



# Getting Started with the Avaya Breeze™ SDK

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#### **17.0 AGREEMENT IN ENGLISH.**

The parties confirm that it is their wish that the Agreement, as well as all other documents relating hereto, including all notices, have been and shall be drawn up in the English language only. Les parties aux présentes confirment leur volonté que cette convention, de même que tous les documents, y compris tout avis, qui s'y rattachent, soient rédigés en langue anglaise.

#### **18.0 ENTIRE AGREEMENT.**

This Agreement, its exhibits and other agreements or documents referenced herein, constitute the full and complete understanding and agreement between the parties and supersede all contemporaneous and prior understandings, agreements and representations relating to the subject matter hereof. No modifications, alterations or amendments shall be effective unless in writing signed by both parties to this Agreement.

#### **19. REDISTRIBUTABLE CLIENT FILES.**

The list of SDK client files that can be redistributed, if any, are in the SDK in a file called Redistributable.txt.

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# Chapter 1: Getting Started with the Avaya Breeze SDK

## Overview

The goal of this guide is to get the Software Development Kit (SDK) installed so you can start developing snap-ins on Avaya Breeze™. When you are ready to learn how to install, configure and test an Avaya Breeze™ snap-in, see *Administering Avaya Breeze™*. To develop snap-ins, you should have some knowledge of Java. After following this guide you will be ready to learn how to develop your very own Avaya Breeze™ snap-ins using the SDK. We will walk you through the following steps.

- Getting the Eclipse IDE installed and configured.
- Getting Apache Maven installed and configured.
- Obtaining and loading the Avaya Breeze™ SDK into the IDE.
- Importing and building the Hello service snap-in, also called the HelloWorld snap-in, to validate your Avaya Breeze™ is installed and configured correctly.

There is a video that goes along with this guide. Click here <https://www.avaya.com/breezedevolver> for the video and other Avaya Breeze™ resources. You must stay connected to the internet during the entire process of getting the SDK set up.

## Eclipse installation

Instructions for installing the Eclipse IDE are at <https://wiki.eclipse.org/Eclipse/Installation>. The instructions there tell you to install a Java Environment. Since you will be developing, make sure to install the JDK. We recommend the Oracle JDK SE 1.8.x, although any of the JDKs should work as long as they are version 1.8.x. We recommend that you download and use the Neon version of Eclipse. It already includes the Maven Plug-in. If you have an earlier version of Eclipse, you must upgrade to the Neon version. Download the Package Solution named “Eclipse IDE for Java EE Developers”. Get the one that matches your development box, Windows or Linux, 32 bit or 64 bit. We recommend that you download and use the zip install.

### Eclipse Neon Support

A Java 8 JRE or JDK is required to run all Neon packages based on Eclipse 4.6. So you must install and set the path and classpath for JDK 1.8. You can also explicitly specify the path in eclipse.ini using the javaw.exe command with the -vm argument. For example:

```
-vm C:\Program Files\Java\jdk1.8.0_92\bin\javaw.exe
```

# Apache Maven installation

Maven is an easy way to build the code you write into services that can be deployed. Visit the following link for Maven: <http://maven.apache.org/users/index.html>. It is a good site for becoming familiar with Maven if you have not used it. In about 10 minutes you can learn enough to get going with Maven. As with all freeware, newer versions are always being released. At the publication of this manual, Maven Version 3.3.9 is the most stable. It is the version we recommend and use in the instructions.

## Installing Apache Maven on a UNIX-based system

### About this task

Follow this set of instructions if you are running UNIX. UNIX-based systems include Linux, Solaris and Mac OS X. To make sure environment variables persist, add them to `bashrc` or `bash_profile` if using the bash shell. If you are using other shells, you may need to add them to `.profile`.

### Procedure

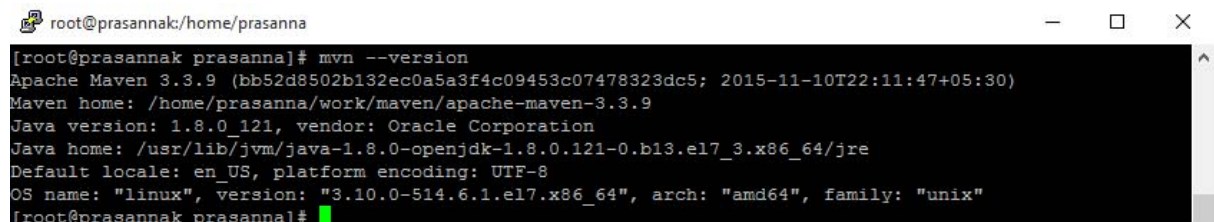
1. Extract the distribution archive, i.e. `apache-maven-3.3.9-bin.tar.gz` to the directory where you want to install Maven 3.3.9.

These instructions assume you chose `/usr/local/apache-maven`. The subdirectory `apache-maven-3.3.9` will be created from the archive.

2. In a command terminal, add the `M2_HOME` environment variable, e.g. `export M2_HOME=/usr/local/apache-maven/apache-maven-3.3.9`.
3. Add the `M2` environment variable, e.g. `export M2=$M2_HOME/bin`.
4. Optionally add the `MAVEN_OPTS` environment variable to specify JVM properties, e.g. `export MAVEN_OPTS="-Xms256m -Xmx512m"`.

This environment variable can be used to supply extra options to Maven.

5. Add the `M2` environment variable to your path, e.g. `export PATH=$M2:$PATH`.
6. Make sure that `JAVA_HOME` is set to the location of your JDK, e.g. `export JAVA_HOME=/usr/java/jdk1.8.x` and that `$JAVA_HOME/bin` is in your `PATH` environment variable.
7. Run `mvn --version` to verify that it is correctly installed.

A terminal window with a black background and white text. The prompt is 'root@prasannak:/home/prasanna'. The command 'mvn --version' has been executed, and the output is displayed. The output shows the Apache Maven version (3.3.9), the Maven home directory, the Java version (1.8.0\_121), the Java home directory, the default locale, the platform encoding, and the OS name and version. The terminal window has standard window controls (minimize, maximize, close) in the top right corner.

```
root@prasannak:/home/prasanna
[root@prasannak prasanna]# mvn --version
Apache Maven 3.3.9 (bb52d8502b132ec0a5a3f4c09453c07478323dc5; 2015-11-10T22:11:47+05:30)
Maven home: /home/prasanna/work/maven/apache-maven-3.3.9
Java version: 1.8.0_121, vendor: Oracle Corporation
Java home: /usr/lib/jvm/java-1.8.0-openjdk-1.8.0.121-0.b13.e17_3.x86_64/jre
Default locale: en_US, platform encoding: UTF-8
OS name: "linux", version: "3.10.0-514.6.1.el7.x86_64", arch: "amd64", family: "unix"
[root@prasannak prasanna]#
```

# Installing Apache Maven on a Windows system

## About this task

Follow this set of instructions if you are running Windows.

## Procedure

1. Unzip the distribution archive, i.e. apache-maven-3.3.9-bin.zip to the directory where you want to install Maven 3.3.9.

These instructions assume you chose C:\Program Files\Apache SoftwareFoundation. The subdirectory apache-maven-3.3.9 will be created from the archive.

2. Add the M2\_HOME environment variable by opening up the system properties (WinKey +Pause), selecting the Advanced tab, and the Environment Variables button, then adding the M2\_HOME variable in the user variables with the value C:\Program Files\ApacheSoftware Foundation\apache-maven-3.3.9. Be sure to omit any quotation marks around the path even if it contains spaces.

Ensure that the M2\_HOME does not have a "\" as the last character.

3. In the same dialog, add the M2 environment variable in the user variables with the value %M2\_HOME%\bin.
4. Optionally in the same dialog, add the MAVEN\_OPTS environment variable in the user variables to specify JVM properties; e.g., the value -Xms256m -Xmx512m.

This environment variable can be used to supply extra options to Maven.

5. In the same dialog, update/create the Path environment variable in the user variables and prepend the value %M2% to make Maven available in the command line.
6. In the same dialog, make sure that JAVA\_HOME exists in your user variables or in the system variables and it is set to the location of your JDK, e.g. C:\Program Files\Java\jdk1.8.x and that %JAVA\_HOME%\bin is in your PATH environment variable.
7. Open a new command prompt (Winkey + R then type cmd) and run mvn --version to verify that it is correctly installed.



```
C:\WINDOWS\system32\cmd.exe
Microsoft Windows [Version 10.0.14393]
(c) 2016 Microsoft Corporation. All rights reserved.

C:\Users\dkumarpandey>mvn --version
Apache Maven 3.3.9 (bb52d8502b132ec0a5a3f4c09453c07478323dc5; 2015-11-10T22:11:47+05:30)
Maven home: C:\apache-maven-3.3.9
Java version: 1.8.0_92, vendor: Oracle Corporation
Java home: C:\Program Files\Java\jdk1.8.0_92\jre
Default locale: en_US, platform encoding: Cp1252
OS name: "windows 10", version: "10.0", arch: "amd64", family: "dos"

C:\Users\dkumarpandey>
```

# Installing the Avaya Breeze™ SDK

## About this task

After you install the correct version of Eclipse and Maven you are ready to install the Avaya Breeze™ SDK. The SDK is packaged in one zip file. Perform the following steps for obtaining and installing the SDK.

## Procedure

1. Click the Avaya Breeze™ SDK link at the Avaya DevConnect website, <http://www.avaya.com/breezedevconnect>.
2. Read the End User License Agreement (EULA). The SDK zip will be downloaded if you accept.
3. Unzip it to a directory or folder, for example, Avaya-Breeze-SDK. This directory will be referred to as SDK\_HOME in this guide.
4. Find your way to SDK\_HOME and for Linux or Mac OS, run `bash install.sh` or for Windows, run `install.bat`.
5. Accept the EULA agreement by entering `y`. The SDK components will be set up into your local repository. This may take a while to complete.
6. During the install, you will be prompted to install the Eclipse Plug-in for Avaya Breeze™. If you want to install the plug-in:
  - a. Enter `y`.
  - b. Enter the complete path to the Eclipse install directory without quotes. For example, enter `C:\Eclipse`.

The Eclipse Plug-in for Avaya Breeze™ allows you to execute common Avaya Breeze™ actions without executing commands on multiple systems. If you are a Windows user and you installed Eclipse using the `.exe`, you will have to copy the eclipse plug-in jar manually to make it work. Copy file `lib/com.avaya.zephyr.eclipse.plugin.jar` from the SDK to the Eclipse `dropins` directory.

### **Note:**

If the Eclipse installation directory is under Program Files, the command prompt on Windows 7 and later releases should be launched with Administrator rights to install the SDK and Eclipse plug-in.

7. If Eclipse is running, restart it.

## Next steps

If you did not elect to install the Eclipse Plug-in for Avaya Breeze™ as part of the SDK install, you can install it separately at another time. If you elected to install the Eclipse Plug-in for Avaya Breeze™, you may configure it whenever Eclipse is running.

# Installing the Avaya Breeze™ Eclipse plug-in

## About this task

If you did not install the Avaya Breeze™ Eclipse plug-in when you installed the Avaya Breeze™ SDK, you have two choices. You can rerun the SDK installation, or complete the steps in this procedure.

## Procedure

1. Locate and cd to the folder where you unzipped the SDK.
2. For Linux run the command `eclipse.sh`. For Windows, run the command `eclipse.bat`
3. Enter `y` to install the Eclipse plug-in.
4. If Eclipse is running, restart it.
5. Verify that a new Avaya icon is now visible on the Eclipse Toolbar.

## Next steps

To configure the Avaya Breeze™ Eclipse plug-in follow the instructions in the Avaya Breeze™ Snap-in Developer's Guide. Now proceed to Importing the HelloWorld Snap-in.

# Configuring Maven

## About this task

Use the following procedure to configure Maven 3.3.9 to work with Java 1.8.

For Zang-enabled Avaya Breeze™, the HelloWorld sample snap-in will not work. For Zang-enabled Avaya Breeze™, please refer to Deploying Zang-Enabled Avaya Breeze™. and the Call deflection sample application document in SDK.

## Procedure

1. In Eclipse, navigate to **Window > Preference > Maven > Installations > Add > New Maven runtime** and then select the Maven installation directory.
2. Click **Finish**.
3. From the Installations page, select **Maven 3.3.9** and click **OK**.
4. Navigate to **Window > Preference > Java > Installed JREs**, and click **Edit**.
5. In Edit Default VM arguments, type `-Dmaven.multiModuleProjectDirectory=$M2_HOME`.

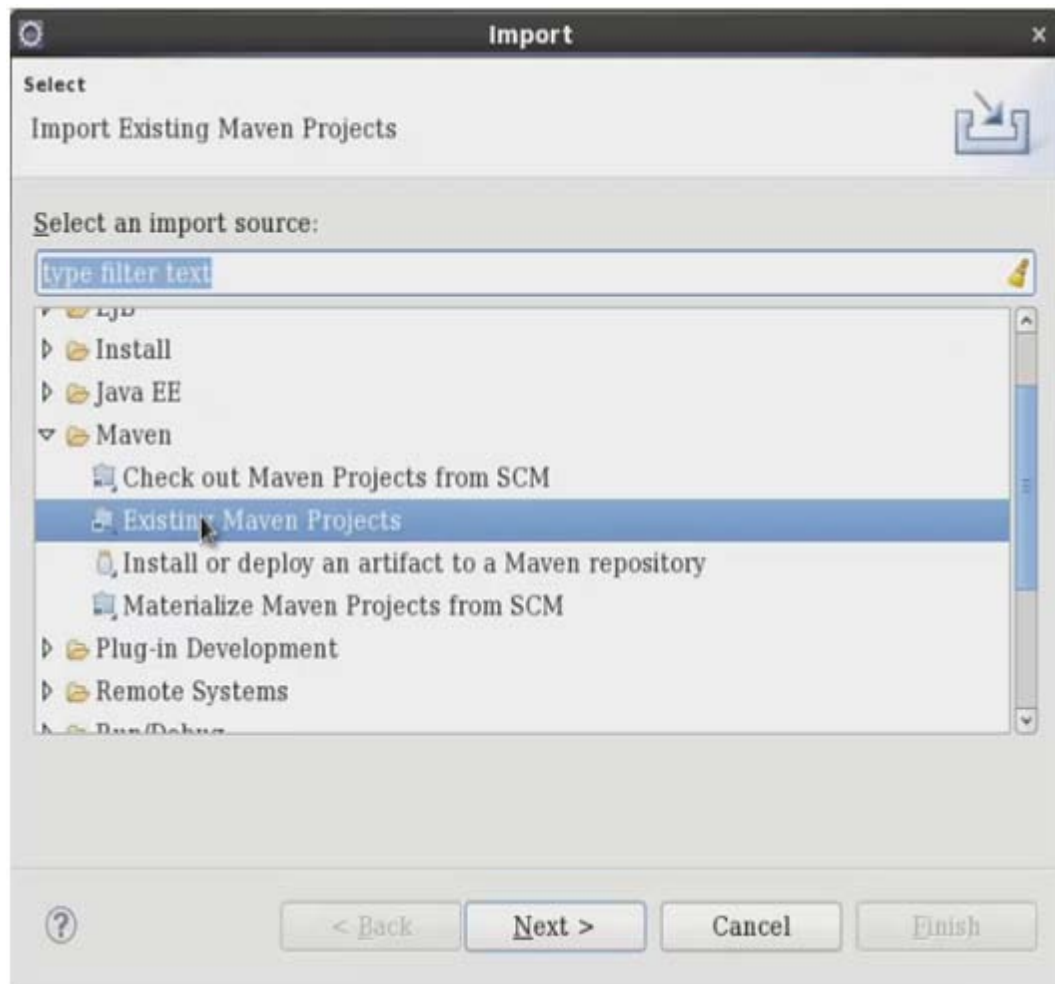
# Importing the Hello service snap-in

## About this task

We have written an Avaya Breeze™ service project named the Hello service, and included the source in the SDK. Let's use it to verify that the SDK is installed correctly and that your development environment is ready to go.

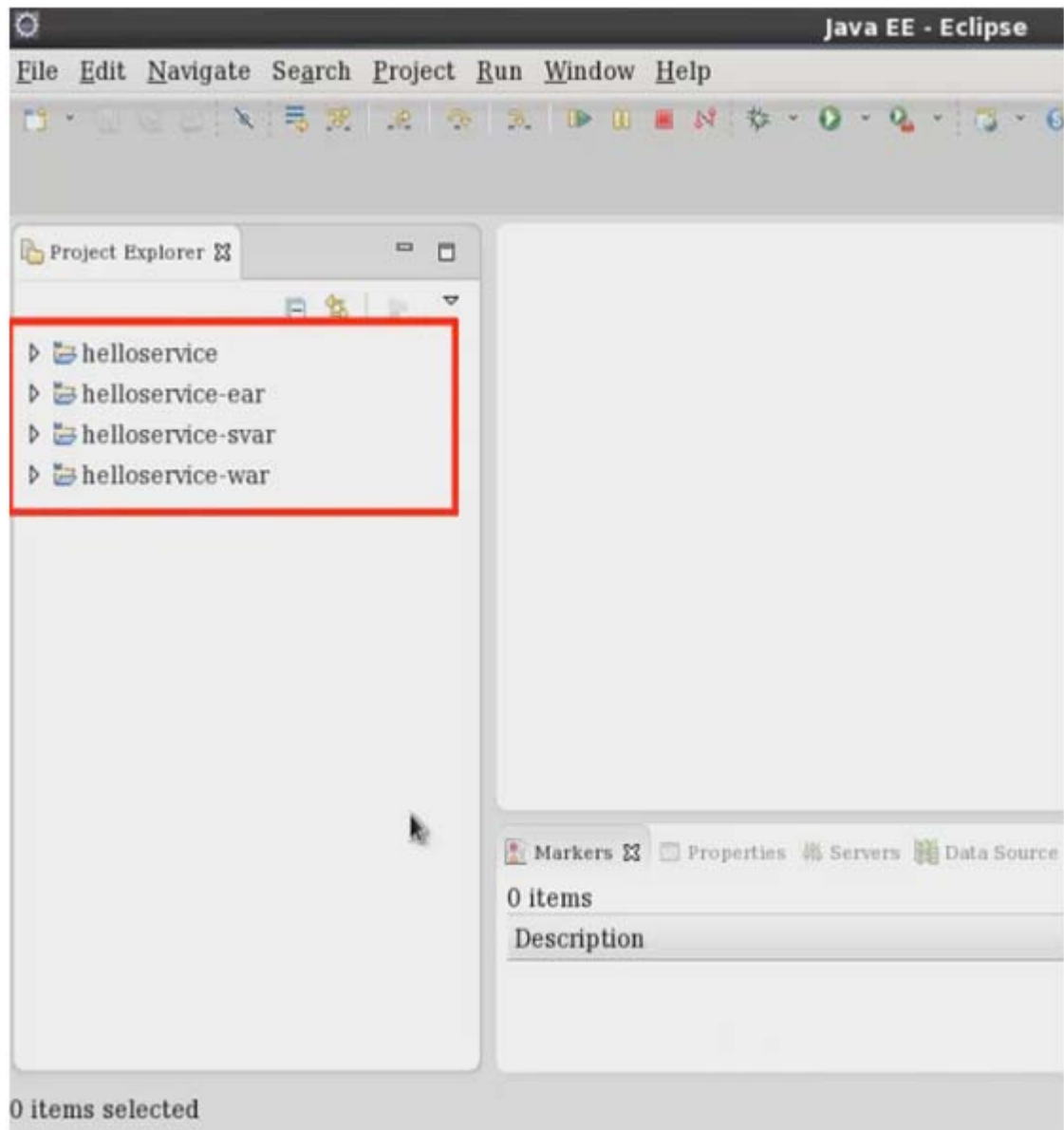
## Procedure

1. In Eclipse, click **File > Import**. Then under Maven, select **Existing Maven Projects**.



2. Click **Next** and browse to SDK\_HOME/SDK-ZIP/samples/helloservice, where SDK\_HOME is the place where you unzipped the SDK.
3. Click **Finish**.

This will take a while, errors may appear briefly, but once the import is finished no errors should be visible. Four related projects should now show up in your Eclipse Project Explorer Window.



### Next steps

Build the Hello service snap-in.

# Building the Hello service snap-in

## About this task

Now that the projects are imported, let's build and verify.

## Procedure

1. Right click on the top project, the one named simply **helloservice**, and go to **Run as > Maven Install**.

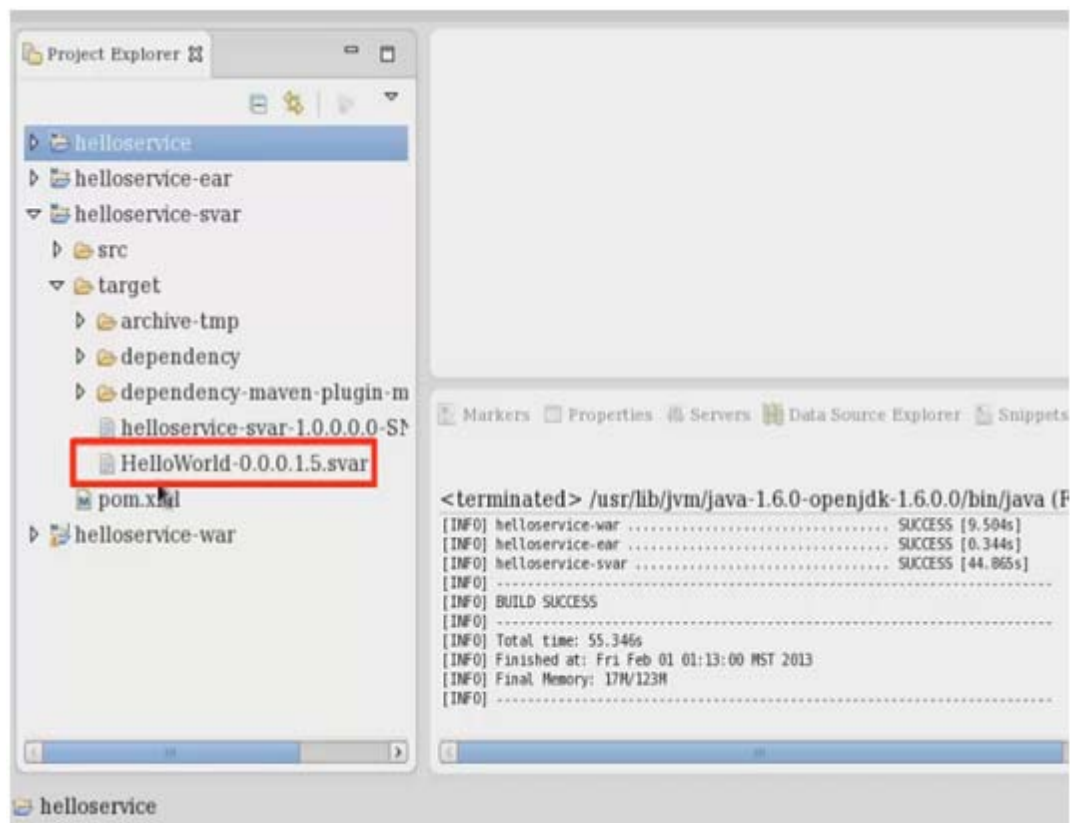
This will take some time the first time, as it will have to download a lot of files into the local repository. It is OK if some warnings appear.

2. When finished, hit the F5 key to refresh the view.

This is always a good idea when using Eclipse.

3. Expand the **helloservice-svar** /target directory.

There should be a **helloworld-<X.X.X.X>.svar** file there. The X.X.X.X is a version number such as **HelloWorld-2.0.0.0.svar**.



This .svar file is a type of zip file that contains all the parts of a working Avaya Breeze™ service. It can be deployed on the Avaya Breeze™ server and you can now build an Avaya Breeze™ snap-in. The last step is to get rid of the helloservice so you can start clean.



4. Select all of the projects in the Project Explorer window and click **Delete**.
5. Leave the box that says **Delete content on disk** unchecked and click **OK**.

The Project Explorer Window should now be empty.

### Next steps

Congratulations, the SDK is installed correctly and your development environment is proven ready.

## What's next

Now it's time to have some fun and learn how to code up your very own snap-in. We have plenty of help for you. As a matter a fact we have a guide, *Avaya Breeze™ Snap-in Development Guide*. When you are ready to verify your lab is set up correctly and understand how to install and configure the HelloWorld snap-in, use *Quick Start to deploying the HelloWorld Snap-in*. Simply click here to find both books, <https://www.avaya.com/breezedevoloper>.

### Note:

The Hello service snap-in does not work with Zang-enabled Avaya Breeze™. Use the Call Deflect sample application to deploy and test a snap-in using Zang-enabled Avaya Breeze™.