

11. Develop a simple JAX-RS service that provides currency conversion.

```
package in.ga.services;

import jakarta.ws.rs.*;
import jakarta.ws.rs.core.MediaType;
import jakarta.ws.rs.core.Response;
import java.util.HashMap;
import java.util.Map;

@Path("/currency")
public class CurrencyConverterService {

    private static final Map<String, Double> exchangeRates = new HashMap<>();

    static {
        exchangeRates.put("USD_TO_INR", 83.0);
        exchangeRates.put("EUR_TO_INR", 90.0);
    }

    @GET
    @Path("/convert")
    @Produces(MediaType.APPLICATION_JSON)
    public Response convertCurrency(@QueryParam("from") String from,
                                    @QueryParam("to") String to,
                                    @QueryParam("amount") double amount) {
        String key = from.toUpperCase() + "_TO_" + to.toUpperCase();

        if (!exchangeRates.containsKey(key)) {
```

```

        return Response.status(Response.Status.BAD_REQUEST)
            .entity("Exchange rate for " + key + " not available.")
            .build();
    }

    double rate = exchangeRates.get(key);
    double convertedAmount = amount * rate;

    Map<String, Object> response = new HashMap<>();
    response.put("from", from);
    response.put("to", to);
    response.put("amount", amount);
    response.put("convertedAmount", convertedAmount);

    return Response.ok(response).build();
}
}

```

//You don't have to write web.xml and pom.xml in your journals

Web.xml:-

```

<servlet>
    <servlet-name>Jersey REST Service</servlet-name>
    <servlet-class>org.glassfish.jersey.servlet.ServletContainer</servlet-class>
    <init-param>
        <param-name>jersey.config.server.provider.packages</param-name>
        <param-value>in.ga.services</param-value>
    </init-param>
    <load-on-startup>1</load-on-startup>

```

</servlet>

<servlet-mapping>

<servlet-name>Jersey REST Service</servlet-name>

<url-pattern>/ws/*</url-pattern>

</servlet-mapping>

Pom.xml:-

<dependency>

<groupId>org.glassfish.jersey.core</groupId>

<artifactId>jersey-common</artifactId>

<version>3.1.10</version>

</dependency>

<dependency>

<groupId>org.glassfish.jersey.containers</groupId>

<artifactId>jersey-container-servlet</artifactId>

<version>3.1.10</version>

</dependency>

<dependency>

<groupId>org.glassfish.jersey.inject</groupId>

<artifactId>jersey-hk2</artifactId>

<version>3.1.10</version>

</dependency>

<dependency>

<groupId>org.glassfish.jersey.media</groupId>

<artifactId>jersey-media-json-jackson</artifactId>

<version>3.1.10</version>

</dependency>