

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.