

# **Tutorial 3**

## **Client-side Mashup**

CS5551 Advanced Software Engineering  
UMKC

# Topics to Cover

- REST





- Four Square Service API
  - Edamam's Recipe Search API
  - Watson Text to Speech API

# REST

## Representational State Transfer

- **An Architectural style** that specifies certain constraints for communication over web
- An architecture similar to a client/server architecture designed to use a stateless communication protocol, typically HTTP
- Clients and Servers exchange representations of resources by using a standardized interface and protocol

# REST Operations

1. **Get**  Retrieves the current state of a resource
2. **Post**  Updates the state of an existing resource
3. **Put**  Creates a new resource
4. **Delete**  Deletes some info

# Four Square Search API

<https://foursquare.com/developers/>

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## **Search Venues**

<https://api.foursquare.com/v2/venues/search>

Returns a list of venues near the current location, optionally matching a search term.

## **Parameters**

All parameters are optional, unless otherwise indicated.

**VENUE\_ID**: required ID of venue to retrieve.

## **Response fields**

Venue :A complete venue.

# Four Square Search API

<https://developer.foursquare.com/docs/venues/venue>

**FOURSQUARE** FOR DEVELOPERS

My AppsOverviewEndpointsForumTwitterBlog

developer.foursquare.com » API Documentation

**Users**

**Venues**

[add](#)

[categories](#)

[explore](#)

[managed](#)

[search](#)

[suggestcompletion](#)

[timeseries](#)

[trending](#)

**Aspects**

[events](#)

[herenow](#)

[hours](#)

[likes](#)

[links](#)

[listed](#)

[menu](#)

[nextvenues](#)

[photos](#)

[similar](#)

## Venue Detail

[https://api.foursquare.com/v2/venues/venue\\_id](https://api.foursquare.com/v2/venues/venue_id)

Gives details about a venue, including location, mayorship, tags, tips, specials, and category.

Authenticated users will also receive information about who is here now.

If the venue ID given is one that has been merged into another "master" venue, the response will show data about the "master" instead of giving you an error.

HTTP Method	GET
Requires Acting User	No ( <a href="#">learn more</a> )
Modes supported	<a href="#">foursquare</a> , <a href="#">swarm</a> ( <a href="#">learn more</a> )

### Parameters

All parameters are optional, unless otherwise indicated.

venue_id	A9ABCD	required ID of venue to retrieve
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# Four Square Tips(Reviews) API

<https://developer.foursquare.com/start/search>

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## Get Reviews/Tips Venues

Tips from a Venue :Returns tips for a venue.

[https://api.foursquare.com/v2/venues/VENUE\\_ID/tips](https://api.foursquare.com/v2/venues/VENUE_ID/tips)

**HTTP Method:** GET

### **Parameters:**

All parameters are optional, unless otherwise indicated.

VENUE_IDXXX123YYYY	required	The venue you want tips for.
sort	recent	One of friends, recent, or popular.
limit	100	Number of results to return, up to 500.
offset	100	Used to page through results.

## Four Square Tips(Reviews) API

[developer.foursquare.com](#) » [API Documentation](#)

## Users

## Venues

## Venuegroups

## Checkins

### Tips

add

[search](#)

## Aspects

likes

listed

saves

## Actions

flag

like

unmark

## Lists

## Updates

### Tip detail

[https://api.foursquare.com/v2/tips/TIP\\_ID](https://api.foursquare.com/v2/tips/TIP_ID)

Gives details about a tip, including which users (especially friends) have marked the tip to-do.

HTTP Method	GET
Requires Acting User	No ( <a href="#">learn more</a> )
Modes supported	foursquare ( <a href="#">learn more</a> )

## Parameters

All parameters are optional, unless otherwise indicated.

TIP_ID	A9ABCD	required ID of tip to retrieve
--------	--------	--------------------------------

## Response fields

tip	A complete tip.
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# What is needed to Access API ?....

## A Key !!!

**FOURSQUARE** I'm looking for... Kansas City, MO

[Top Picks](#) [Trending](#) [Food](#) [Coffee](#) [Nightlife](#) [Fun](#) [Shopping](#)



Find great places on the go.  
Discover what's nearby, search for what you're craving, and get deals and tips along the way.

[Get the app](#)

### My Apps

[Sample](#)

**CLIENT\_ID**  
J5Y2UOY5JEQW4QKX2WXBZG4QNAGUZXWIOHLEILLV5SYASEYF

**CLIENT\_SECRET**  
.....

[More about this app...](#)

[Verify my account](#)

**Your account is unverified.**  
You may make 1,000 requests per 24 hour period.  
Please verify your account in order to receive 100,000 app requests per 24 hour period.

[Developer Documentation](#)  
[Get an Enterprise Account](#)

# Edamam's Recipe Search API

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<https://developer.edamam.com/edamam-recipe-api>

- Edamam's Recipe Search API lets you integrate recipes and faceted recipe search into your websites or mobile applications.

# Edamam's Recipe Search API

Recipe Search API

Edamam's Recipe Search API

tr>

Pricing

API calls limits

Recipe data (image, ingredients)

Diet, Health and Allergies

Recipe caching

Not allowed

Not allowed

Unlimited

Sign Up Info

megha nagabhushan

nagabhushan.megha@gmail.com

.....

.....

umkc

Choose your plan:

Developer

☒ I Agree To Term & Privacy Policy

SIGN UP

Enterprise

based on usage

CONTACT US

Custom

none

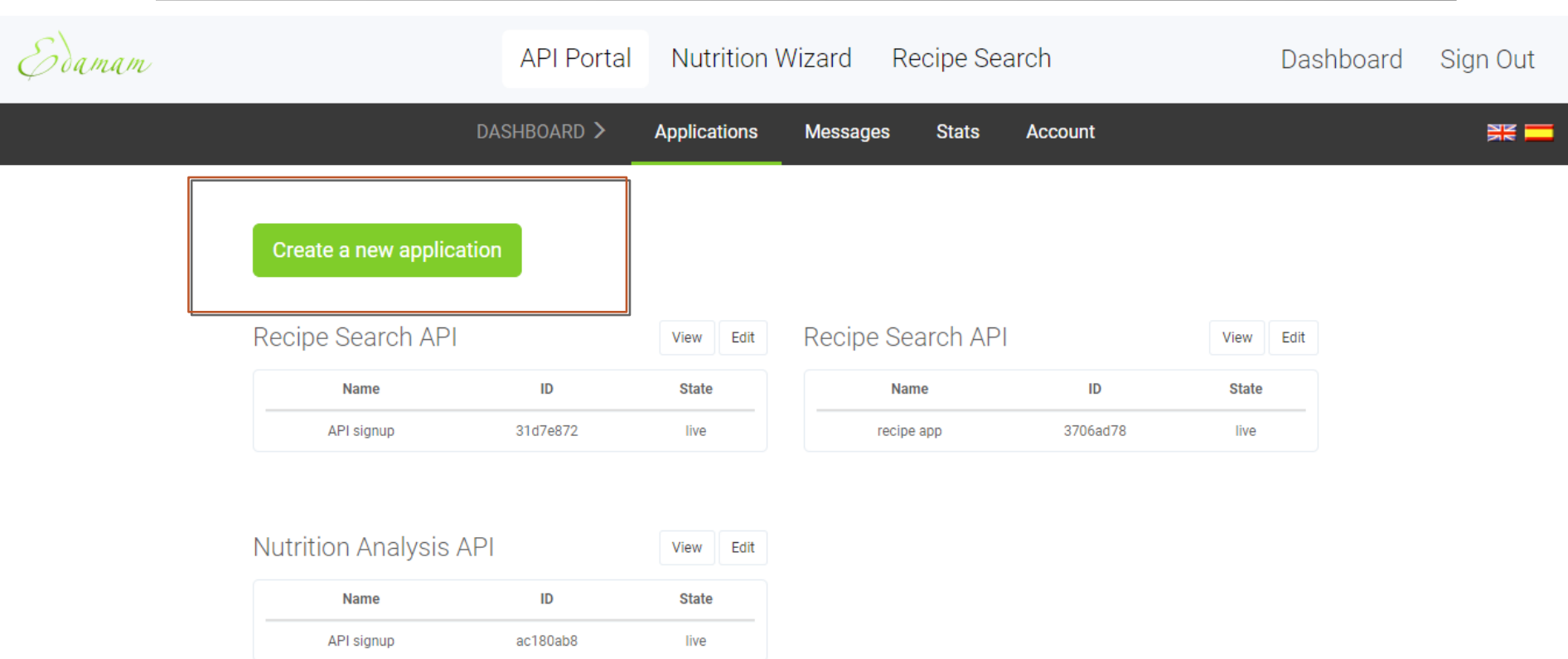
20+ filters

# Edamam's Recipe Search API

The screenshot shows the Edamam API Portal. The top navigation bar includes the Edamam logo, links to API Portal, Nutrition Wizard, Recipe Search, Dashboard, and Sign Out. A secondary dark navigation bar contains links to APIs, Documentation, FAQ, Terms, a highlighted 'Get an API key now!' button, and a Forum link. The main content area is titled 'Recipe Search API' and includes a description: 'Edamam's Recipe Search API lets you integrate recipes and faceted recipe search into your websites or mobile applications.' Below this is a pricing table with three columns: Developer, Startup, and Enterprise. The Developer plan is free with 5,000 API calls per month and a 5-minute rate limit. The Startup plan is free for startups with 20,000 API calls per month and no rate limit. The Enterprise plan is based on usage with custom API call limits and no rate limit. Each plan has a corresponding button: 'START NOW' for Developer and 'CONTACT US' for Startup and Enterprise. The bottom of the screenshot shows a browser window with two tabs: 'ASE-Lab-Assignme....zip' and 'CS5551\_T3-WebM....zip', and a 'Show all' button.

	Developer	Startup	Enterprise
Pricing	Free	Free for startups*	Based on usage
	<a href="#">START NOW</a>	<a href="#">CONTACT US</a>	<a href="#">CONTACT US</a>
API calls limits	5,000 month	20,000 month	Custom
	5 minute	none	none

# You can get a app-id and app-key by creating an application!



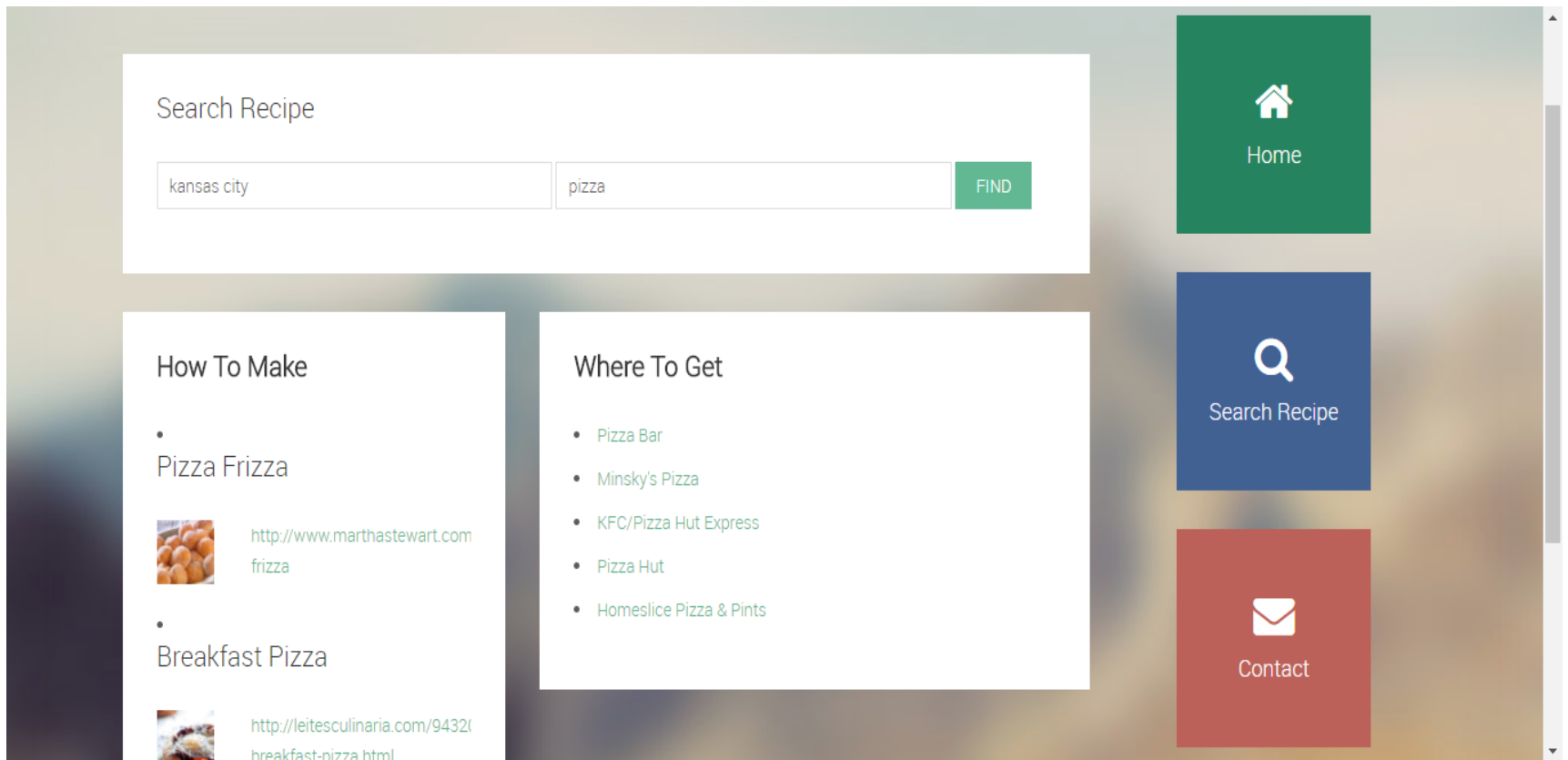
The screenshot shows the Edamam API Portal dashboard. The top navigation bar includes the Edamam logo, 'API Portal', 'Nutrition Wizard', 'Recipe Search', 'Dashboard', and 'Sign Out'. A secondary dark navigation bar contains 'DASHBOARD >', 'Applications' (highlighted), 'Messages', 'Stats', and 'Account', along with flags for the UK and Spain. A green button labeled 'Create a new application' is highlighted with a red rectangle. Below this, there are three application cards. The first two are 'Recipe Search API' and the third is 'Nutrition Analysis API'. Each card has 'View' and 'Edit' buttons and a table listing the application details.

Name	ID	State
API signup	31d7e872	live

Name	ID	State
recipe app	3706ad78	live

Name	ID	State
API signup	ac180ab8	live

# App Preview



# Edamam Request

```
' ''
myapp.controller( 'homeController', function ($scope, $http, $rootScope, $log, $window, Token, Facebook, $http, $location) {
    $scope.accessToken = Token.get()
    // https://api.edamam.com/diet?q=chicken&app_id=${YOUR_APP_ID}&app_key=${YOUR_APP_KEY}&from=0&to=3&calories=gte%20591,%20lte%20722&health
    $scope.recipeList = new Array();
    $scope.venueList = new Array();
    $scope.mostRecentReview;
    $scope.findRecipe = function () {
        //var end = document.getElementById('endlocation').value;
        alert( "hello" + $scope.recipe );
        $http.get( 'https://api.edamam.com/search?q=' + $scope.recipe + '&app_id=90345b31&app_key=7884f37e59a7ff7d16ceb275bec553a9&from=0&to='
            console.log( data1 );
            for (var i = 0; i < data1.hits.length; i++) {
                $scope.recipeList[i] = {
                    "name": data1.hits[i].recipe.label,
                    "url": data1.hits[i].recipe.url,
                    "icon": data1.hits[i].recipe.image
                };
            }
        }
    }
} )
};
```

# Four square Request

```
'use strict';

// Declare app level module which depends on views, and components
angular.module('myApp', [])

.controller('View1Ctrl', function ($scope, $http) {
    $scope.venueList = new Array();
    $scope.mostRecentReview;
    $scope.getVenues = function () {
        var placeEntered = document.getElementById("txt_placeName").value;
        var searchQuery = document.getElementById("txt_searchFilter").value;
        if (placeEntered != null && placeEntered != "" && searchQuery != null && searchQuery != "") {
            document.getElementById('div_ReviewList').style.display = 'none';
            //This is the API that gives the list of venues based on the place and search query.
            var handler = $http.get("https://api.foursquare.com/v2/venues/search" +
                "?client_id=Q0ENF1YHFTNPJ31DCF13ALLENJW0P5MTH13T1SA0ZP1MUOCI" +
                "&client_secret=ZH4CR2NEWBNTALAE3INIB5XGOQI12R4DT5HKAJLWKYE1LHOG" +
                "&v=20160215&limit=5" +
                "&near=" + placeEntered +
                "&query=" + searchQuery);
            handler.success(function (data) {

                if (data != null && data.response != null && data.response.venues != undefined && data.response.venues != null) {
                    for (var i = 0; i < data.response.venues.length; i++) {
                        $scope.venueList[i] = {
                            "name": data.response.venues[i].name,
                            "id": data.response.venues[i].id,
                            "location": data.response.venues[i].location
                        };
                    }
                }
            })
            handler.error(function (data) {
```



# In Class Exercise

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1. Make a Mashup application using url-1 to display following info : Calories and serving weight in grams, also use Watson Text to speech api using url-2 to speak out the searched keyword

Your search term = Whole chicken

url-1: [https://api.nutritionix.com/v1\\_1/search/](https://api.nutritionix.com/v1_1/search/) "Your search term"?  
[results=0:1&fields=\\* &appId="Your app ID" &appKey="Your API key"](#)

url-2: [https://stream.watsonplatform.net/text-to-speech/api/v1/synthesize?](https://stream.watsonplatform.net/text-to-speech/api/v1/synthesize?username=f61d1286-72ec-4d67-a0a2-16969a62acac&password=4AmGC8jSSy5G&text=)  
[username=f61d1286-72ec-4d67-a0a2-16969a62acac&password=4AmGC8jSSy5G&text="Your search term"](#)

# Watson text to speech API

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● [https://console.bluemix.net/registration/?target=%2Fcatalog%2Fservices%2Fapi-connect%3Fcm\\_mmc%3DEarned-\\_-IBM%2BCloud\\_API%2BEconomy-\\_-WW\\_WW-\\_-API%2BConnect%2BPDP%2BPricing%2BTab\\_ov49843%26cm\\_mmca1%3D000000WT%26cm\\_mmca2%3D10002833%26cm\\_mc\\_uid%3D06581119368715047921334%26cm\\_mc\\_sid\\_50200000%3D1504792133%26cm\\_mc\\_sid\\_52640000%3D1504792164](https://console.bluemix.net/registration/?target=%2Fcatalog%2Fservices%2Fapi-connect%3Fcm_mmc%3DEarned-_-IBM%2BCloud_API%2BEconomy-_-WW_WW-_-API%2BConnect%2BPDP%2BPricing%2BTab_ov49843%26cm_mmca1%3D000000WT%26cm_mmca2%3D10002833%26cm_mc_uid%3D06581119368715047921334%26cm_mc_sid_50200000%3D1504792133%26cm_mc_sid_52640000%3D1504792164)

Convert written text into natural-sounding audio in a variety of languages and voices.

# Watson text to speech API

The screenshot displays the IBM Cloud Catalog interface. At the top, a dark blue header bar contains the text "29 Trial Days Remaining", the user name "Rohith Kumar Nagulapati's...", the region "US South", the email "rohithkumar.n94@gmail.com", and the environment "dev". On the left, a sidebar menu lists various services: Cloud Foundry Apps, Data & Analytics, DevOps, Finance, Functions, Integrate, Internet of Things, Network, Schematics, Security, Storage, **Watson** (highlighted with an orange box), and Web and Mobile. The main content area shows the "Catalog" page with a search bar and a list of services. The "Watson" service is selected, and the "Text to Speech" service is chosen. The configuration form for the "Text to Speech" service is displayed, showing the following fields:

- Service name:** API Connect-Im
- Select region to deploy in:** US South
- Choose an organization:** rohithkumar.n94@gmail.com
- Choose a space:** dev
- Connect to:** Leave unbound

At the bottom of the form, there is a link to "Estimate Monthly Cost" and a "Create" button.

# Watson text to speech API

Docs

29 Trial Days Remaining ▼

Rohith Kumar Nagulapati's... | US South : rohithkumar.n94@gmail.com : dev

IBM Bluemix Watson

Catalog Support Manage

Search Items

Watson (3)

20 ▼ Items per page | 1-3 of 3 items

Create Watson service

1 of 1 pages

NAME	SERVICE OFFERING	PLAN	ACTIONS
Text to Speech-ci	Text to Speech	Standard	
Text to Speech-new	Text to Speech	Standard	
Text to Speech-uc	Text to Speech	Standard	

# Watson text to speech API

The screenshot displays the IBM Bluemix Catalog interface. At the top, a dark blue header bar contains the 'Docs' link, '29 Trial Days Remaining' status, the user name 'Rohith Kumar Nagulapati's...', the region 'US South', the email 'rohithkumar.n94@gmail.com', the role 'dev', and a profile icon. Below the header, the main navigation bar includes a hamburger menu, the 'IBM Bluemix Catalog' title, and links for 'Catalog', 'Support', and 'Manage'.

On the left side, a sidebar lists 'All Categories' and 'Infrastructure' (Compute, Storage, Network, Security, Containers, VMware), followed by 'Platform' (Boilerplates, APIs, Application Services, Blockchain, Cloud Foundry Apps, Data & Analytics).

The main content area features a grid of service cards. Each card includes an icon, a title, a description, and a 'Lite' or 'IBM' badge. The 'Text to Speech' service card is highlighted with a brown border. It features an icon of a speech bubble with a document inside, the title 'Text to Speech', the description 'Synthesizes natural-sounding speech from text.', and an 'IBM' badge.

Service	Description	Badge
Language Translator	Add a natural language interface to your application to automate interactions	Lite, IBM
Natural Language Classifier	Add a cognitive search and content analytics engine to applications	Lite, IBM
Natural Language Understanding	Converts a HTML, PDF, or Microsoft Word™ document into a normalized	IBM
Language Translator	Translate text from one language to another for specific domains	Lite, IBM
Natural Language Classifier	Natural Language Classifier performs natural language classification on	IBM
Natural Language Understanding	Analyze text to extract meta-data from content such as concepts, entities,	Lite, IBM
Personality Insights	The Watson Personality Insights derives insights from transactional and social	Lite, IBM
Retrieve and Rank	Add machine learning enhanced search capabilities to your application	IBM
Speech to Text	Low-latency, streaming transcription	IBM
Text to Speech	Synthesizes natural-sounding speech from text.	IBM
Tone Analyzer	Tone Analyzer uses linguistic analysis to detect three types of tones from	Lite, IBM
Visual Recognition	Find meaning in visual content! Analyze images for scenes, objects, faces, and	IBM

# Watson text to speech API

The screenshot shows the IBM Bluemix Application Services console. The top navigation bar includes 'Docs', '29 Trial Days Remaining', the user 'Rohith Kumar Nagulapati's...', the region 'US South', the email 'rohithkumar.n94@gmail.com', the environment 'dev', and a profile icon. The main header shows the IBM Bluemix logo and 'Application Services', with links for 'Catalog', 'Support', and 'Manage'. On the left sidebar, 'Manage' is selected, and 'Service credentials' is highlighted with an orange box. The main content area shows the 'Text to Speech-mz' service. Under the 'Service credentials' section, there is a 'New credential' button and a table with one credential. The table has columns for 'KEY NAME', 'DATE CREATED', and 'ACTIONS'. The credential 'Credentials-1' was created on 'Sep 7, 2017 - 07:35:28' and has a 'View credentials' button. Below the table, the JSON credentials are displayed in a code block.

Manage  
Service credentials  
Connections

Watson / Text to Speech-mz

Text to Speech-mz

Service credentials

New credential +

10 Items per page | 1-1 of 1 items 1 of 1 pages 1

KEY NAME	DATE CREATED	ACTIONS
Credentials-1	Sep 7, 2017 - 07:35:28	View credentials

```
{
  "url": "https://stream.watsonplatform.net/text-to-speech/api",
  "username": "0141ec14-752f-414d-993a-571cd0169a22",
  "password": "JKGXB4bj0C3D"
}
```

**Thank You**