

EX NO:11D

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REMOTE PROCEDURE CALL FOR SORTING AN ARRAY -XMLRPC

AIM:

To Implement an XML RPC code for sorting array

Algorithm:

Algorithm

Server Program

1. **Import Required Library:** Import the xmlrpc.server library, which provides functionalities for setting up an XML-RPC server.
2. **Define sort_array Function:**
 - Define a function called sort_array that takes a list (arr) as input. ○ Inside this function, return the sorted version of arr.
3. **Set Up Server:**
 - Create an instance of SimpleXMLRPCServer, specifying localhost as the host and 8000 as the port.
 - Print a message indicating the server is running.
4. **Register Function:**
 - Register the sort_array function with the XML-RPC server under the name "sort_array". This makes it available for remote calls.
5. **Run the Server:**
 - Call server.serve_forever() to start the server and keep it running indefinitely, waiting for client requests.

Client Program

1. **Import Required Library:** Import the xmlrpc.client library to enable communication with the XML-RPC server.
2. **Connect to Server:**
 - Create a ServerProxy object to connect to the server running on http://localhost:8000.
3. **Prepare Input Array:**

- Define an array `arr` with some integer values that will be sent to the server for sorting.
- 4. Call `sort_array` Method:**
 - Use the `server.sort_array()` function to send `arr` to the server for sorting.
 - Store the result (sorted array) in a variable `sorted_arr`.
- 5. Display Results:**
 - Print the original `arr` and the `sorted_arr` to verify the sorting operation was successful.

Program:**SERVER PROGRAM:**

```
import xmlrpc.server
```

```
# Function to sort the
```

```
array def sort_array(arr):
```

```
    return sorted(arr)
```

```
# Setting up the server with
```

```
xmlrpc.server.SimpleXMLRPCServer(('localhost', 8000)) as server:
```

```
    print("Server is running...")
```

```
# Registering the sort_array function as an XML-RPC method
```

```
    server.register_function(sort_array, 'sort_array')
```

```
    server.serve_forever()
```

CLIENT PROGRAM:

```
import xmlrpc.client
```

```
# Connect to the server server =
```

```
xmlrpc.client.ServerProxy('http://localhost:8000')
```

```
# Input array to be sorted
```

```
arr = [12, 4, 5, 3, 7, 2]
```

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Calling the sort_array method on the server

```
sorted_arr = server.sort_array(arr)
```

Displaying the result

```
print("Original Array:", arr)
```

```
print("Sorted Array:", sorted_arr)
```

Output

SERVER OUTPUT

```
Server is running...
```

CLIENT OUTPUT

```
Original Array: [12, 4, 5, 3, 7, 2]
```

```
Sorted Array: [2, 3, 4, 5, 7, 12]
```

```
Process finished with exit code 0
```

RESULT:

Procedure call for sorting an array - XMLRPC remoted.