

# 01\_HW\_02

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## 1 Distributed Systems (LTAT.06.007)

### 1.0.1 Seminar 2: Remote Procedure Calls (RPC) with threads in python

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#### 1. Running a Server

```
utlab@DESKTOP-S01IEA:02_Seminar_2$ python3 rpyc_server.py
```

#### 2. Running a Client

##### 2.1. Pass arguments from client side to server function

```
[ ]: import rpyc
import sys

if len(sys.argv) < 2:
    exit("Usage {} SERVER".format(sys.argv[0]))

server = sys.argv[1]

conn = rpyc.connect(server,18812)
conn.root.bubble_sort(' [39,12,18,85,72,10,2] ')
```

```
utlab@DESKTOP-S01IIEA:02_Seminar_2$ python3 rpyc_client.py localhost
utlab@DESKTOP-S01IIEA:02_Seminar_2$
```

2.2. Receive arguments from client side and print the result of execution.

```
[ ]: def exposed_bubble_sort(self, arr):
    import json
    try:
        print(f'Unsorted Array: {arr}')
        elements = json.loads(arr)
        # Looping from size of array from last index[-1] to index [0]
        for n in range(len(elements)-1, 0, -1):
            for i in range(n):
                if elements[i] > elements[i + 1]:
                    # swapping data if the element is less than next element in the
                    ↪array
                    elements[i], elements[i + 1] = elements[i + 1], elements[i]
            print(f'Sorted Array: {elements}')
    except Exception as e:
        print(f'[Error]: {e}')
```

```
utlab@DESKTOP-S01IIEA:02_Seminar_2$ python3 rpyc_server.py

connected on 2022-02-22 15:50:38.667194
Unsorted Array: [39,12,18,85,72,10,2]
Sorted Array: [2, 10, 12, 18, 39, 72, 85]
disconnected on 2022-02-22 15:50:38.667194
```