



Dynamically changing the audio voice and accent used by digital assistant in Oracle Web SDK messenger

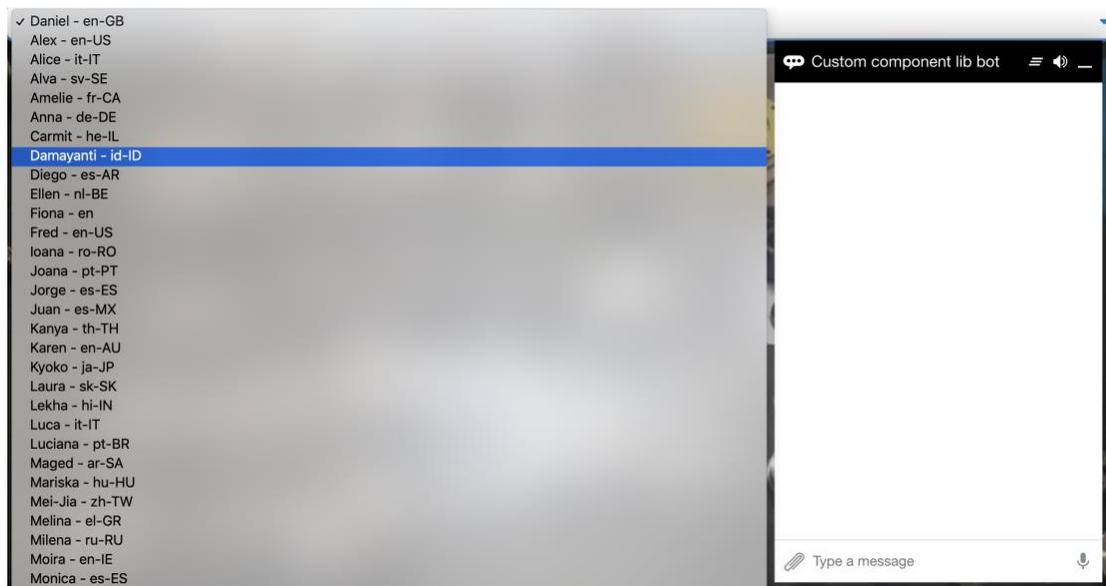
Asaf Lev, February 2020

The Oracle Digital Assistant Web Messenger (Oracle Web SDK) can be configured to read bot responses to a user. The language and tone of a bot is usually chosen to match an organization or brand. Likewise, the voice and accent used for the text-to-speech (TTS) transformation should also match the organization or brand. This article introduces a solution to choose and select a specific voice for a bot.

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About the Sample

The sample for this article uses an open source library for TTS. The library contains various locales and language flavors that influences the voice accent and ability to read out multiple languages. Following the instruction sin this document, you learn how to either dynamically or statically set the voice for your bot.



The screenshot above shows the sample user interface you built following the instructions in this article. As you can see, languages that are supported by the open source library are listed for users to select and try. In a production environment, you may use a single voice that you set statically.

Voice Customization Sample

The code samples shown in this article are from [dynamicVoice.zip](#), a sample I created for this article that you can download [from here](#).

Customizing the Oracle Web SDK

To follow the instructions in this article, you need to create a skill in Oracle Digital Assistant that you expose on the Oracle Web channel. You can read up about the Oracle Web SDK, the web channel and the SDK configuration in the [Oracle Digital Assistant product documentation](#).

Next, you need to download the Oracle Web SDK from the [Oracle Digital Assistant download page](#). Select the latest Oracle Web SDK version in the **Oracle Native Client SDKs (for OCI Native environments)** section. The Oracle web SDK resides in a single JavaScript file; **web-sdk.js**.

Note: The Oracle Web SDK comes with a sample index.html file that is configured in a JavaScript file called settings.js. If you follow the product documentation about how to configure the sample to work with your bot and web channel settings, then you can immediately try the web messenger.



Next, open the file and replace the following code line

```
e.voice=this.botVoice
```

with

```
if (speechSynthesis.botVoice) e.voice = speechSynthesis.botVoice; else e.voice = this.botVoice
```

Note: In addition to the code change above, you need to enable text-to-speech on the Bots Web SDK using the **enableBotAudioResponse** property that you set to **true**.

Adding a select list to your website

To create the drop-downlist with the locales and accents, add the following markup to your website or, if you use the index.html sample of the Oracle Web SDK download, the index.html file.

```
<select class="select-css" id="voicesSelect" onchange="changeAccent()">
</select>
```

Note: please create a style sheet definition of **select-css** or replace the css reference to a style sheet available for your website.

With the select list added to the website, you can populate it with all the supported voices and accents. For this, place your cursor right after the Oracle Web SDK init function and add the following code:

```
function populateVoices(){
  if (speechSynthesis.getVoices() && speechSynthesis.getVoices().length > 0){
    for (var idx =0; idx < speechSynthesis.getVoices().length; idx++){
      $("#voicesSelect").append(
        new Option(speechSynthesis.getVoices()[idx].name + " - "
          +speechSynthesis.getVoices()[idx].lang, idx));
    }
  }
  else{
    $(".oda-chat-button-narration").click();
    console.log(speechSynthesis.getVoices());
    window.setTimeout("populateVoices()",1000);
  }
}
```

Make sure you call the populate voices after the SDK has been initialised

```
function initSdk(name) {  
  // Default name is Bots  
  if (!name) {  
    name = 'Bots';  
  }  
  setTimeout(() => {  
    window[name] = new WebSDK(settings, generateToken);  
    window[name].connect();  
    populateVoices();  
  });  
}
```

As you can tell from the HTML code, when the “select” element is being changed we want to change a voice (or accent) – this can be achieved using the following JS code.

```
function changeAccent(){  
  console.log($("#voicesSelect").val());  
  speechSynthesis.botVoice =  
    speechSynthesis.getVoices()[$("#voicesSelect").val()];  
}
```

Note: if you choose to change the “select” HTML component’s id attribute make sure you change it in all the occurrences in the JS.

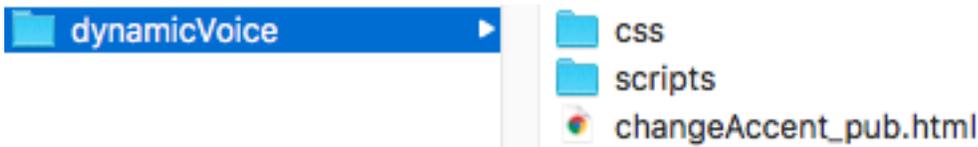
That’s it, reload your page, make sure you don’t have any JS errors using the dev tools console, click the speaker

icon so it will change from  to  and test out your dynamic accent bot.

Using the Provided Sample

This article provides a download of the voice enabled Oracle Web SDK. Basically all changes and settings explained in this article have been pre-configured for you. Download the sample zip file [from here](#) and unzip it.

Open the **changeAccent_pub.html** file in a text editor.



Edit the placeholders shown in the code below. The URI must be set to your Oracle Digital Assistant host **without** the leading protocol (https://) and ports.

The channelId is the value you get from the Oracle Web channel you created to expose your skill to the web. These are the only two changes you need to do.

Note: Ensure "Client Authentication" is disabled for your web channel. For the sample I also deactivated client authentication in the configuration.

```
const settings = {
  URI: <ADD YOUR ODA HOST URL>
  // optional
  channelId: <ADD YOUR CHANNEL_ID>,
  clientAuthEnabled: false,
  // optional
  enableSpeech: true,
  // optional
  enableAutocomplete: true,
  enableBotAudioResponse: true,
  // optional
  enableClearMessage: true,
  // optional
  openChatOnLoad: true,
  locale: 'en-us',
  colors: { branding: "#000000" },
  "i18n": {
    "en-us": {
      "chatTitle": "Demo Voices Bot"
    }
  }
};
```

Next, double click on the **changeAccent_pub.html** file to open it in a browser. At the top of the file you see a value list with voice locales and accents. Switching to one of the values in the list will make your bot speak with the selected voice.

- ✓ Alex - en-US
- Alice - it-IT
- Alva - sv-SE
- Amelie - fr-CA**
- Anna - de-DE
- Carmit - he-IL
- Damayanti - id-ID
- Daniel - en-GB
- Diego - es-AR
- Ellen - nl-BE
- Fiona - en
- Fred - en-US
- Ioana - ro-RO
- Joana - pt-PT
- Jorge - es-ES
- Juan - es-MX
- Kanya - th-TH
- Karen - en-AU
- Kyoko - ja-JP
- Laura - sk-SK
- Lekha - hi-IN
- Luca - it-IT
- Luciana - pt-BR
- Maged - ar-SA
- Mariska - hu-HU
- Mei-Jia - zh-TW
- Melina - el-GR
- Milena - ru-RU
- Moira - en-IE
- Monica - es-ES
- Nora - nb-NO
- Paulina - es-MX
- Samantha - en-US
- Sara - da-DK
- Satu - fi-FI

