

## From server to client

- **mining.set\_extranonce:**

This is a response for client **mining.subscribe**. Contains extranonce and nonce size

Common thing in this mechanism is that extranonce takes not changeable part in nonce.

Currently takes 3 bytes(FF). XXXX\_XX00\_0000\_0000\_0000. So the nonce size is 9 bytes(FF)

The possible range of nonce changing by miner is:  
 XXXX XX00 0000 0000 0000 0000 – XXXX XXFF FFFF FFFF FFFF FFFF.

**Message example:**

```
b'{"id": 1, "method": "set_extranonce", "params": ["3bc73b", 9],  
"error": null}\n'
```

- **result:**

Notifies client about successful authorization or share submission. If result not true so false, error parameter will contain array of error code and text message.

**Message example:**

```
b'{"id": 2, "result": true, "error": null}\n'
```

- **mining.set\_difficulty:**

By this method pool asks miner to change next shares difficulty. Firstly send after result message of authentication. Can be send lots of times while client connected to the pool.

The difficulty is as bitcoin style representation, to convert to target(256 bit number):

0x00000000ffff00000000000000000000000000000000000000000000000000000 /  
difficulty. More: <https://en.bitcoin.it/wiki/Difficulty>

**Message example:**

```
b'{"id": 3, "method": "mining.set difficulty", "params": [12]}\n'
```

- **mining.notify:**

By this method pool informs about new job available for connected clients, every time after new miniblock for mining available on network. The data send by this method

contains: job id, and hashing\_blob – 72 bytes(without extranonce and nonce part = 24 bytes). Can arrive lots of times and in any time after first **mining.set\_difficulty**.

**Message example:**

```
b'{"id": 4, "method": "mining.notify", "params": ["1006",  
"419c010000011d1760c9b66300000000be70249450f8a4909819e5ba3c11380e0000000  
0"]}\n'
```

## From client to server

- **mining.subscribe:**

By this method client confirms that he support set\_extranonce method and also inform server about used firmware and it's version. The response for this method from server will be **mining.set\_extranonce**.

**Message example:**

```
b'{"id": 1, "method": "mining.subscribe", "params":  
["mining_software_name/mining_software_version"]}\n'
```

- **mining.authorize:**

Goes after receiving response for **mining.subscribe**. By this method client send credential data: address and password (can be any, but if blank please make it **x** by default)

**Message example:**

```
b'{"id": 2, "method": "mining.authorize", "params":  
["dero1qyh0ss8xjgvltltj0ud7n9flw5rwc4rcjl7cdj50y09dl7tfclxw7qqq683z0",  
"x"]}\n'
```

- **mining.submit:**

By this method client submit share, only data needs to be sent is: dero address, job id, full nonce which contains extranonce and its changeable part - nonce

**Message example:**

```
b'{"id": 3, "method": "mining.submit", "params":  
["dero1qyh0ss8xjgvltltj0ud7n9flw5rwc4rcjl7cdj50y09dl7tfclxw7qqq683z0",  
"1006", "a56d51555555580000000000"]}\n'
```

- **mining.submit\_hashrate:**

By this method client submit its own calculated hashrate

**Message example:**

```
b'{"id": 6, "method": "mining.submit_hashrate", "params": ["fdfk453",  
"0x1234567890abcdef1234567890abcdef12345678  
90abcdef1234567890abcdef"]}\n'
```