

## Step

### **(PC)Connect**

**Command line:** Server NodeJS Socket.io Started..

### **(Android)Worker1 Send connect request to server**

SND\_CNT:{ name:"Worker"}

**Console log:** Request to connect..

### **(PC)Server Nodejs receive connect request from client and return message receive**

**Command line:** Worker 1(192.168.0.1) 's connected

REQ\_CNT:{id: 1, name:"Worker1",ip: " 192.168.0.1", numClient : 0, nameWorker : 1 }

### **(Android)Worker1 Receive connected request to server**

**Console log:** Connected..

### **(Android)Worker2 Send connect request to server**

SND\_CNT:{ name:"Worker"}

**Console log:** Request to connect..

### **(PC)Server Nodejs receive connect request from client and return message receive**

**Command line:** Worker 2(192.168.0.2) 's connected

REQ\_CNT:{ id: 2, name:"Worker2",ip: "192.168.0.2", numClient : 0, nameWorker : 2 }

### **(Android)Worker2 Receive connected request to server**

**Console log:** Connected..

### **(Android)Client1 Send connect request to server**

SND\_CNT:{ name:"Worker"}

**Console log:** Request to connect..

### **(PC)Server Nodejs receive connect request from client and return message receive**

**Command line:** Client1(192.168.0.3) 's connected

REQ\_CNT:{ id: 1, name:"Client1",ip: "192.168.0.3", numClient : 1, nameWorker : 2 }

### **(Android)Client1 Receive connected request to server**

**Console log:** Connected..

### Tab 1 Display: Worker Connected status

#### (Android)Client1 Send request to server

SND\_REQ:{img\_name:"pic1",img\_data: bitmap data, process\_gs: 1, process\_bf: 1, process\_gb: 1}

Console log: Sent work to server, id: 1, name: Client1, img\_name:"pic1", process\_gs: 1, process\_bf: 1, process\_gb: 1

#### (PC)Server Nodejs received request from client and Send task to worker1, worker2

Command line: Received work from client1, id: 1, img\_name:"pic1", process\_gs: 1, process\_bf: 1, process\_gb: 1

REC\_TASK: {sort\_id: 1, worker\_id: 1, name:"Worker1" , img\_data: bitmap data, img\_name:"pic1", task: "gs"}

Command line: Sent task to Worker1, sort\_id: 1, worker\_id: 1 , img\_name:"pic1", task: "gs"

REC\_TASK: { sort\_id: 1, worker\_id: 2, name:"Worker2" , img\_name:"pic1"" , task: "bf"}

Command line: Sent task to Worker2, sort\_id: 1, worker\_id: 2 , img\_name:"pic1", task: "bf"

#### (Android)Worker1 received work from server and return result task to server

Console log: Received task from server : sort\_id: 1, worker\_id: 1, name:"Worker1" , img\_name:"pic1", task: "gs"

SND\_TASK\_RS: { sort\_id: 1, worker\_id: 1, name:"Worker1" , img\_data: bitmap data, img\_name:"pic1"" , task: "gb"}

Console log: Send result task to server, sort\_id: 1, worker\_id: 1, name:"Worker1" , img\_name:"pic1", task: "gb"

#### (Android)Worker2 received work from server and return result task to server

Console log: Received task from server , sort\_id: 1, worker\_id: 2, name:"Worker2" , img\_name:"pic1", task: "gs"

SND\_TASK\_RS: { sort\_id: 1, worker\_id: 2, name:"Worker2" , img\_data: bitmap data, img\_name:"pic1"" , task: "bf"}

Console log: Send result task to server , sort\_id: 1, worker\_id: 2, name:"Worker2" , img\_name:"pic1", task: "bf"

#### (PC)Server Nodejs received task from worker1

Command line: Received task from worker1, sort\_id: 1, worker\_id: 1, img\_name:"pic1"" , task: "gs"

#### (PC)Server Nodejs received task from worker2

**Command line:** Received task from worker2, sort\_id: 1, worker\_id: 2, img\_name:"pic1", task: "bf"

#### **(PC)Server Send task to worker1**

REC\_TASK: {sort\_id: 1, worker\_id: 1, name:"Worker1", img\_data: bitmap data, img\_name:"pic1", task: "gb"}

**Command line:** Sent task to Worker1, sort\_id: 1, worker\_id: 1, name:"Worker1", img\_data: bitmap data, img\_name:"pic1", task: "gb"

#### **(Android)Worker1 received work from server and return result task to server**

**Console log:** Receive task from server, sort\_id: 1, worker\_id: 1, name:"Worker1", img\_data: bitmap data, img\_name:"pic1", task: "gb"

SND\_TASK\_RS: { sort\_id: 1, worker\_id: 1, name:"Worker2", img\_data: bitmap data, img\_name:"pic1", task: "gb"}

**Console log:** Send result task to server, sort\_id: 1, worker\_id: 2, name:"Worker2", img\_data: bitmap data, img\_name:"pic1", task: "gb"

#### **(PC)Server Nodejs received task from worker1**

**Command line:** Received task from worker1, sort\_id: 1, worker\_id: 1, img\_name:"pic1", task: "gb"

#### **(PC)Server Nodejs sent result work to client**

REC\_TASK\_RS: { id: 1, name:"Client1", worker\_id: 1, worker\_name:"Worker1", img\_data: bitmap data, img\_name:"pic1", task: "gs"}

**Command line:** Sent result work to client1, id: 1, worker\_id: 1, worker\_name:"Worker1", img\_data: bitmap data, img\_name:"pic1", task: "gs"

REC\_TASK\_RS: { id: 1, name:"Client1", worker\_id: 2, worker\_name:"Worker2", img\_data: bitmap data, img\_name:"pic1", task: "bf"}

**Command line:** Sent result work to client1, id: 1, worker\_id: 2, worker\_name:"Worker2", img\_data: bitmap data, img\_name:"pic1", task: "bf"

REC\_TASK\_RS: { id: 1, name:"Client1", worker\_id: 1, worker\_name:"Worker1", img\_data: bitmap data, img\_name:"pic1", task: "gb"}

**Command line:** Sent result work to client1, id: 1, worker\_id: 1, worker\_name:"Worker1", img\_data: bitmap data, img\_name:"pic1", task: "gb"

#### **(Android)Client1 received work from server**

**Command line:** received work from server, id: 1, worker\_id: 1, worker\_name:"Worker1", img\_data: bitmap data, img\_name:"pic1", task: "gs"

**Command line:** received work from server, id: 1, worker\_id: 2, worker\_name:"Worker2",  
img\_data: **bitmap data**, img\_name:"pic1", task: "bf"

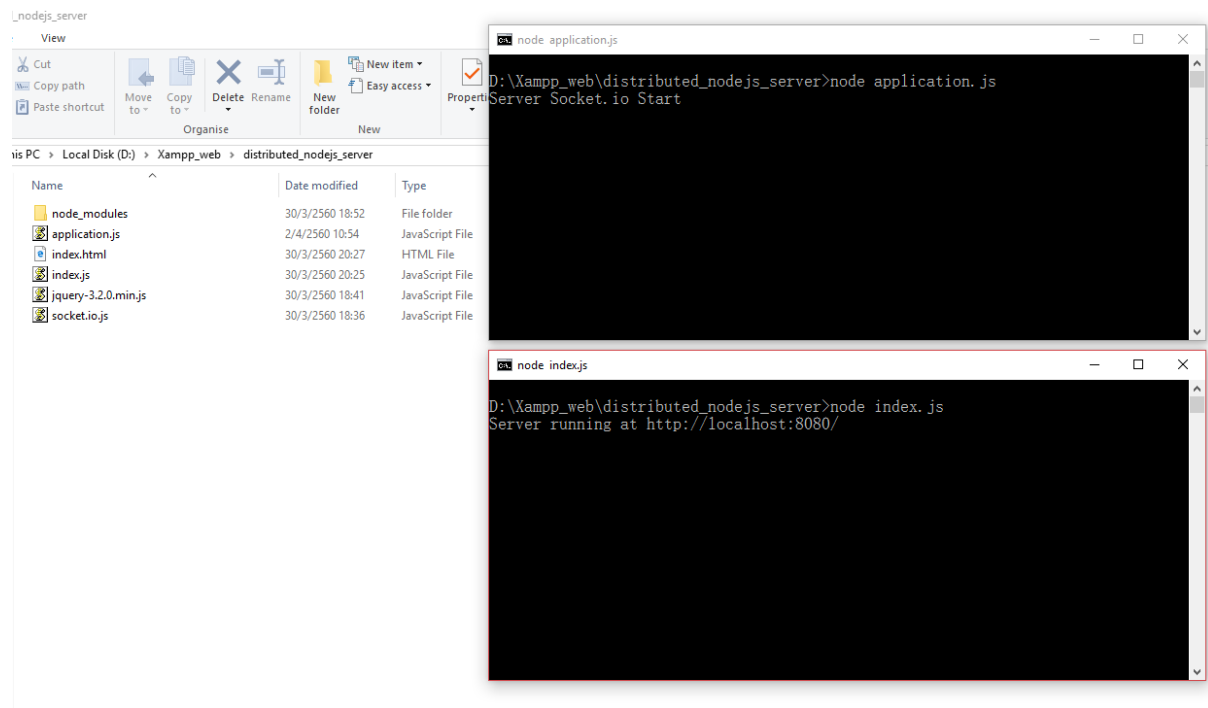
**Command line:** received work from server, id: 1, worker\_id: 1, worker\_name:"Worker1",  
img\_data: **bitmap data**, img\_name:"pic1", task: "gb"

**Tab 1 Display:** Result Worked

## Node Server file

This PC > Local Disk (D:) > Xampp_web > distributed_nodejs_server				
	Name	Date modified	Type	Size
ess	node_modules	30/3/2560 18:52	File folder	
	application.js	2/4/2560 10:54	JavaScript File	4 KB
	index.html	30/3/2560 20:27	HTML File	4 KB
	index.js	30/3/2560 20:25	JavaScript File	2 KB
nts	jquery-3.2.0.min.js	30/3/2560 18:41	JavaScript File	85 KB
ids	socket.io.js	30/3/2560 18:36	JavaScript File	206 KB

## Run Server Script & Client Script



## Server Command Line

```
node application.js
D:\Xampp_web\distributed_nodejs_server>node application.js
Server Socket.io Start
undefined was disconnected
Server Nodejs(127.0.0.1) 's connected
undefined was disconnected
Worker 1(127.0.0.1) 's connected
undefined was disconnected
Worker 2(127.0.0.1) 's connected
undefined was disconnected
Worker 2(127.0.0.1) 's connected
```

```
node application.js
Server Nodejs(127.0.0.1) : REC_WORK:{worker: "worker 1", img_name:"img1", process: {"GS"}}
Server Nodejs(127.0.0.1) : SND_WORK:{worker: "worker 1", img_name:"img1", process: {"GB"}}
Server Nodejs(127.0.0.1) : REC_WORK:{worker: "worker 2", img_name:"img1", process: {"BF"}}
Worker 1(127.0.0.1) : REC_WORK:{worker: "worker 1", img_name:"img1", process: {"GB"}}
Server Nodejs(127.0.0.1) : SND_WORK:{worker: "worker 1", img_name:"img1", process: {"GB"}}
Server Nodejs(127.0.0.1) : REC_WORK:{worker: "worker 1", img_name:"img1", process: {"GB"}}
Server Nodejs(127.0.0.1) : SND_WORK:{client: "client 1", img_name:"img1", process: {"GS"}}
Server Nodejs(127.0.0.1) : SND_WORK:{client: "client 1", img_name:"img1", process: {"BF"}}
Server Nodejs(127.0.0.1) : SND_WORK:{client: "client 1", img_name:"img1", process: {"GB"}}
Client 1(127.0.0.1) : REC_WORK:{client: "client 1", img_name:"img1", process: {"GS"}}
Client 1(127.0.0.1) : REC_WORK:{client: "client 1", img_name:"img1", process: {"BF"}}
Client 1(127.0.0.1) : REC_WORK:{client: "client 1", img_name:"img1", process: {"GB"}}
```

## Command Line

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## Browser Message Box of worker for Web Testing



## (Android)Worker Console log

Worker 1

...

Worker 2

...

## (Android)Client Message Line

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