markers in display strings. To include the markers, include the `textDecorations` query parameter in your request and set it to **true**. Bing marks the query terms using the E000 and E001 Unicode characters to mark the beginning and end of the term. For example, if the query term is Sailing Dinghy and either term exists in the field, the term is enclosed in hit highlighting characters as shown in the following example:

```
{
    "id" : "https://api.cognitive.microsoft.com/api/v7/#WebPages.1",
    "name" : "Sailing dinghies - Contoso",
    "url" : "http://www.contoso.com/sailing-dinghy-1760.html",
    "displayUrl" : "www.contoso.com/sailing-dinghy-1760.html",
    "snippet" : "Find all the sailing dinghy and...",
    "dateLastCrawled" : "2017-10-25T19:18:00.0000000Z"
},
```

Before displaying the string in your user interface, you would replace the Unicode characters with characters that are appropriate for your display format. For example, if you're displaying the text as HTML, you might highlight the query term by replacing E000 with and E001 with . If you don't want to apply formatting, remove the markers from the string.

Bing provides the option of using Unicode characters or HTML tags as markers. To specify which markers to use, include the `textFormat` query parameter. To mark the content with Unicode characters, set `textFormat` to Raw (the default), and to mark the content with HTML tags, set `textFormat` to HTML.

If `textDecorations` is **true**, Bing may include the following markers in display strings of answers. If there is no HTML equivalent, the HTML table cell is empty.

UNICODE	HTML	DESCRIPTION
U+E000		Marks the beginning of the query term (hit highlighting)
U+E001		Marks the end of the query term
U+E002		Marks the beginning of italicized content
U+E003		Marks the end of italicized content
U+E004	 	Marks a line break
U+E005		Marks the beginning of a phone number
U+E006		Marks the end of a phone number

UNICODE	HTML	DESCRIPTION
U+E007		Marks the beginning of an address
U+E008		Marks the end of an address
U+E009		Marks a non-breaking space
U+E00C		Marks the beginning of bold content
U+E00D		Marks the end of bold content
U+E00E		Marks the beginning of content whose background should be lighter than its surrounding background
U+E00F		Marks the end of content whose background should be lighter than its surrounding background
U+E010		Marks the beginning of content whose background should be darker than its surrounding background
U+E011		Marks the end of content whose background should be darker than its surrounding background
U+E012	<del>	Marks the beginning of content that should be struck through
U+E013	</del>	Marks the end of content that should be struck through
U+E016	<sub>	Marks the beginning of subscript content
U+E017	</sub>	Marks the end of subscript content
U+E018	<sup>	Marks the beginning of superscript content
U+E019	</sup>	Marks the end of superscript content

The following example shows a `Computation` answer that contains subscript markers for a log(2) query term. The `expression` field contains the markers only if `textDecoration` is **true**.


```
"computation": {
     "id": "https:\/\/api.cognitive.microsoft.com\/api\/v7\/#Computation",
     "expression": "log10(2)",
     "value": "0.301029996"
},
```


If the request did not request decorations, the expression would be log10(2).

How to page through news search results

2/7/2019 • 2 minutes to read • Edit Online

When you call the News Search API, Bing returns a list of results that are relevant to your query. To get the estimated total number of available results, access the answer object's totalEstimatedMatches field.

The following example shows the `totalEstimatedMatches` field that a News answer includes.

```
{
    "_type" : "News",
    "readLink" : "https:\/\/api.cognitive.microsoft.com\/bing\/v7\/news\/search?q=sailing+dinghies",
    "totalEstimatedMatches" : 88400,
    "value" : [...]
}
```

To page through the available articles, use the count and offset query parameters.

PARAMETER	DESCRIPTION
`count`	Specifies the number of results to return in the response. The maximum number of results that you may request in the response is 100. The default is 10. The actual number delivered may be less than requested.
`offset`	Specifies the number of results to skip. The `offset` is zero-based and should be less than (`totalEstimatedMatches` - `count`).

For example, if you want to display 20 articles per page, you would set `count` to 20 and `offset` to 0 to get the first page of results. For each subsequent page, you would increment `offset` by 20 (for example, 20, 40).

The following example requests 20 news articles beginning at offset 40.

```
GET https://api.cognitive.microsoft.com/bing/v7.0/news/search?q=sailing+dinghies&count=20&offset=40&mkt=en-us
HTTP/1.1
Ocp-Apim-Subscription-Key: 123456789ABCDE
Host: api.cognitive.microsoft.com
```

If the default `count` value works for your implementation, specify only the `offset` query parameter as shown in the following example:

```
GET https://api.cognitive.microsoft.com/bing/v7.0/news/search?q=sailing+dinghies&offset=40&mkt=en-us HTTP/1.1
Ocp-Apim-Subscription-Key: 123456789ABCDE
Host: api.cognitive.microsoft.com
```

NOTE

Paging applies only to news search (/news/search), and not to trending topics (/news/trendingtopics) or news categories (/news).

NOTE

The `TotalEstimatedAnswers` field is an estimate of the total number of search results you can retrieve for the current query. When you set `count` and `offset` parameters, the `TotalEstimatedAnswers` number may change.

Resizing and cropping thumbnail images

2/7/2019 • 3 minutes to read • Edit Online

Some Bing responses include URLs to thumbnail images served by Bing. You may resize and crop the thumbnail images.

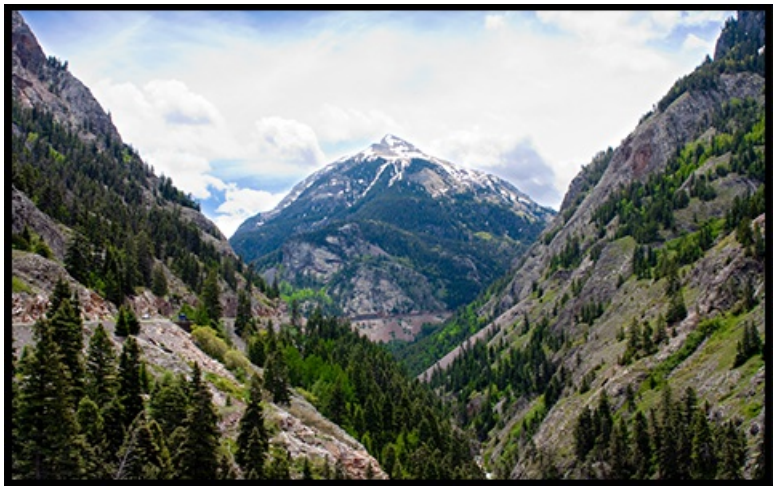
> **NOTE**
> Ensure the size and cropping of the thumbnail provide a search scenario and respect third party rights, as required by Bing Search API use and display requirements.

To resize an image, include the w (width) query parameter, h (height) query parameter, or both in the thumbnail's URL. Specify the width and height in pixels. For example:

```
https://<host>/th?id=JN.5l3yzwy%2f%2fHj59U6XhssIQ&pid=Api&w=200&h=200
```

If you specify only the width or only the height query parameter, Bing maintains the image's aspect ratio. If you specify both width and height and you don't maintain the image's original aspect ratio, Bing adds white padding to the border of the image. For example, if you resize a 480x359 image to 200x200 without cropping, the full width contains the image but the height contains 25 pixels of white padding at the top and bottom of the image. The same would be true if the image was 359x480 except the left and right borders would contain white padding. If you crop the image, white padding is not added.

The following picture shows the original size of a thumbnail image (480x300).



The following picture shows the image resized to 200x200. The aspect ratio is maintained and the top and bottom borders are padded with white (the black border is included to show the padding).

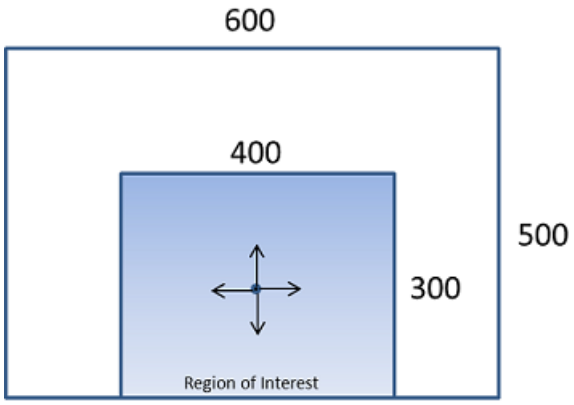
If you specify dimensions that are greater than the image's original width and height, the image is padded with

white on the left and top borders.

To crop an image, include the c (crop) query parameter. The following are the possible values that you may specify.

- 4—Blind Ratio
- 7—Smart Ratio

If you request Smart Ratio cropping (c=7), the image is cropped from the center of the image's region of interest outward while maintaining the image's aspect ratio. The region of interest is the area of the image that Bing determines contains the most import parts. The following shows an example region of interest.



If you resize an image and request Smart Ratio cropping, the image is reduced to the requested size while maintaining the aspect ratio. The image is then cropped based on the resized dimensions. For example, if the resized width is less than or equal to the height, the image is cropped to the left and right of the center of the region of interest. Otherwise, the image is cropped to the top and bottom of the center of the region of interest.

The following shows the image reduced to 200x200 using Smart Ratio cropping.

The following shows the image reduced to 200x100 using Smart Ratio cropping.

The following shows the image reduced to 100x200 using Smart Ratio cropping.

If Bing cannot determine the image's region of interest, Bing uses Blind Ratio cropping.

If you request Blind Ratio cropping (c=4), Bing uses the following rules to crop the image.

- If (Original Image Width / Original Image Height) < (Requested Image Width / Requested Image Height), the image is measured from top left corner and cropped at the bottom.
- If (Original Image Width / Original Image Height) > (Requested Image Width / Requested Image Height), the image is measured from the center and cropped to the left and right.

The following shows a portrait image that's 225x300.

The following shows the image reduced to 200x200 using Blind Ratio cropping. The image is measured from the top left corner resulting in the bottom part of the image being cropped.

The following shows the image reduced to 200x100 using Blind Ratio cropping. The image is measured from the top left corner resulting in the bottom part of the image being cropped.

The following shows the image reduced to 100x200 using Blind Ratio cropping. The image is measured from the center resulting in the left and right parts of the image being cropped.

News Search API upgrade guide

2/7/2019 • 3 minutes to read • Edit Online

This upgrade guide identifies the changes between version 5 and version 7 of the Bing News Search API. Use this guide to help you identify the parts of your application that you need to update to use version 7.

Breaking changes

Endpoints

- The endpoint's version number changed from v5 to v7. For example, https://api.cognitive.microsoft.com/bing/**v7.0**/news/search.

Error response objects and error codes

- All failed requests should now include an `ErrorResponse` object in the response body.
- Added the following fields to the `Error` object.
  - `subCode`—Partitions the error code into discrete buckets, if possible
  - `moreDetails`—Additional information about the error described in the `message` field
- Replaced the v5 error codes with the following possible `code` and `subCode` values.

CODE	SUBCODE	DESCRIPTION
ServerError	UnexpectedError ResourceError NotImplemented	Bing returns ServerError whenever any of the sub-code conditions occur. The response includes these errors if the HTTP status code is 500.
InvalidRequest	ParameterMissing ParameterInvalidValue HttpNotAllowed Blocked	Bing returns InvalidRequest whenever any part of the request is not valid. For example, a required parameter is missing or a parameter value is not valid. If the error is ParameterMissing or ParameterInvalidValue, the HTTP status code is 400. If the error is HttpNotAllowed, the HTTP status code 410.
RateLimitExceeded		Bing returns RateLimitExceeded whenever you exceed your queries per second (QPS) or queries per month (QPM) quota. Bing returns HTTP status code 429 if you exceeded QPS and 403 if you exceeded QPM.

CODE	SUBCODE	DESCRIPTION
InvalidAuthorization	AuthorizationMissing AuthorizationRedundancy	Bing returns InvalidAuthorization when Bing cannot authenticate the caller. For example, the `Ocp-Apim-Subscription-Key` header is missing or the subscription key is not valid. Redundancy occurs if you specify more than one authentication method. If the error is InvalidAuthorization, the HTTP status code is 401.
InsufficientAuthorization	AuthorizationDisabled AuthorizationExpired	Bing returns InsufficientAuthorization when the caller does not have permissions to access the resource. This can occur if the subscription key has been disabled or has expired. If the error is InsufficientAuthorization, the HTTP status code is 403.

- The following maps the previous error codes to the new codes. If you've taken a dependency on v5 error codes, update your code accordingly.

VERSION 5 CODE	VERSION 7 CODE.SUBCODE
RequestParameterMissing	InvalidRequest.ParameterMissing
RequestParameterInvalidValue	InvalidRequest.ParameterInvalidValue
ResourceAccessDenied	InsufficientAuthorization
ExceededVolume	RateLimitExceeded
ExceededQpsLimit	RateLimitExceeded
Disabled	InsufficientAuthorization.AuthorizationDisabled
UnexpectedError	ServerError.UnexpectedError
DataSourceErrors	ServerError.ResourceError
AuthorizationMissing	InvalidAuthorization.AuthorizationMissing
HttpNotAllowed	InvalidRequest.HttpNotAllowed
UserAgentMissing	InvalidRequest.ParameterMissing
NotImplemented	ServerError.NotImplemented
InvalidAuthorization	InvalidAuthorization

VERSION 5 CODE	VERSION 7 CODE.SUBCODE
InvalidAuthorizationMethod	InvalidAuthorization
MultipleAuthorizationMethod	InvalidAuthorization.AuthorizationRedundancy
ExpiredAuthorizationToken	InsufficientAuthorization.AuthorizationExpired
InsufficientScope	InsufficientAuthorization
Blocked	InvalidRequest.Blocked

Object changes

- Added the `contractualRules` field to the NewsArticle object. The `contractualRules` field contains a list of rules that you must follow (for example, article attribution). You must apply the attribution provided in `contractualRules` instead of using `provider`. The article includes `contractualRules` only when the Web Search API response contains a News answer.

Non-breaking Changes

Query parameters

- Added Products as a possible value that you may set the category query parameter to. See Categories By Markets.
- Added the SortBy query parameter, which returns trending topics sorted by date with the most recent first.
- Added the Since query parameter, which returns trending topics that were discovered by Bing on or after the specified Unix epoch timestamp.

Object changes

- Added the `mentions` field to the NewsArticle object. The `mentions` field contains a list of entities (persons or places) that were found in the article.
- Added the `video` field to the NewsArticle object. The `video` field contains a video that's related to the news article. The video is either an <iframe> that you can embed or a motion thumbnail.
- Added the `sort` field to the News object. The `sort` field shows the sort order of the articles. For example, the articles are sorted by relevance (default) or date.
- Added the SortValue object, which defines a sort order. The `isSelected` field indicates whether the response used the sort order. If **true**, the response used the sort order. If `isSelected` is **false**, you can use the URL in the `url` field to request a different sort order.

Tutorial: Connect to Bing News Search API with Connected Services in Visual Studio and C#

2/7/2019 • 6 minutes to read • Edit Online

By using Bing News Search, you can enable apps and services to harness the power of an ad-free search engine scoped to the web. Bing News Search is one of the search services available with Cognitive Services.

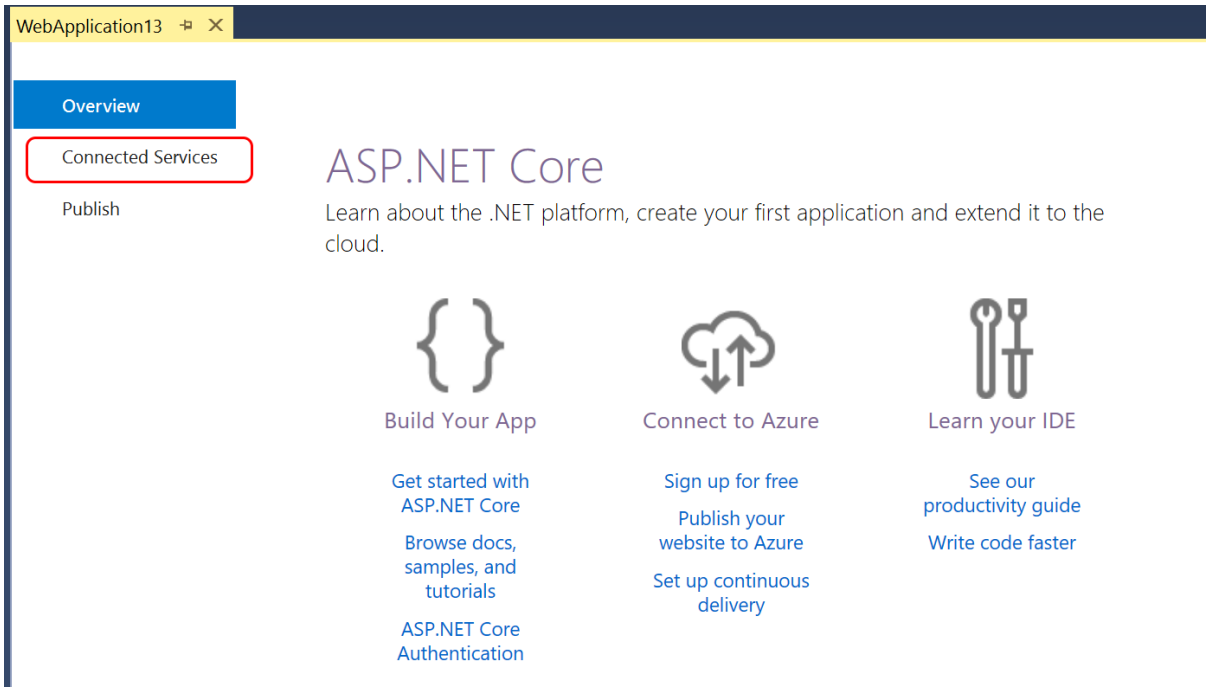
This article provides details for using the Visual Studio Connected Service feature for Bing News Search. The capability is available in Visual Studio 2017 15.7 or later, with the Cognitive Services extension installed.

Prerequisites

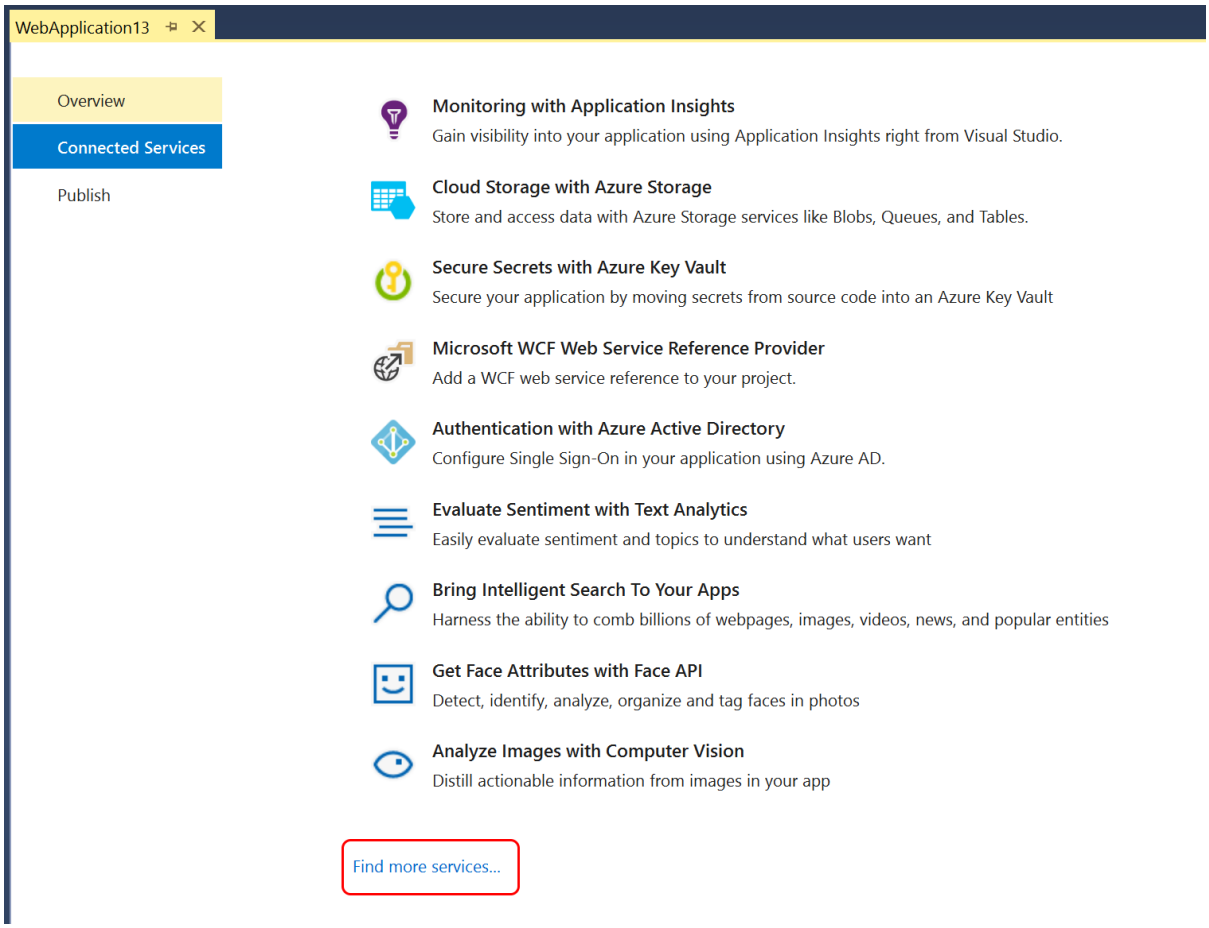
- An Azure subscription. If you do not have one, you can sign up for a free account.
- Visual Studio 2017 version 15.7, with the Web Development workload installed. Download it now.

Install the Cognitive Services VSIX Extension

1. With your web project open in Visual Studio, choose the **Connected Services** tab. The tab is available on the welcome page that appears when you open a new project. If you don't see the tab, select **Connected Services** in your project in Solution Explorer.

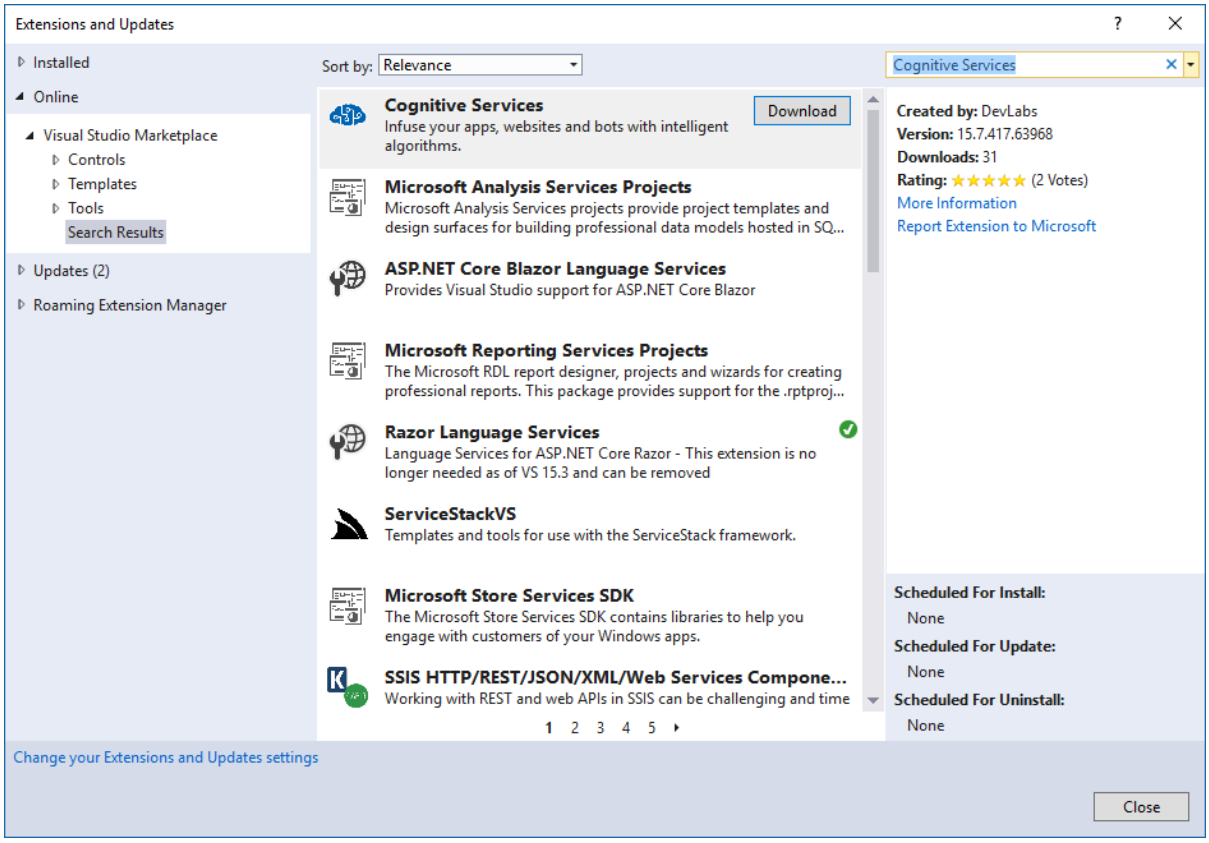


2. Scroll down to the bottom of the list of services, and select **Find more services**.



The **Extensions and Updates** dialog box appears.

3. In the **Extensions and Updates** dialog box, search for **Cognitive Services**, and then download and install the Cognitive Services VSIX package.



Installing an extension requires a restart of the integrated development environment (IDE).

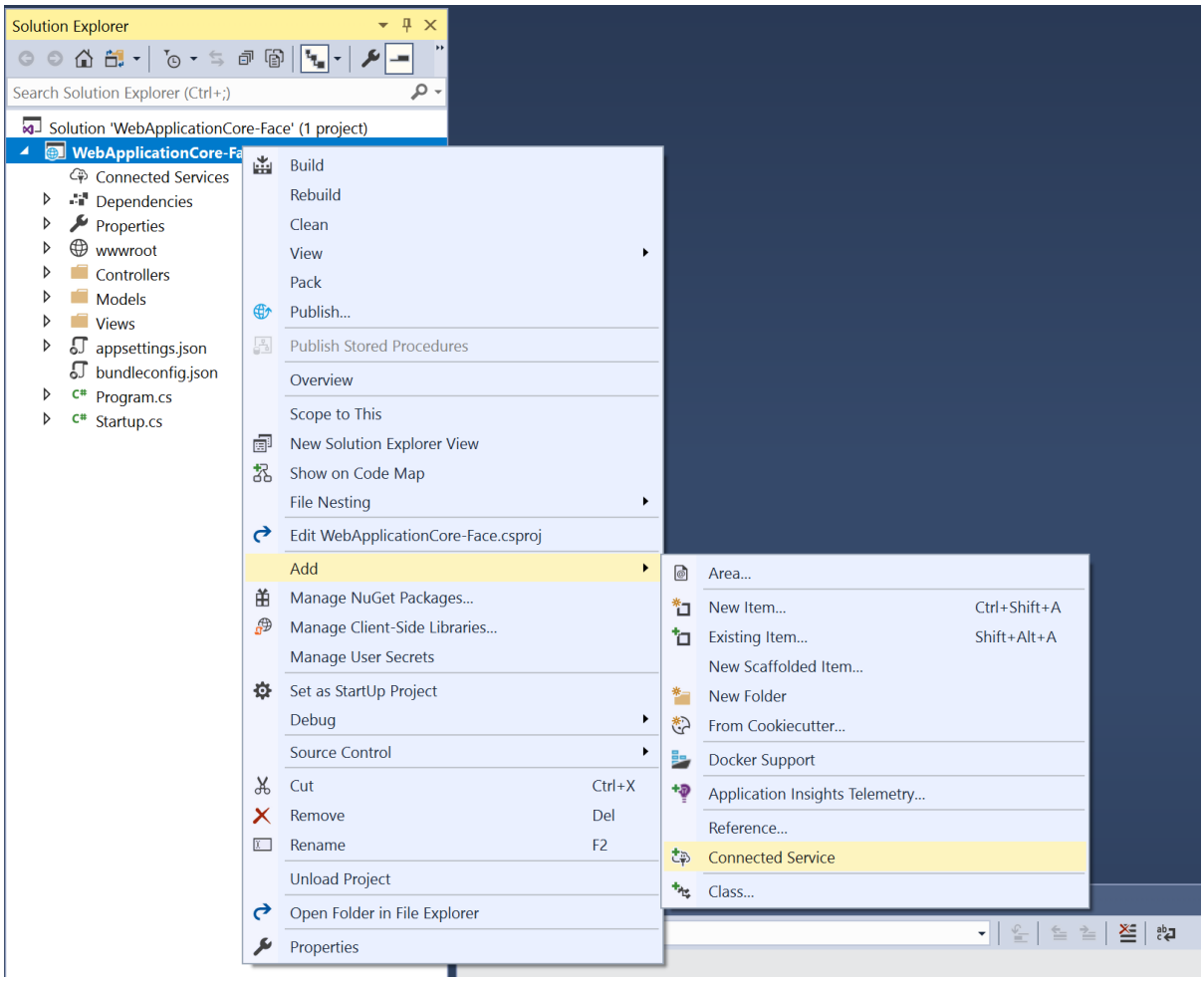
4. Restart Visual Studio. The extension installs when you close Visual Studio, and is available next time you

launch the IDE.

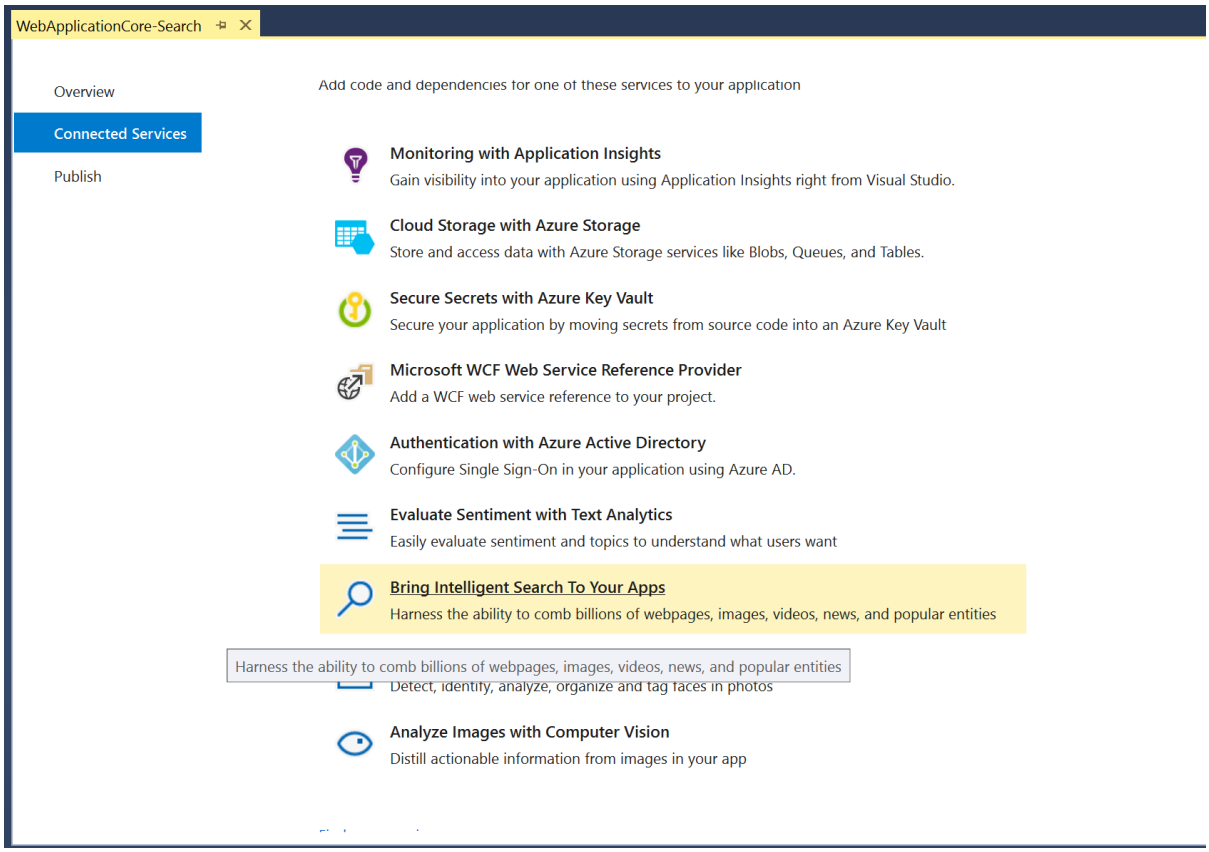
Add support to your project for Bing News Search API

1. Create a new ASP.NET Core web project named MyWebApplication. Use the **Web Application (Model-View-Controller)** project template, with all the default settings. It's important to name the project MyWebApplication, so the namespace matches when you copy code into the project.

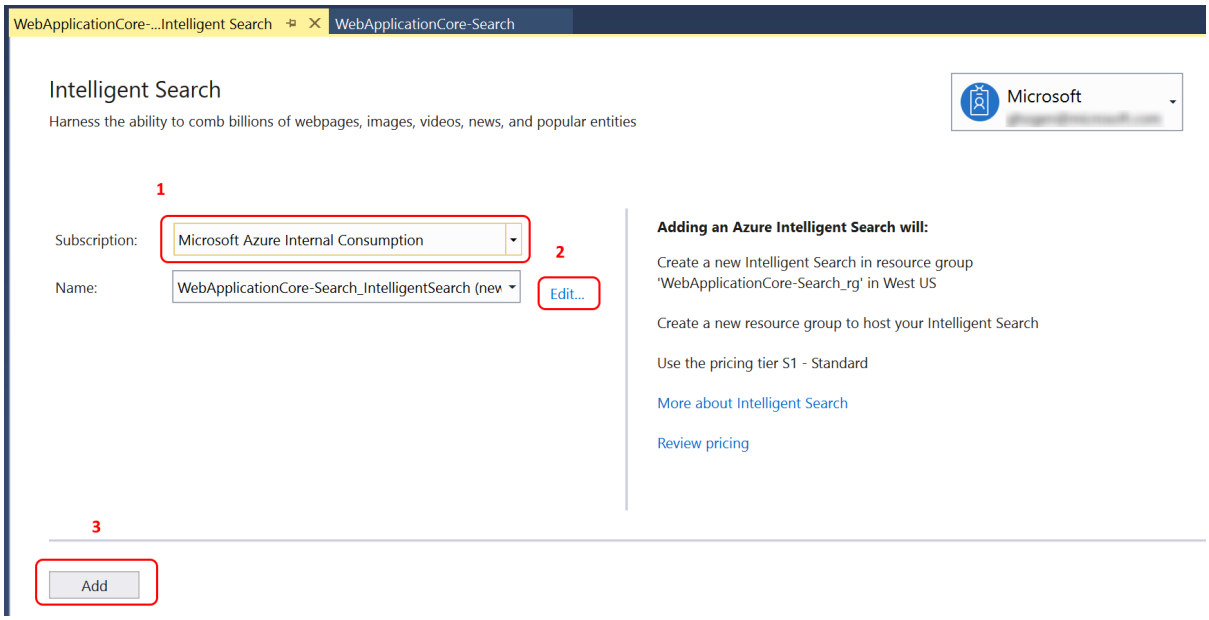
2. In **Solution Explorer**, choose **Add** > **Connected Service**. The Connected Service page appears, with services you can add to your project.



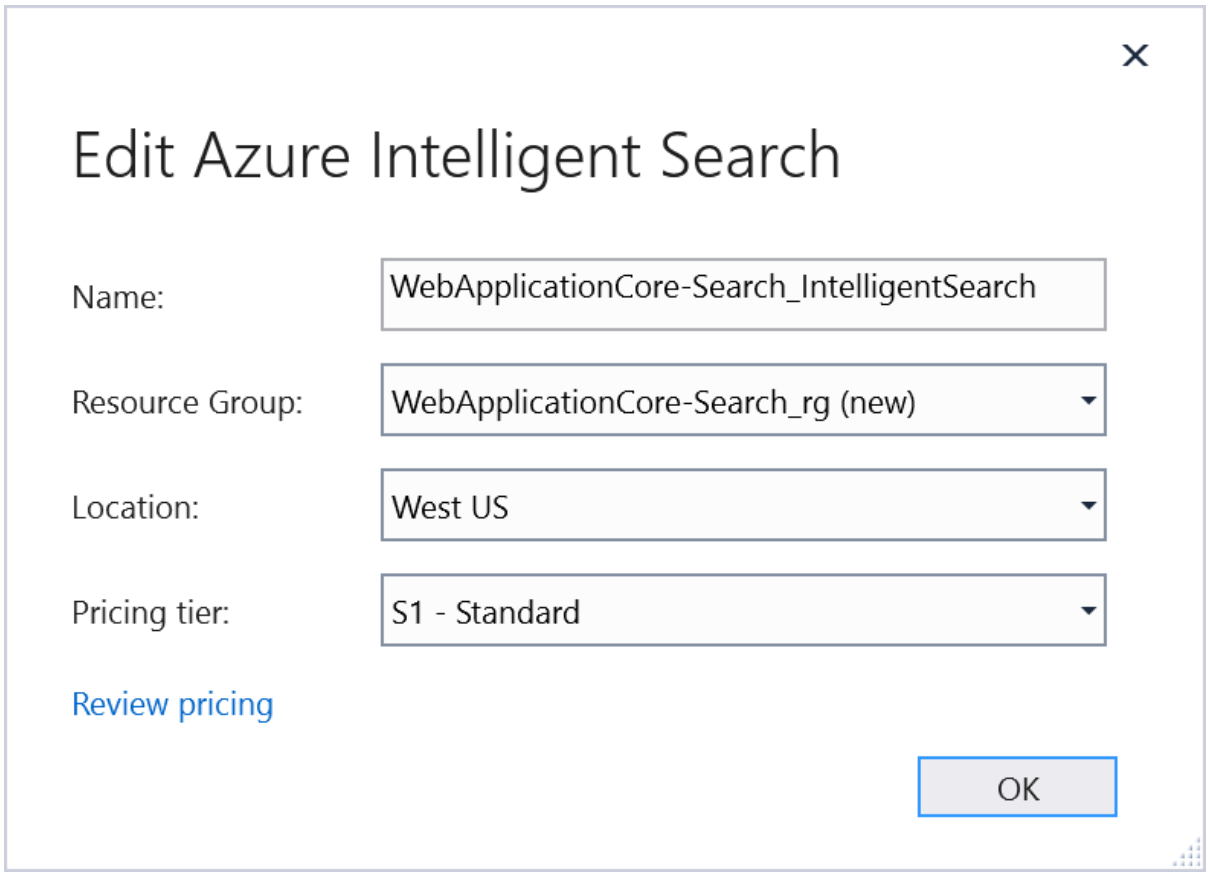
3. In the menu of available services, choose **Bring Intelligent Search To Your Apps**.



If you've signed into Visual Studio, and have an Azure subscription associated with your account, a page appears with a dropdown list with your subscriptions. Select the subscription you want to use, and then choose a name for the Bing News Search API. You can also choose **Edit** to modify the automatically generated name.



4. Choose the resource group, and the pricing tier.



If you want more details about the pricing tiers, select **Review pricing**.

5. Choose **Add** to add support for the Connected Service. Visual Studio modifies your project to add the NuGet packages, configuration file entries, and other changes to support a connection to the Bing News Search API. The output shows the log of what is happening to your project. You should see something like the following:

```
[5/4/2018 12:41:21.084 PM] Adding Intelligent Search to the project.
[5/4/2018 12:41:21.271 PM] Creating new Intelligent Search...
[5/4/2018 12:41:24.128 PM] Installing NuGet package
'Microsoft.Azure.CognitiveServices.Search.ImageSearch' version 1.2.0...
[5/4/2018 12:41:24.135 PM] Installing NuGet package
'Microsoft.Azure.CognitiveServices.Search.NewsSearch' version 1.2.0...
[5/4/2018 12:41:24.154 PM] Installing NuGet package 'Microsoft.Azure.CognitiveServices.Search.WebSearch'
version 1.2.0...
[5/4/2018 12:41:24.168 PM] Installing NuGet package
'Microsoft.Azure.CognitiveServices.Search.CustomSearch' version 1.2.0...
[5/4/2018 12:41:24.187 PM] Installing NuGet package
'Microsoft.Azure.CognitiveServices.Search.VideoSearch' version 1.2.0...
[5/4/2018 12:42:07.287 PM] Retrieving keys...
[5/4/2018 12:42:07.741 PM] Updating appsettings.json setting: 'ServiceKey' =
'c271412f3e4c4e1dacc7c4145fa0572a'
[5/4/2018 12:42:07.745 PM] Updating appsettings.json setting: 'ServiceEndPoint' =
'https://api.cognitive.microsoft.com/bing/v7.0'
[5/4/2018 12:42:07.749 PM] Updating appsettings.json setting: 'Name' = 'WebApplicationCore-
Search_IntelligentSearch'
[5/4/2018 12:42:10.217 PM] Successfully added Intelligent Search to the project.
```

The appsettings.json file now contains the following new settings:

```
"CognitiveServices": {
  "IntelligentSearch": {
    "ServiceKey": "<your service key>",
    "ServiceEndPoint": "https://api.cognitive.microsoft.com/bing/v7.0",
    "Name": "WebApplicationCore-Search_IntelligentSearch"
  }
}
```

Use the Bing News Search API to add search functionality to a web page

Now that you've added support for the Bing News Search API to your project, here's how to use the API to add intelligent search to a web page.

1. In *Startup.cs*, in the `ConfigureServices` method, add a call to `IServiceCollection.AddSingleton`. This makes the configuration object that contains the key settings available to the code in your project.

    ```
    public void ConfigureServices(IServiceCollection services)
    {
        services.AddMvc();
        services.AddSingleton<IConfiguration>(Configuration);
    }
    ```

2. Add a new class file under the **Models** folder, called *BingNewsModel.cs*. If you named your project differently, use your own project's namespace, instead of MyWebApplication. Replace the contents with the following code:

    ```
    using Microsoft.Azure.CognitiveServices.Search.NewsSearch.Models;
    using System;
    using System.Collections.Generic;
    using System.Linq;
    using System.Threading.Tasks;

    namespace MyWebApplication.Models
    {
        public class BingNewsModel
        {
            public News SearchResult { get; set; }
            public string SearchText { get; set; }
        }
    }
    ```

    This model is used to store the results of a call to the Bing News Search service.

3. In the **Controllers** folder, add a new class file called *IntelligentSearchController.cs*. Replace the contents with the following code:

```
using System.Net.Http;
using System.Threading.Tasks;
using MyWebApplication.Models;
using Microsoft.AspNetCore.Mvc;
using Microsoft.Azure.CognitiveServices.Search.NewsSearch;
using Microsoft.Extensions.Configuration;

namespace MyWebApplication.Controllers
{
    // A controller to handle News Search requests
    public class IntelligentSearchController : Controller
    {
        private IConfiguration configuration;

        // Set up the configuration that contains the keys
        // (from the appsettings.json file)
        // that you will use to access the service
        public IntelligentSearchController(IConfiguration configuration)
        {
            this.configuration = configuration;
        }

        // Call the Bing News Search API and put the result in the model object.
        public async Task<IActionResult> BingSearchResult(BingNewsModel model)
        {
            if (!string.IsNullOrWhiteSpace(model.SearchText))
            {
                INewsSearchAPI client = this.GetNewsSearchClient(new MyHandler());
                model.SearchResult = await client.News.SearchAsync(model.SearchText);
            }
            return View(model);
        }

        // Forward requests to the Search endpoint to the BingSearchResult method
        [HttpPost("Search")]
        public IActionResult Search(BingNewsModel model)
        {
            return RedirectToAction("BingSearchResult", model);
        }

        // Get the search client object
        private INewsSearchAPI GetNewsSearchClient(DelegatingHandler handler)
        {
            string key =
               configuration.GetSection("CognitiveServices")["IntelligentSearch:ServiceKey"];

            INewsSearchAPI client = new NewsSearchAPI(
               new ApiKeyServiceClientCredentials(key), handlers: handler);

            return client;
        }
    }
}
```

In this code, the constructor sets up the configuration object that contains your keys. The method for the `Search` route is just a redirection to the `BingSearchResult` function. This calls the `GetNewsSearchClient` method to get the `NewsSearchAPI` client object. The `NewsSearchAPI` client object contains the `SearchAsync` method, which actually calls the service and returns the results in the `SearchResult` model that you just created.

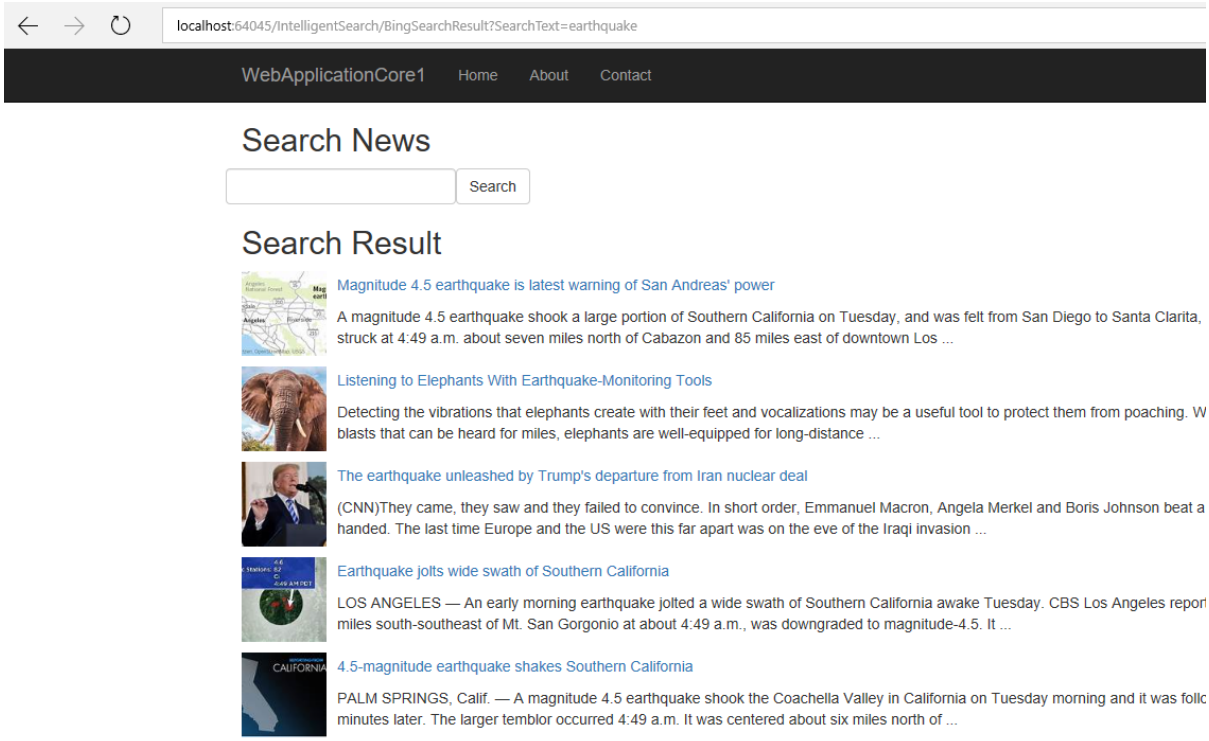
4. Add a class, `MyHandler`, which was referenced in the preceding code. This delegates the asynchronous call to the search service to its base class, `DelegatingHandler`.

```
using System.Net.Http;
using System.Threading.Tasks;
using System.Threading;

class MyHandler : DelegatingHandler
{
    protected async override Task<HttpResponseMessage> SendAsync(
    HttpRequestMessage request, CancellationToken cancellationToken)
    {
        // Call the inner handler.
        var response = await base.SendAsync(request, cancellationToken);

        return response;
    }
}
```

5. To add support for submitting searches and viewing the results, in the **Views** folder, create a new folder called **IntelligentSearch**. In this new folder, add a view *BingSearchResult.cshtml*. Copy in the following code:

```
@using System
@model MyWebApplication.Models.BingNewsModel

@{
    ViewData["Title"] = "BingSearchResult";
}

<h2>Search News</h2>

<div class="row">
    <section>
        <form asp-controller="IntelligentSearch" asp-action="Search" method="POST"
              class="form-horizontal" enctype="multipart/form-data">
            <table width ="90%">
                <tr>
                    <td>
                        <input type="text" name="SearchText" class="form-control" />
                    </td>
                    <td>
                        <button type="submit" class="btn btn-default">Search</button>
                    </td>
                </tr>
            </table>
        </form>
    </section>
</div>
<h2>Search Result</h2=
<table>
@if (!string.IsNullOrEmpty(Model.SearchText)) {
    foreach (var item in Model.SearchResult.Value) {
    <tr>
        <td rowspan="2" width="90">
           <img src=@item?.Image?.Thumbnail?.ContentUrl width="80" height="80" />
        </td>
        <td><a href=@item.Url>@item.Name</a></td>
    </tr>
    <tr>
        <td>@item.Description</td>
    </tr>
    <tr height="10">
        <td/><td/>
     </tr>
    } }
 </table>
<div>
    <hr />
    <p>
        <a asp-controller="Home" asp-action="Index">Return to Index</a>
    </p>
</div>
```

6. Start the web application locally, enter the URL for the page you just created (/IntelligentSearch/BingSearchResult), and post a search request by using the Search button.



Clean up resources

When the resource group is no longer needed, you can delete it. This deletes the cognitive service and related resources. To delete the resource group through the portal:

1. Enter the name of your resource group in the search box at the top of the portal. Select the resource group you want to delete.
2. Select **Delete resource group**.
3. In the **Type the Resource Group Name** box, enter the name of the resource group and select **Delete**.

Next steps

To learn more about the Bing News Search API, see What is Bing News Search?.

Sending queries to the Bing News Search API

2/7/2019 • 6 minutes to read • Edit Online

The Bing News Search API enables you to search the web for relevant news items. Use this article to learn more about sending search queries to the API.

You must have a Cognitive Services API account with access to the Bing Search APIs. If you don't have an Azure subscription, you can create an account for free. Before continuing, You will need the access key provided after activating your free trial, or a paid subscription key from your Azure dashboard.

Sending a request

To get news-only search results, you'd send a GET request to the following endpoint:

```
https://api.cognitive.microsoft.com/bing/v7.0/news/search
```

The request must use the HTTPS protocol.

We recommend that all requests originate from a server. Distributing the key as part of a client application provides more opportunity for a malicious third party to access it. Also, making calls from a server provides a single upgrade point for future versions of the API.

The request must specify the q query parameter, which contains the user's search term. Although it's optional, the request should also specify the mkt query parameter, which identifies the market where you want the results to come from. For a list of optional query parameters such as `freshness` and `textDecorations`, see Query Parameters. All query parameter values must be URL encoded.

The request must specify the Ocp-Apim-Subscription-Key header. Although optional, you are encouraged to also specify the following headers:

- User-Agent
- X-MSEdge-ClientID
- X-Search-ClientIP
- X-Search-Location

The client IP and location headers are important for returning location aware content.

For a list of all request and response headers, see Headers.

The following shows a news request that includes all the suggested query parameters and headers. If it's your first time calling any of the Bing APIs, don't include the client ID header. Only include the client ID if you've previously called a Bing API and Bing returned a client ID for the user and device combination.

```
GET https://api.cognitive.microsoft.com/bing/v7.0/news/search?q=sailing+dinghies&mkt=en-us HTTP/1.1
Ocp-Apim-Subscription-Key: 123456789ABCDE
User-Agent: Mozilla/5.0 (compatible; MSIE 10.0; Windows Phone 8.0; Trident/6.0; IEMobile/10.0; ARM; Touch;
NOKIA; Lumia 822)
X-Search-ClientIP: 999.999.999.999
X-Search-Location: lat:47.60357;long:-122.3295;re:100
X-MSEdge-ClientID: <blobFromPriorResponseGoesHere>
Host: api.cognitive.microsoft.com
```

Bing News Search API response

The following shows the response to the previous request. The example also shows the response headers.

```
BingAPIs-TraceId: 994974CC8D994C95A5C31387296A510A
BingAPIs-SessionId: 92C9798D29C846ABBDAE4AB6C47CC888
X-MSEdge-ClientID: 3358F499A06F6A562B88F8F4A1236BC0
BingAPIs-Market: en-US
X-MSEdge-Ref: Ref A: 994974CC8D994C95A5C31387296A510A Ref B: BY3EDGE0207 Ref C: 2018-09-17T16:55:22Z

{
   "_type": "News",
   "readLink": "https:\/\/api.cognitive.microsoft.com\/api\/v7\/news\/search?q=sailing%2bdinghies",
   "queryContext": {
      "originalQuery": "sailing+dinghies",
      "adultIntent": false
   },
   "totalEstimatedMatches": 60000,
   "sort": [
      {
         "name": "Best match",
         "id": "relevance",
         "isSelected": true,
         "url": "https:\/\/api.cognitive.microsoft.com\/api\/v7\/news\/search?q=sailing%2bdinghies"
      },
      {
         "name": "Most recent",
         "id": "date",
         "isSelected": false,
         "url": "https:\/\/api.cognitive.microsoft.com\/api\/v7\/news\/search?q=sailing%2bdinghies&sortby=date"
      }
   ],
   "value": [
      {
         "name": "Global single-handed sailing dinghy market research illuminated by new report",
         "url": "https:\/\/www.whatech.com\/market-research\/consumer\/506504-global-single-handed-sailing-
dinghy-market-research-illuminated-by-new-report",
         "image": {
            "thumbnail": {
               "contentUrl": "https:\/\/www.bing.com\/th?id=ON.784C1E1F53BA96E21EAD9382C8D47855&pid=News",
               "width": 490,
               "height": 280
            }
         },
         "description": "With this Single-Handed Sailing Dinghy Market report, one is sure to keep up with
information on the dogged competition for market share and control, between elite manufacturers. It also
features, price, production, and revenue. Global Single-Handed ...",
         "about": [
            {
               "readLink": "https:\/\/api.cognitive.microsoft.com\/api\/v7\/entities\/ba5cfb68-96fd-4529-bdd3-
060f6fca43f1",
               "name": "Single-handed sailing"
            }
         ],
         "provider": [
            {
               "_type": "Organization",
               "name": "WhaTech",
               "image": {
                  "thumbnail": {
                     "contentUrl": "https:\/\/www.bing.com\/th?id=AR_7f43f11eb94501973a55b64ec0721b55&pid=news"
                  }
               }
            }
         ],
         "datePublished": "2018-09-12T05:30:00.0000000Z",
         "category": "Business"
```

```
      },
      {
         "name": "Boat collides with luxury craft at sail launch",
         "url": "https:\/\/www.sunshinecoastdaily.com.au\/news\/boat-capsizes-in-display-at-the-launch-of-the-
sout\/3523096\/",
         "image": {
            "thumbnail": {
               "contentUrl": "https:\/\/www.bing.com\/th?id=ON.C2D335BDDAB1844EAF7775B1214331l9&pid=News",
               "width": 460,
               "height": 258
            }
         },
         "description": "The annual spectacle is never a dull affair with a flotilla of club vessels - from
small sailing dinghy's to powerboats - completing a tight turn in the marina right in front of the club house.
A strong northerly made conditions extra tricky for the 70 ...", "provider": [{"_type": "Organization", "name":
"Sunshine Coast Daily", "image": {"thumbnail": {"contentUrl": "https:\/\/www.bing.com\/th?
id=AR_73ce1412dfbebb5c4f539ac7c5e31429&pid=news"}}}], "datePublished": "2018-09-16T22:03:00.0000000Z",
"category": "Sports"}, {"name": "Boat capsizes in display at the launch of the Southport Yacht Club sailing
season", "url": "https:\/\/www.goldcoastbulletin.com.au\/news\/gold-coast\/boat-capsizes-in-display-at-the-
launch-of-the-southport-yacht-club-sailing-season\/news-story\/6c0fb5366ed6a1abe93e85825598aee8", "image":
{"thumbnail": {"contentUrl": "https:\/\/www.bing.com\/th?id=ON.247A9B91E2888976DA8F4776DC9B2372&pid=News",
"width": 700, "height": 393}}, "description": "The annual spectacle is never a dull affair with a flotilla of
club vessels - from small sailing dinghy’s to powerboats - completing a tight turn in the marina right in front
of the club house. A strong northerly made conditions extra tricky for the 70 ...", "about": [{"readLink":
"https:\/\/api.cognitive.microsoft.com\/api\/v7\/entities\/cf2ea25d-2faf-1486-6db8-0e4c16cabed7", "name":
"Southport"}], "provider": [{"_type": "Organization", "name": "Gold Coast Sun"}], "datePublished": "2018-09-
16T14:05:00.0000000Z", "category": "Sports"}, {"name": "Caribbean Dinghy Championship 2018", "url":
"https:\/\/www.sailingscuttlebutt.com\/2018\/09\/06\/caribbean-dinghy-championship-2018\/", "image":
{"thumbnail": {"contentUrl": "https:\/\/www.bing.com\/th?id=ON.C9D13963192B123805E8BD0707370BFF&pid=News",
"width": 620, "height": 350}}, "description": "After storms forced the cancellation of the 2017 Caribbean
Dinghy Championship, the event returns in 2018 ... Launched in 1997, Scuttlebutt provides sailing news with a
North American focus. Look for the latest information to be posted on the website ...", "about": [{"readLink":
"https:\/\/api.cognitive.microsoft.com\/api\/v7\/entities\/7ee7f148-7ed7-b73e-7461-900ee716ef61", "name":
"Caribbean"}], "provider": [{"_type": "Organization", "name": "Scuttlebutt Sailing News", "image":
{"thumbnail": {"contentUrl": "https:\/\/www.bing.com\/th?id=AR_bce37315275c769315a43e2792dab150&pid=news"}}}],
"datePublished": "2018-09-06T18:29:00.0000000Z"}, {"name": "Severna Park sailor places fifth at Optimist World
Championship", "url": "http:\/\/www.capitalgazette.com\/sports\/ac-cs-tommy-sitzmann-feature-20180915-
story.html", "description": "When the sailing conditions are right ... he could be a top contender on an
international level by placing fifth at the United States Optimist Dinghy Association Team Trials, held April
26-29 out of Key Biscayne Yacht Club. That in itself was a massive ...", "about": [{"readLink":
"https:\/\/api.cognitive.microsoft.com\/api\/v7\/entities\/1883f6c3-f9bf-357c-01b1-96120862af67", "name":
"Severna Park"}, {"readLink": "https:\/\/api.cognitive.microsoft.com\/api\/v7\/entities\/5254c06e-0891-5637-
4e51-45fa4eec4ca2", "name": "Optimist dinghy"}], "provider": [{"_type": "Organization", "name": "Capital
Gazette", "image": {"thumbnail": {"contentUrl": "https:\/\/www.bing.com\/th?
id=AR_ef9a3ded8bb90aef15d34f327e53e2ec&pid=news"}}}], "datePublished": "2018-09-15T22:04:00.0000000Z",
"category": "Sports"}, {"name": "A Dorset dinghy celebrates 60 years on the water", "url":
"https:\/\/www.bbc.co.uk\/programmes\/p06kk2zv", "description": "If you learned to sail as a child, or if you
have children or grandchildren who sail then you will know about the AB sailing dinghy. The simple little boat
was first designed and built in Poole in 1958 and this year it's celebrating its 60th anniversary.",
         "about": [
            {
               "readLink": "https:\/\/api.cognitive.microsoft.com\/api\/v7\/entities\/248ebd80-8904-8a43-be23-
3cd065a30350",
               "name": "Dorset"
            },
            {
               "readLink": "https:\/\/api.cognitive.microsoft.com\/api\/v7\/entities\/84fb5887-86ed-ecdb-55b7-
718ba1cdefb8",
               "name": "BBC Radio Solent"
            },
            {
               "readLink": "https:\/\/api.cognitive.microsoft.com\/api\/v7\/entities\/1cf31e75-0340-8af2-1efc-
e2cd0d0fa253",
               "name": "Water"
            }
         ],
         "provider": [
            {
               "_type": "Organization",
```

```
               "name": "BBC",
               "image": {
                  "thumbnail": {
                     "contentUrl": "https:\/\/www.bing.com\/th?id=AR_b639c1691c4fa767d85fd87b7042f9e6&pid=news"
                  }
               }
            }
         ],
         "datePublished": "2018-09-07T10:29:00.0000000Z"
      },
      {
         "name": "Angst as Sailing misses Paris 2024 Paralympic inclusion",
         "url": "https:\/\/www.sail-world.com\/news\/210021\/Four-more-years--Para-Sailing-misses-Paris-cut",
         "image": {
            "thumbnail": {
               "contentUrl": "https:\/\/www.bing.com\/th?id=ON.0C996DAB550F7202E8C53BBCFF51B9F3&pid=News",
               "width": 700,
               "height": 466
            }
         },
         "description": "World Sailing has also put the second oldest Olympic class, the two-handed 470 on the
skids, with moves to drop the men's and women's two-person dinghy events and replace them with a single mixed
gender doublehander, with the class yet to be selected.",
         "about": [
            {
               "readLink": "https:\/\/api.cognitive.microsoft.com\/api\/v7\/entities\/819fda72-a524-6f49-5e39-
5d559e2a5969",
               "name": "2024 Summer Olympics"
            },
            {
               "readLink": "https:\/\/api.cognitive.microsoft.com\/api\/v7\/entities\/24256509-f062-baaa-3ed3-
3ec1a7a2d38c",
               "name": "Sailing"
            }
         ],
         "provider": [
            {
               "_type": "Organization",
               "name": "Sail World News"
            }
         ],
         "datePublished": "2018-09-15T06:24:00.0000000Z"
      },
      {
         "name": "West Sacramento sailing club uses warm weather for wind surfing",
         "url": "http:\/\/www.dailydemocrat.com\/article\/NI\/20180912\/NEWS\/180919960",
         "image": {
            "thumbnail": {
               "contentUrl": "https:\/\/www.bing.com\/th?id=ON.6BC8EBF8DEFBA55247EFEEAF545DDE15&pid=News",
               "width": 384,
               "height": 400
            }
         },
         "description": "Once comfortable, newcomers can join in on the many hosted races, like the annual
Delta Ditch Dinghy Race that begins in Rio Vista. “It truly is the best kept secret in Sacramento,” Glovin
said. “It’s the best sailing around. You get the consistent ...",
         "about": [
            {
               "readLink": "https:\/\/api.cognitive.microsoft.com\/api\/v7\/entities\/aaf3c53a-9932-f043-c1ca-
9cae2d19f9cf",
               "name": "West Sacramento"
            }
         ],
         "provider": [
            {
               "_type": "Organization",
               "name": "Woodland Daily Democrat",
               "image": {
                  "thumbnail": {
```

```
                    "contentUrl": "https:\/\/www.bing.com\/th?id=AR_0b1348a0984c3f1177b2fff3b8f27549&pid=news"
                }
            }
         }
      ],
      "datePublished": "2018-09-12T22:55:00.0000000Z"
   },
   {
      "name": "SAILING: Sailing teams begin busy 2018–19",
      "url": "https:\/\/yaledailynews.com\/blog\/2018\/09\/11\/sailing-teams-begin-busy-2018-19\/",
      "image": {
         "thumbnail": {
            "contentUrl": "https:\/\/www.bing.com\/th?id=ON.ACEBE0C4D4E85B3E3DE149E8D31BC026&pid=News",
            "width": 700,
            "height": 524
         }
      },
      "description": "On the first day, Arcot and Ware sailed six of seven races in the Firefly dinghy, a boat with which they had no previous experience. Next weekend, both coed and women’s sailing head to Boston College. The coed team also scatters to MIT and Bowdoin while ...",
      "about": [
         {
            "readLink": "https:\/\/api.cognitive.microsoft.com\/api\/v7\/entities\/dac17b74-6cf9-27ba-27ff-8dc6f57b7a31",
            "name": "Sailing"
         },
         {
            "readLink": "https:\/\/api.cognitive.microsoft.com\/api\/v7\/entities\/dacda48e-35d6-bcad-0e81-96951267dfda",
            "name": "Sailing"
         }
      ],
      "provider": [
         {
            "_type": "Organization",
            "name": "Yale Daily News",
            "image": {
               "thumbnail": {
                  "contentUrl": "https:\/\/www.bing.com\/th?id=AR_6b2f0dfab97da868e0d3df07012f44a4&pid=news"
               }
            }
         }
      ],
      "datePublished": "2018-09-11T04:31:00.0000000Z",
      "category": "Sports"
   },
   {
      "name": "Tasar UK National Championship at Hayling Island Sailing Club",
      "url": "https:\/\/www.sail-world.com\/news\/209889",
      "image": {
         "thumbnail": {
            "contentUrl": "https:\/\/www.bing.com\/th?id=ON.6A28956676E79790BED64ACD9498F7AF&pid=News",
            "width": 700,
            "height": 497
         }
      },
      "description": "Under the beautiful backdrop of the Spinnaker Tower, the Tasar fleet, who had the pleasure of sharing the sailing space with 43 Contenders, had fun milling around the Committee Boat waiting to start. The sight of so many dinghies is always gorgeous ...",
      "provider": [
         {
            "_type": "Organization",
            "name": "Sail World News"
         }
      ],
      "datePublished": "2018-09-11T15:30:00.0000000Z",
      "category": "Sports"
   }
]
```

```
}
```

Next steps

- What is Bing News Search?.
- Get today's top news
- Get news by category
- Get trending news

Search for news with the Bing News Search API

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The Bing Image Search API makes it easy to integrate Bing's cognitive news searching capabilities into your applications.

While the Bing News Search API primarily finds and returns relevant news articles, it provides several features for intelligent, and focused news retrieval on the web.

Suggest and use search terms

If you provide a search box where the user enters their search term, use the Bing Autosuggest API to improve the experience. The API returns suggested query strings based on partial search terms as the user types.

After the user enters their search term, URL encode it before setting the q query parameter. For example, if the user enters *sailing dinghies*, set `q` to `sailing+dinghies` or `sailing%20dinghies`.

Get general news

To get general news articles related to the user's search term from the web, send the following GET request:

```
GET https://api.cognitive.microsoft.com/bing/v7.0/news/search?q=sailing+dinghies&mkt=en-us HTTP/1.1
Ocp-Apim-Subscription-Key: 123456789ABCDE
User-Agent: Mozilla/5.0 (compatible; MSIE 10.0; Windows Phone 8.0; Trident/6.0; IEMobile/10.0; ARM; Touch;
NOKIA; Lumia 822)
X-Search-ClientIP: 999.999.999.999
X-Search-Location: lat:47.60357;long:-122.3295;re:100
X-MSEdge-ClientID: <blobFromPriorResponseGoesHere>
Host: api.cognitive.microsoft.com
```

If it's your first time calling any of the Bing APIs, don't include the client ID header. Only include the client ID if you've previously called a Bing API and Bing returned a client ID for the user and device combination.

To get news from a specific domain, use the site: query operator.

```
GET https://api.cognitive.microsoft.com/bing/v7.0/news/search?
q=sailing+dinghies+site:contososailing.com&mkt=en-us HTTP/1.1
```

The following shows the response to the previous query. As part of the Use and display requirements for the Bing search APIs, you must display each news article in the order provided in the response. If the article has clustered articles, you should indicate that related articles exist and display them upon request.

```
{
    "_type" : "News",
    "readLink" : "https:\/\/api.cognitive.microsoft.com\/bing\/v5\/news\/search?q=sailing+dinghies",
    "totalEstimatedMatches" : 88400,
    "value" : [{
        "name" : "Sailing Vies for Four Trophies",
        "url" : "http:\/\/www.bing.com\/cr?IG=CCE2F06CA750455891FE99A72...",
        "image" : {
            "thumbnail" : {
                "contentUrl" : "https:\/\/www.bing.com\/th?id=ON.9C23AA5...",
                "width" : 650,
                "height" : 341
            }
        },
        "description" : "College Rankings, presented by Zim...",
        "provider" : [{
            "_type" : "Organization",
            "name" : "contoso.com"
        }],
        "datePublished" : "2017-04-14T15:28:00"
    },

    ...

    {
        "name" : "Fabrikam Sailing Club to host Mirror Dinghy...",
        "url" : "http:\/\/www.bing.com\/cr?IG=CCE2F06CA750455891F...",
        "image" : {
            "thumbnail" : {
                "contentUrl" : "https:\/\/www.bing.com\/th?id=ON.36...",
                "width" : 448,
                "height" : 300
            }
        },
        "description" : "The sailing club that trained Olympian Ben...",
        "provider" : [{
            "_type" : "Organization",
            "name" : "Contoso"
        }],
        "datePublished" : "2017-04-04T11:02:00",
        "category" : "Sports"
    }]
}
```


The news answer lists the news articles that Bing thought were relevant to the query. The `totalEstimatedMatches` field contains an estimate of the number of articles available to view. For information about paging through the articles, see Paging News.

Each news article in the list includes the article's name, description, and URL to the article on the host's website. If the article contains an image, the object includes a thumbnail of the image. Use `name` and `url` to create a hyperlink that takes the user to the news article on the host's site. If the article includes an image, also make the image clickable using `url`. Be sure to use `provider` to attribute the article.

If Bing can determine the category of news article, the article includes the `category` field.

Get today's top news

To get today's top news articles, you'd make the same request as getting general news except that you'd leave `q` unset.

```
GET https://api.cognitive.microsoft.com/bing/v7.0/news/search?q=&mkt=en-us HTTP/1.1
Ocp-Apim-Subscription-Key: 123456789ABCDE
User-Agent: Mozilla/5.0 (compatible; MSIE 10.0; Windows Phone 8.0; Trident/6.0; IEMobile/10.0; ARM; Touch;
NOKIA; Lumia 822)
X-Search-ClientIP: 999.999.999.999
X-Search-Location: lat:47.60357;long:-122.3295;re:100
X-MSEdge-ClientID: <blobFromPriorResponseGoesHere>
Host: api.cognitive.microsoft.com
```

The response for getting top news is almost the same as getting general news. However, the `news` answer doesn't include the `totalEstimatedMatches` field because there's a set number of results. The number of top news articles may vary depending on the news cycle. Be sure to use `provider` to attribute the article.

Get news by category

To get news articles by category, such as the top sports or entertainment articles, send the following GET request to Bing:

```
GET https://api.cognitive.microsoft.com/bing/v7.0/news?category=sports&mkt=en-us HTTP/1.1
Ocp-Apim-Subscription-Key: 123456789ABCDE
User-Agent: Mozilla/5.0 (compatible; MSIE 10.0; Windows Phone 8.0; Trident/6.0; IEMobile/10.0; ARM; Touch;
NOKIA; Lumia 822)
X-Search-ClientIP: 999.999.999.999
X-Search-Location: lat:47.60357;long:-122.3295;re:100
X-MSEdge-ClientID: <blobFromPriorResponseGoesHere>
Host: api.cognitive.microsoft.com
```

Use the category query parameter to specify the category of articles to get. For a list of possible news categories that you may specify, see News Categories by Market.

The response for getting news by category is almost the same as getting general news. However, the articles are all from the specified category.

Get headline news

To request headline news articles and get articles from all news categories, send the following GET request to Bing:

```
GET https://api.cognitive.microsoft.com/bing/v7.0/news?mkt=en-us HTTP/1.1
Ocp-Apim-Subscription-Key: 123456789ABCDE
User-Agent: Mozilla/5.0 (compatible; MSIE 10.0; Windows Phone 8.0; Trident/6.0; IEMobile/10.0; ARM; Touch;
NOKIA; Lumia 822)
X-MSEdge-ClientIP: 999.999.999.999
X-Search-Location: lat:47.60357;long:-122.3295;re:100
X-MSEdge-ClientID: <blobFromPriorResponseGoesHere>
Host: api.cognitive.microsoft.com
```

Do not include the category query parameter.

The response for getting headline news is the same as getting today's top news. If the article is a headline article, its `headline` field is set to **true**.

By default, the response includes up to 12 headline articles. To change the number of headline articles to return, specify the headlineCount query parameter. The response also includes up to four non-headline articles per news category.

The response counts clusters as one article. Because a cluster may have several articles, the response may include

more than 12 headline articles and more than four non-headline articles per category.

Get trending news

To get news topics that are trending on social networks, send the following GET request to Bing:

```
GET https://api.cognitive.microsoft.com/bing/v7.0/news/trendingtopics?mkt=en-us HTTP/1.1
Ocp-Apim-Subscription-Key: 123456789ABCDE
User-Agent: Mozilla/5.0 (compatible; MSIE 10.0; Windows Phone 8.0; Trident/6.0; IEMobile/10.0; ARM; Touch;
NOKIA; Lumia 822)
X-Search-ClientIP: 999.999.999.999
X-Search-Location: lat:47.60357;long:-122.3295;re:100
X-MSEdge-ClientID: <blobFromPriorResponseGoesHere>
X-MSAPI-UserState: <blobFromPriorResponseGoesHere>
Host: api.cognitive.microsoft.com
```

> **NOTE**
>
> Trending Topics is available only in the en-US and zh-CN markets.

The following JSON is the response to the preceding request. Each trending news article includes a related image, breaking news flag, and a URL to the Bing search results for the article. Use the URL in the `webSearchUrl` field to take the user to the Bing search results page. Or, use the query text to call the Web Search API to display the results yourself.

```
{
    "_type" : "TrendingTopics",
    "value" : [{
        "name" : "Canada pot measure",
        "image" : {
            "url" : "https:\/\/www.bing.com\/th?id=OPN.RTNews_hHD...",
            "provider" : [{
                "_type" : "Organization",
                "name" : "Contoso Images"
            }]
        },
        "webSearchUrl" : "https:\/\/www.bing.com\/cr?IG=070292D8CEDD...",
        "isBreakingNews" : false,
        "query" : {
            "text" : "Canada marijuana"
        }
    },
    {
        "name" : "Down on Vegas move",
        "image" : {
            "url" : "https:\/\/www.bing.com\/th?id=OPN.RTNews_Bfbmg8h...",
            "provider" : [{
                "_type" : "Organization",
                "name" : "Contoso"
            }]
        },
        "webSearchUrl" : "https:\/\/www.bing.com\/cr?IG=070292D8CEDD...",
        "isBreakingNews" : false,
        "query" : {
            "text" : "Marcus Appel Las Vegas"
        }
    },

    ...

    ]
}
```


Getting related news

If there are other articles that are related to a news article, the news article may include the clusteredArticles field. The following shows an article with clustered articles.

```
{
    "name" : "Playoffs 2017: Betting lines, point spreads...",
    "url" : "http:\/\/www.bing.com\/cr?IG=4B7056CEC271408997D115...",
    "image" : {
        "thumbnail" : {
            "contentUrl" : "https:\/\/www.bing.com\/th?id=ON.D7B1...",
            "width" : 700,
            "height" : 393
        }
    },
    "description" : "April 14, 2017 3:37pm EDT April 14, 2017 3:34pm...",
    "provider" : [{
        "_type" : "Organization",
        "name" : "Contoso"
    }],
    "datePublished" : "2017-04-14T19:43:00",
    "category" : "Sports",
    "clusteredArticles" : [{
        "name" : "Playoffs 2017: Betting odds, favorites to win...",
        "url" : "http:\/\/www.bing.com\/cr?IG=4B7056CEC271408997D1159E...",
        "description" : "April 14, 2017 3:30pm EDT April 14, 2017 3:27pm...",
        "provider" : [{
            "_type" : "Organization",
            "name" : "Contoso"
        }],
        "datePublished" : "2017-04-14T19:37:00",
        "category" : "Sports"
    }]
},
```


Throttling requests

The service and your subscription type determine the number of queries per second (QPS) that you can make. Make sure your application includes the logic to stay within your quota. If the QPS limit is met or exceeded, the request fails and an HTTP 429 status code is returned. The response includes the `Retry-After` header, which indicates how long you must wait before sending another request.

Denial-of-service versus throttling

The service makes a differentiation between a denial-of-service (DoS) attack and a QPS violation. If the service suspects a DoS attack, the request succeeds (HTTP status code is 200 OK). However, the body of the response is empty.

Next steps

How to page through Bing News Search results

Bing Search API use and display requirements

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These use and display requirements apply to any implementation of the content and associated information from the following Bing Search APIs, including relationships, metadata, and other signals.

- Bing Custom Search
- Bing Entity Search
- Bing Image Search
- Bing News Search
- Bing Video Search
- Bing Visual Search
- Bing Web Search
- Bing Spell Check
- Bing Autosuggest

Definitions

TERM	DESCRIPTION
Answer	A category of results returned in a response. For example, a response from the Bing Web Search API can include answers in the categories of webpage results, image, video, visual, and news.
Response	Any and all answers and associated data received in response to a single call to a Search API.
Result	An item of information in an answer. For example, the set of data connected with a single news article is a result in a news answer.
Search APIs	collectively, the Bing Custom Search, Entity Search, Image Search, News Search, Video Search, Visual Search, Local Business Search, and Web Search APIs.

Bing Spell Check and Bing Autosuggest API restrictions

Do not:

- Copy, store, or cache any data you receive from the Bing Spell Check or Bing Autosuggest APIs.
- Use data you receive from Bing Spell Check or Bing Autosuggest APIs as part of any machine learning or similar algorithmic activity. Do not use this data to train, evaluate, or improve new or existing services that you or third parties might offer.

Bing Search APIs

> **NOTE**
> The requirements in this section apply to only the Search APIs, which does not include Bing Spell Check or Bing Autosuggest.

Internet search experience requirements

All data returned in responses may only be used in internet search experiences. An internet search experience means the content displayed:

- Is relevant and responsive to the end user's direct query, or other indication of their search interest and intent (for example, a user-indicated search query).
- Helps users find and navigate to the response's data sources. For example, providing clickable links from hyperlinks in the response.
- Includes multiple results for the user to select from.
- Are in a placement that enables users to search.
- Includes a visible indication that the content is an internet search result. For example, a statement that the content is "from the web".
- Includes any other appropriate measures to ensure your Bing Search API data does not violate any applicable laws or third-party rights. Consult your legal advisors to determine what measures may be appropriate.

The only exception to these internet search experience requirements is for URL discovery, as described later in this article.

Restrictions

Do not:

- Copy, store, or cache any data from responses (except retention to the extent permitted by continuity of service.
- Use data received from the Search APIs as part of any machine learning or similar algorithmic activity. Do not use this data to train, evaluate, or improve new or existing services that you or third parties might offer.
- Modify the content of results (other than to reformat them in a way that does not violate any other requirement), unless required by law or agreed to by Microsoft.
- Omit attribution information and URLs associated with result content.
- Reorder, including by omission, the results displayed in an answer when an order or ranking is provided, unless required by law or agreed to by Microsoft.

  > **NOTE**
  > This requirement does not apply to reordering implemented through the portal for the Bing Custom Search API.

- Display other content within any part of a response in a way that would lead a user to believe that the other content is part of the response.
- Display advertising that is not provided by Microsoft on any page that displays any part of a response.
- Display any advertising on pages with responses:
  - From the Bing Image, News Search, Video Search, or Visual Search APIs
  - That are filtered or limited primarily (or solely) to image, news and/or video or visual search results.

Notices and branding

Do:

- Prominently include a functional hyperlink to the Microsoft Privacy Statement, near each point in the user experience (UX) that offers a user the ability to input a search query. Label the hyperlink **Microsoft Privacy Statement**.
- Prominently display Bing branding, consistent with the Bing Trademark Usage Guidelines, near each point in the UX that offers a user the ability to input a search query. Such branding must clearly state to the user that Microsoft is powering the internet search experience.
- You can attribute each response (or portion of a response) displayed from the Bing Web Search, Image Search, News Search, Video Search, and Visual Search APIs to Microsoft, unless Microsoft specifies otherwise in writing for your use. This is described in Bing Trademark Usage Guidelines.

Do not:

- Attribute responses (or portions of responses) displayed from the Bing Custom Search API to Microsoft, unless Microsoft specifies otherwise in writing for your particular use.

Transferring responses

If you enable a user to transfer a response from a Search API to another user, such as through a messaging app or social media posting, the following apply:

- Transferred responses must:
  - Consist of content that is unmodified from the content of the responses displayed to the transferring user. Formatting changes are permissible.
  - Not include any data in metadata form.
  - For responses from the Bing Web, Image, News, Video, and Visual APIs, display language indicating the response was obtained through an internet search experience powered by Bing. For example, you can display language such as "Powered by Bing" or "Learn more about this image on Bing," or you can use the Bing logo.
  - For responses from the Bing Custom Search API, display language indicating the response was obtained through an internet search experience. For example, you can display language such as "Learn more about this search result."
  - Prominently display the full query used to generate the response.
  - Include a prominent link or similar attribution to the underlying source of the response, either directly or through the search engine (bing.com, m.bing.com, or your custom search service, as applicable).
- You may not automate the transfer of responses. A transfer must be initiated by a user action clearly evidencing an intent to transfer a response.
- You may only enable a user to transfer responses that were displayed in response to the transferring user's query.

Continuity of service

Do not copy, store, or cache any data from Search API responses. However, to enable continuity of service access and data rendering, you may retain results solely under the following conditions:

Device

You may enable a user to retain results on a device for the lesser of (i) 24 hours from the time of the query, or (ii) until a user submits another query for updated results, provided that retained results may be used only:

- To enable the user to access results previously returned to that user on that device (for example, in case of service interruption).
- To store results returned for your proactive query personalized in anticipation of the user's needs, based on that user's signals (for example, in case of anticipated service interruption).

Server

You may retain results specific to a single user securely on a server you control, and display the retained results only:

- To enable the user to access a historical report of results previously returned to that user in your solution. The results may not be (i) retained for more than 21 days from the time of the end user's initial query, and (ii) displayed in response to a user's new or repeated query.
- To store results returned for your proactive query personalized in anticipation of the user's needs, based on that user's signals. You can store these results for the lesser of (i) 24 hours from the time of the query, or (ii) until a user submits another query for updated results.

Whenever retained, results for a specific user cannot be commingled with results for another user. That is, the results of each user must be retained and delivered separately.

General

For all presentation of retained results:

- Include a clear, visible notice of the time the query was sent.
- Present the user with a button or similar means to re-query and obtain updated results.
- Retain the Bing branding in the presentation of the results.
- Delete (and refresh with a new query if needed) the stored results within the timeframes specified.

Non-display URL discovery

You may only use search responses in a non-internet search experience for the sole purpose of discovering URLs of sources of information responsive to a query from your user or customer. You may copy such URLs in a report or similar response you provide:

- Only to that user or customer, in response to that query.
- Only if it includes significant additional valuable content, relevant to the query.

The previous sections of Search APIs use and display requirements do not apply to this non-display use, except for the following:

- Do not cache, copy, or store any data or content from, or derived from, the search response, other than the limited URL copying described previously.
- Ensure your use of data (including the URLs) received from the Search APIs does not violate any applicable laws or third-party rights.
- Do not use the data (including the URLs) received from the Search APIs as part of any search index or machine learning or similar algorithmic activity. Do not use this data to create train, evaluate, or improve services that you or third parties might offer.

GDPR compliance

With respect to any personal data subject to the European Union General Data Protection Regulation (GDPR) and that is processed in connection with calls to the Search APIs, Bing Spell Check API, or Bing Autosuggest API, you understand that you and Microsoft are independent data controllers under the GDPR. You are independently responsible for your compliance with the GDPR.

Bing News Search API endpoints

2/7/2019 • 2 minutes to read • Edit Online

The **News Search API** returns news articles, Web pages, images, videos, and entities. Entities contain summary information about a person, place, or topic.

Endpoints

To get news search results using the Bing News Search API, send a `GET` request to one of the following endpoints. The headers and URL parameters define further specifications.

News items by search query

```
GET https://api.cognitive.microsoft.com/bing/v7.0/news/search
```

Returns news items based on a search query. If the search query is empty, the API will return top news articles from different categories. Send a query by url encoding your search term and appending it to the `q=""` parameter. For availability, see Supported countries and markets.

Top news items by category

```
GET https://api.cognitive.microsoft.com/bing/v7.0/news
```

Returns the top news items by category. You can specifically request the top business, sports, or entertainment articles using `category=business`, `category=sports`, or `category=entertainment`. The `category` parameter can only be used with the `/news` URL. There are some formal requirements for specifying categories; refer to `category` in the query parameter documentation. Send a query by url encoding your search term and appending it to the `q=""` parameter. For availability, see Supported countries and markets.

Trending news topics

```
GET https://api.cognitive.microsoft.com/bing/v7.0/news/trendingtopics
```

Returns news topics that are currently trending on social networks. When the `/trendingtopics` option is included, Bing search ignores several other parameters, such as `freshness` and `?q=""`. For availability, see Supported countries and markets.

Next steps

For details about headers, parameters, market codes, response objects, errors, etc., see the Bing News search API v7 reference.

For complete information about the parameters supported by each endpoint, see the reference pages for each type. For examples of basic requests using the News search API, see Bing News Search Quick-starts.

Language and region support for the Bing News Search API

2/7/2019 • 3 minutes to read • Edit Online

The Bing News Search API supports numerous countries/regions, many with more than one language. Specifying a country/region with a query serves primarily to refine search results based on interests in that country/region. Additionally, the results may contain links to Bing, and these links may localize the Bing user experience according to the specified country/region or language.

You can specify a country/region using the `cc` query parameter. If you specify a country/region, you must also specify one or more language codes using the `Accept-Language` HTTP header. The supported languages vary by countr/region; they are given for each country/region in the Markets table.

Alternatively, you may specify the market using the `mkt` query parameter and a code from the **Markets** table. Specifying a market simultaneously specifies a country/region and a preferred language. The `setLang` query parameter may be set to a language code in this case; usually this is the same language specified by `mkt` unless the user prefers to see Bing in another language.

Supported markets for news search endpoint

For the `/news/search` endpoint, the following table lists the market code values that you may use to specify the `mkt` query parameter. Bing returns content for only these markets. The list is subject to change.

For a list of country/region codes that you may specify in the `cc` query parameter, see Country Codes.

COUNTRY/REGION	LANGUAGE	MARKET CODE
Denmark	Danish	da-DK
Austria	German	de-AT
Switzerland	German	de-CH
Germany	German	de-DE
Australia	English	en-AU
Canada	English	en-CA
United Kingdom	English	en-GB
Indonesia	English	en-ID
Ireland	English	en-IE
India	English	en-IN
Malaysia	English	en-MY

COUNTRY/REGION	LANGUAGE	MARKET CODE
New Zealand	English	en-NZ
Republic of the Philippines	English	en-PH
Singapore	English	en-SG
United States	English	en-US
English	general	en-WW
English	general	en-XA
South Africa	English	en-ZA
Argentina	Spanish	es-AR
Chile	Spanish	es-CL
Spain	Spanish	es-ES
Mexico	Spanish	es-MX
United States	Spanish	es-US
Spanish	general	es-XL
Finland	Finnish	fi-FI
France	French	fr-BE
Canada	French	fr-CA
Belgium	Dutch	nl-BE
Switzerland	French	fr-CH
France	French	fr-FR
Italy	Italian	it-IT
Hong Kong SAR	Traditional Chinese	zh-HK
Taiwan	Traditional Chinese	zh-TW
Japan	Japanese	ja-JP
Korea	Korean	ko-KR
Netherlands	Dutch	nl-NL

COUNTRY/REGION	LANGUAGE	MARKET CODE
People's republic of China	Chinese	zh-CN
Brazil	Portuguese	pt-BR
Russia	Russian	ru-RU
Sweden	Swedish	sv-SE
Turkey	Turkish	tr-TR

Supported markets for news endpoint

For the `/news` endpoint, the following table lists the market code values that you may use to specify the `mkt` query parameter. Bing returns content for only these markets. The list is subject to change.

For a list of country/region codes that you may specify in the `cc` query parameter, see Country Codes.

COUNTRY/REGION	LANGUAGE	MARKET CODE
Denmark	Danish	da-DK
Germany	German	de-DE
Australia	English	en-AU
United Kingdom	English	en-GB
United States	English	en-US
English	general	en-WW
Chile	Spanish	es-CL
Mexico	Spanish	es-MX
United States	Spanish	es-US
Finland	Finnish	fi-FI
Canada	French	fr-CA
France	French	fr-FR
Italy	Italian	it-IT
Brazil	Portuguese	pt-BR
People's republic of China	Chinese	zh-CN

Supported markets for news trending endpoint

For the `/news/trendingtopics` endpoint, the following table lists the market code values that you may use to specify the `mkt` query parameter. Bing returns content for only these markets. The list is subject to change.

For a list of country/region codes that you may specify in the `cc` query parameter, see Country Codes.

COUNTRY/REGION	LANGUAGE	MARKET CODE
Germany	German	de-DE
Australia	English	en-AU
United Kingdom	English	en-GB
United States	English	en-US
Canada	English	en-CA
India	English	en-IN
France	French	fr-FR
Canada	French	fr-CA
Brazil	Portuguese	pt-BR
People's republic of China	Chinese	zh-CN

Country codes

The following are the country/region codes that you may specify in the `cc` query parameter. The list is subject to change.

COUNTRY/REGION	COUNTRY CODE
Argentina	AR
Australia	AU
Austria	AT
Belgium	BE
Brazil	BR
Canada	CA
Chile	CL
Denmark	DK
Finland	FI
France	FR

COUNTRY/REGION	COUNTRY CODE
Germany	DE
Hong Kong SAR	HK
India	IN
Indonesia	ID
Italy	IT
Japan	JP
Korea	KR
Malaysia	MY
Mexico	MX
Netherlands	NL
New Zealand	NZ
Norway	NO
People's Republic of China	CN
Poland	PL
Portugal	PT
Republic of the Philippines	PH
Russia	RU
Saudi Arabia	SA
South Africa	ZA
Spain	ES
Sweden	SE
Switzerland	CH
Taiwan	TW
Turkey	TR
United Kingdom	GB

COUNTRY/REGION	COUNTRY CODE
United States	US

Next steps

For more information about the Bing News Search endpoints, see News Search API v7 reference.

How to get analytics for Bing News Search API

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Bing Statistics provides analytics for Bing Search APIs. Analytics includes call volume, top query strings, geographic distribution, and more. To enable Bing Statistics in your Bing Search paid subscription, navigate to your Azure dashboard, select your paid subscription, and click Enable Bing Statistics. Enabling Bing Statistics increases your subscription rate slightly (see pricing).

> **NOTE**
> Bing Statistics is available with paid subscriptions only - it is not available with free trial subscriptions.

> **NOTE**
> You may not use any data available via the Bing Statistics dashboard to create applications for distribution to third parties.

Bing updates analytics data every 24 hours and maintains up to 13 month's worth of history.

Accessing your analytics

To access your analytics dashboard, go to https://bingapistatistics.com. Make sure you're signed in using the same Microsoft account (MSA) you used to get your paid subscription.

Filtering the data

By default, the charts and graphs reflect all metrics data that you have access to. You can filter the data shown in the charts and graphs by selecting the resources, markets, endpoints, and reporting period you're interested in. The charts and graphs change to reflect the filters you apply. The following describe the filters that you may change.

- **Resource ID**: The unique resource ID that identifies your Azure subscription. The list contains multiple IDs if you subscribe to more than one Bing Search API tier. By default, all resources are selected.
- **Markets**: The markets where the results come from. For example, en-us (English, United States). By default, all markets are selected. Note that the en-WW market is the market that Bing uses if the call does not specify a market and Bing is unable to determine the user's market.
- **Endpoints**: The Bing Search API endpoints. The list contains all endpoints for which you have a paid subscription. By default, all endpoints are selected.
- **Time Frame**: The reporting period. You can specify:
  - All—Includes up to 13 month's worth of data
  - Past 24 hours—Includes analytics from the last 24 hours
  - Past week—Includes analytics from the previous seven days
  - Past month—Includes analytics from the previous 30 days
  - A custom date range—Includes analytics from the specified date range, if available

> **NOTE**
> It may take up to 24 hours for metrics to surface on the dashboard. The dashboard shows the date and time the data was last updated.

> **NOTE**
> Metrics are available from the time you enable the Bing Statistics Add-in.

Charts and graphs

The dashboard shows charts and graphs of the metrics available for the selected endpoint. Not all metrics are available for all endpoints. The charts and graphs for each endpoint are static (you may not select the charts and graphs to display). The dashboard shows only charts and graphs for which there's data.

The following are the possible metrics. Each metric notes endpoint restrictions.

- **Call Volume**: Shows the number of calls made during the reporting period. If the reporting period is for a day, the chart shows the number of calls made per hour. Otherwise, the chart shows the number of calls made per day of the reporting period.

  > **NOTE**
  > The call volume may differ from billing reports, which generally includes only successful calls.

- **Top Queries**: Shows the top queries and the number of occurrences of each query during the reporting period. You can configure the number of queries shown. For example, you can show the top 25, 50, or 75 queries. Top Queries is not available for the following endpoints:

  - /images/trending
  - /images/details
  - /images/visualsearch
  - /videos/trending
  - /videos/details
  - /news
  - /news/trendingtopics
  - /suggestions

  > **NOTE**
  > Some query terms may be suppressed to remove confidential information such as emails, telephone numbers, SSN, etc.

- **Geographic Distribution**: The markets where the results come from. For example, en-us (English, United States). Bing uses the `mkt` query parameter to determine the market, if specified. Otherwise, Bing uses signals such as the caller's IP address to determine the market.

- **Response Code Distribution**: The HTTP status codes of all calls during the reporting period.

- **Call Origin Distribution**: The types of browsers used by the users. For example, Microsoft Edge, Chrome, Safari, and FireFox. Calls made from outside a browser, such as bots, Postman, or using curl from a console app, are grouped under Libraries. The origin is determined using the request's User-Agent header value. If

the request doesn't include the User-Agent header, Bing tries to derive the origin from other signals.

- **Safe Search Distribution**: The distribution of safe search values. For example, off, moderate, or strict. The `safeSearch` query parameter contains the value, if specified. Otherwise, Bing defaults the value to moderate.
- **Answers Requested Distribution**: The Web Search API answers you requested in the `responseFilter` query parameter.
- **Answers Returned Distribution**: The answers that Web Search API returned in the response.
- **Response Server Distribution**: The application server that served your API requests. The possible values are Bing.com (for traffic served from desktop and laptop devices) and Bing.com-mobile (for traffic served from mobile devices). The server is determined using the request's User-Agent header value. If the request doesn't include the User-Agent header, Bing tries to derive the server from other signals.

The following shows the analytics that are available for each endpoint.