

# Week4 - 7.25

## Day1 - PoW

Conflux

cfx\_getConfirmationRiskByHash

15%

1e-8

0.000001%

RPC

6	1	10%	6	0.1%
---	---	-----	---	------

```
// Request
curl -X POST --data ' {"jsonrpc": "2.0", "method": "cfx_getConfirmationRiskByHash", "params": [ "0x3912275cf09f8982a69735a876c14584dae95078762090c5d32fdf0dbec0647c"], "id": 1} ' -H "Content-Type: application/json" localhost:12539

// fix64          2**256-1          1e-8
{
  "jsonrpc": "2.0",
  "result": "0x2af31dc4611873bf3f70834acdae9f0f4f534f5d60585a5f1c1a3ced1b",
  "id": 1
}
```

## Day2 -

cfx\_getConfirmationRiskByHash

51%

PoW

PoS

RP	cfx_getStatus	latestFinalized	PoS	Epoch	Epoch
		PoS	400	Conflux Scan	

```
// Request
curl -X POST --data ' {"jsonrpc": "2.0", "method": "cfx_getStatus", "id": 1} ' -H "Content-Type: application/json" localhost:12539

// Result
```

```

{
  "jsonrpc": "2.0",
  "result": {
    "bestHash": "0x7bbb518ec0b8671a60e9c98619137b0d52522a9ef9490c9b4c23c30f178312f8",
    "chainId": "0x405",
    "ethereumSpaceChainId": "0x406",
    "networkId": "0x405",
    "epochNumber": "0x2fa1a24",
    "blockNumber": "0x70a7fda",
    "pendingTxNumber": "0x83b",
    "latestCheckpoint": "0x2f91bc0",
    "latestConfirmed": "0x2fa19e1",
    "latestState": "0x2fa1a20",
    "latestFinalized": "0x2fa1854" //      PoS      Epoch
  },
  "id": 1
}

```

## Day3 - EpochNumber

```

cfx_getStatus R EpochNumber ConfluxContext ConfluxContext epochNumber(), posHeight(),
finalizedEpochNumber()

```

```

ConfluxContext CFX: TYPE. BUILT IN: AAEJUAAAAAAAAAAAAAAAAAAAAAAAAAAU5XA6TK73 /
CFXTEST: TYPE. BUILT IN: AAEJUAAAAAAAAAAAAAAAAAAAAAAAAAAUUV2XPKD3X      abi  metadata

```

```

pragma solidity >=0.4.15;

contract ConfluxContext {
    /** Query Functions */
    /**
     * @dev get the current epoch number
     * @return the current epoch number
     */
    function epochNumber() public view returns (uint256) {}
    /**
     * @dev get the height of the referred PoS block in the last epoch
     * @return the current PoS block height
     */
}

```

```

    */
    function posHeight() public view returns (uint256) {}
    /**
     * @dev get the epoch number of the finalized pivot block.
     * @return the finalized epoch number
     */
    function finalizedEpochNumber() public view returns (uint256) {}
}

```

## Day4 - gasUsed gasLimit

```

SDK R cfx_estimateGasAndCollateral estimate estimate.gasUsed estimate.gasLimit
estimate.gasUsed 63/tx tx.gasLimit estimate.gasUsed estimate.gasLimit
tx.gasLimit estimate.gasUsed 4/3 gasUsed

```

gasUsed tx.gasLimit \* 1/4 tx.gasLimit gasUsed \* 4/3 gasUsed Gas

```

// Request
curl -X POST --data
'{"method": "cfx_estimateGasAndCollateral", "id": 1, "jsonrpc": "2.0", "params": [{"from": "cfx: type. u
ser: aarc9abycue0hhzggyrr53m6cxedgccrmmmybjgh4xg", "to": "cfx: type. contract: acc7uawf5ubtnmezvhu9dh
c6sghea0403y2dgyfjfp", "data": "0x", "gasPrice": "0x2540be400", "nonce": "0x0"}]}' -H "Content- Type:
application/json" localhost:12539

// Result
{
  "jsonrpc": "2.0",
  "result": {
    "gasLimit": "0x6d60", // 21000 * 4/3
    "gasUsed": "0x5208", // 21000
    "storageCollateralized": "0x80"
  },
  "id": 1
}

```

## Day5 - EpochHeight

ConfluxEpochHeight -100000 < currentEpochNumber - tx.epochHeight < 100000 EpochHeight  
EpochNumber EpochNumber

100000 Epoch 100000 28

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