

Examples for the WS Environment "GLUE" by TME

IExchange.Java

```
package book.soap;

/**
 * An interface for getting exchange rates.
 */
public interface IExchange
{
    /**
     * Set the value, in US dollars, of the specified currency.
     * @param country The country.
     * @param value The value in US dollars.
     */
    void setValue( String country, double value );

    /**
     * Return the value of the specified currency.
     * @param country The country.
     * @return The value in US dollars.
     * @throws ExchangeException If the country is not recognized.
     */
    double getValue( String country ) throws ExchangeException;

    /**
     * Return the exchange rate between two countries.
     * @param country1 The country to convert from.
     * @param country2 The country to convert to.
     * @return The exchange rate.
     * @throws ExchangeException If either country is not recognized.
     */
    double getRate( String country1, String country2 ) throws ExchangeException;
}
```

Exchange.java

```
package book.soap;

import java.util.Hashtable;

/**
 * Simple implementation of IExchange.
 */
public class Exchange implements IExchange
{
    Hashtable values = new Hashtable(); // in US dollars

    public void setValue( String country, double value )
    {
        values.put( country, new Double( value ) );
    }

    public double getValue( String country )
        throws ExchangeException
    {
        Double value = (Double) values.get( country );
    }
}
```

```

        if( value == null )
            throw new ExchangeException( "country " + country + " not recognized" );

        return value.doubleValue();
    }

    public double getRate( String country1, String country2 )
        throws ExchangeException
    {
        return getValue( country1 ) / getValue( country2 );
    }
}

```

ExchangeServer.java

```

package book.soap;

import electric.registry.Registry;
import electric.server.http.HTTP;

public class ExchangeServer
{
    public static void main( String[] args )
        throws Exception
    {
        // start a web server on port 8004, accept messages via /soap
        HTTP.startup( "http://localhost:8004/soap" );

        // initialize an instance of Exchange
        Exchange exchange = new Exchange();
        exchange.setValue( "usa", 1 );
        exchange.setValue( "japan", 0.4 );

        // publish an instance of Exchange
        Registry.publish( "exchange", exchange );
    }
}

```

ExchangeClient.java

```

package book.soap;

import electric.registry.Registry;

public class ExchangeClient
{
    public static void main( String[] args )
        throws Exception
    {
        // bind to web service whose WSDL is at the specified URL
        String url = "http://localhost:8004/soap/exchange.wsdl";
        IExchange exchange = (IExchange) Registry.bind( url, IExchange.class );

        // invoke the web service as if it was a local java object
        double rate = exchange.getRate( "usa", "japan" );
        System.out.println( "usa/japan exchange rate = " + rate );
    }
}

```