Prerequisites:TomEE server,eclipse,java environment

TomEE Plus server does include various enterprise packages, including JAX-RS, so RESTful web services will deploy right out of the box, making this RESTful web services example much simpler.

Step 1: The dynamic web project

The first step in this JAX-RS tutorial is to kick off the dynamic web project creation wizard in Eclipse.

When the dynamic web project wizard appears, name the project restful\_java, choose Apache Tomcat 8 as the target runtime (even though we are using TomEE Plus, not Tomcat), specify 3.1 as the dynamic web module version and choose a minimal configuration for the project. When these options are set, click Finish.

TomEE Plus will process all of the annotations on the classes in the Java web project and make RESTful web sevices available accordingly.

**Step 2: Create the ScoreService class**

This restful web service example in Java using Eclipse models a score counter for online rock-paper scissors application so the first requirement is to create a class named ScoreService that keeps track of wins, losses and ties.

This class will contain three getter methods that enable RESTful web clients to query the number of wins, losses or ties. These methods [are invoked](https://www.theserverside.com/feature/Five-RESTful-web-service-client-examples-for-developers) through an HTTP GET invocation and return the current win, loss or tie count as plain text.

As such, these methods each have a JAX-RS @GET annotation, a @Produces annotation indicating they return a text string and a @Path annotation indicating the URL clients need to use in order to invoke the method:

The increase methods of JAX-RS, with the exception of the fact that each method is triggered through an HTTP POST invocation:

final two methods of the ScoreService class enable users to get the JSON-based representation of the complete score or pass query parameters to the web service to update the static properties of the Score class. Both methods use the /score path, and both produce JSON. But the getScore method is invoked through an HTTP GET request, while the update method is invoked through a PUT.

### Step 4: Deploy the JAX-RS web service

To test the application, first right-click on the restful Java project, and choose Run As > Run on server. This will deploy the web project and start the Apache TomEE Plus server that hosts the application.

### Step 5: Test the JAX-RS web service example







