

**doanha@proglang-thinkpad:~/tezos\$ ./tezos-client -l run script hello.tz on storage '"foo"' and input '"bar"'**

>>>>0: http://localhost:8732/network/version  
<<<<0: 200 OK

```
{ "chain_name": "TEZOS_ALPHANET_CARTHAGE_2019-11-28T13:02:13Z",  
  "distributed_db_version": 0, "p2p_version": 0 }
```

>>>>1: http://localhost:8732/chains/main/blocks/head/protocols  
<<<<1: 200 OK

```
{ "protocol": "PsCARTHAGazKbHtnKfLzQg3kms52kSRpgnDY982a9oYsSXRLQEb",  
  "next_protocol": "PsCARTHAGazKbHtnKfLzQg3kms52kSRpgnDY982a9oYsSXRLQEb" }
```

>>>>2: http://localhost:8732/chains/main/chain\_id  
<<<<2: 200 OK

```
"NetXjD3HPJJmcd"
```

>>>>3: http://localhost:8732/chains/main/blocks/head/helpers/scripts/run\_code  
{ "script":

```
[ { "prim": "parameter", "args": [ { "prim": "string" } ] },  
  { "prim": "storage", "args": [ { "prim": "string" } ] },  
  { "prim": "code",  
    "args":  
    [ [ { "prim": "CAR" },  
        { "prim": "NIL", "args": [ { "prim": "operation" } ] },  
        { "prim": "PAIR" } ] ] ], "storage": { "string": "foo" },  
  "input": { "string": "bar" }, "amount": "50000",  
  "chain_id": "NetXjD3HPJJmcd" }
```

<<<<3: 200 OK  
{ "storage": { "string": "bar" }, "operations": [] }

storage

```
"bar"
```

emitted operations

big\_map diff

**doanha@proglang-thinkpad:~/tezos\$ ./tezos-client -l originate contract hello transferring 1 from ha running hello.tz --init '"hello"'**

>>>>0: http://localhost:8732/network/version  
<<<<0: 200 OK

```
{ "chain_name": "TEZOS_ALPHANET_CARTHAGE_2019-11-28T13:02:13Z",  
  "distributed_db_version": 0, "p2p_version": 0 }
```

>>>>1: http://localhost:8732/chains/main/blocks/head/protocols  
<<<<1: 200 OK

```
{ "protocol": "PsCARTHAGazKbHtnKfLzQg3kms52kSRpgnDY982a9oYsSXRLQEb",
```

<<<<2: 200 OK  
"709692"

>>>>3:

http://localhost:8732/chains/main/blocks/head/context/contracts/tz1VmefgyE1YPcAa8VurxihsUJX  
zLUX6HY8Z/manager\_key

<<<<3: 200 OK

```
"edpkutbv6xm9dUJwU4VFwG4sxTV6UvSf4gvrdJHZMukghtFp496gDP"
```

>>>>4: http://localhost:8732/monitor/bootstrapped  
<<<<4: 200 OK

```

{ "block": "BMLAZ6js5HfNExEVyHF5ehx4i6bWAbfr2RYpS6Pa4ZK4XVrMxDD",
  "timestamp": "2020-06-28T20:42:24Z" }
Node is bootstrapped, ready for injecting operations.
>>>>5: http://localhost:8732/chains/main/blocks/head/context/constants
<<<<5: 200 OK
{ "proof_of_work_nonce_size": 8, "nonce_length": 32,
  "max_revelations_per_block": 32, "max_operation_data_length": 16384,
  "max_proposals_per_delegate": 20, "preserved_cycles": 3,
  "blocks_per_cycle": 2048, "blocks_per_commitment": 32,
  "blocks_per_roll_snapshot": 256, "blocks_per_voting_period": 2048,
  "time_between_blocks": [ "30", "40" ], "endorsers_per_block": 32,
  "hard_gas_limit_per_operation": "1040000",
  "hard_gas_limit_per_block": "10400000",
  "proof_of_work_threshold": "70368744177663",
  "tokens_per_roll": "8000000000", "michelson_maximum_type_size": 1000,
  "seed_nonce_revelation_tip": "125000", "origination_size": 257,
  "block_security_deposit": "512000000",
  "endorsement_security_deposit": "640000000",
  "baking_reward_per_endorsement": [ "1250000", "187500" ],
  "endorsement_reward": [ "1250000", "833333" ], "cost_per_byte": "1000",
  "hard_storage_limit_per_operation": "60000",
  "test_chain_duration": "43200", "quorum_min": 3000, "quorum_max": 7000,
  "min_proposal_quorum": 500, "initial_endorsers": 24,
  "delay_per_missing_endorsement": "2" }
>>>>6: http://localhost:8732/chains/main/blocks/head/hash
<<<<6: 200 OK
"BMLAZ6js5HfNExEVyHF5ehx4i6bWAbfr2RYpS6Pa4ZK4XVrMxDD"
>>>>7: http://localhost:8732/chains/main/chain_id
<<<<7: 200 OK
"NetXjD3HPJJjmcD"
>>>>8: http://localhost:8732/chains/main/chain_id
<<<<8: 200 OK
"NetXjD3HPJJjmcD"
>>>>9: http://localhost:8732/chains/main/blocks/head/helpers/scripts/run_operation
{ "operation":
  { "branch": "BMLAZ6js5HfNExEVyHF5ehx4i6bWAbfr2RYpS6Pa4ZK4XVrMxDD",
    "contents":
      [ { "kind": "origination",
          "source": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z", "fee": "0",
          "counter": "709693", "gas_limit": "1040000",
          "storage_limit": "60000", "balance": "1000000",
          "script":
            { "code":
                [ { "prim": "parameter",
                    "args": [ { "prim": "string" } ] },
                  { "prim": "storage", "args": [ { "prim": "string" } ] },
                  { "prim": "code",
                    "args":
                      [ [ { "prim": "CAR" },
                        { "prim": "NIL",
                          "args": [ { "prim": "operation" } ] },
                        { "prim": "PAIR" } ] ] } ] },
            }
          }
        ]
      }
    }
  }

```

```
"storage": { "string": "hello" } } ] ],
"signature":

"edsigtXomBK i5CTRf5cjATJWSyaRvhfYNHqSUGrn4SdbYRcGwQrUGjzEfQDTuqHhuA8b2d8
NarZjz8TRf65WkpQmo423BtomS8Q" },
  "chain_id": "NetXjD3HPJJmcd" }
<<<<9: 200 OK
{ "contents":
  [ { "kind": "origination",
    "source": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z", "fee": "0",
    "counter": "709693", "gas_limit": "1040000",
    "storage_limit": "60000", "balance": "1000000",
    "script":
      { "code":
        [ { "prim": "parameter", "args": [ { "prim": "string" } ] },
          { "prim": "storage", "args": [ { "prim": "string" } ] },
          { "prim": "code",
            "args":
              [ [ { "prim": "CAR" },
                  { "prim": "NIL",
                    "args": [ { "prim": "operation" } ] },
                  { "prim": "PAIR" } ] ] } ],
            "storage": { "string": "hello" } },
        "metadata":
          { "balance_updates": [],
            "operation_result":
              { "status": "applied", "big_map_diff": [],
                "balance_updates":
                  [ { "kind": "contract",
                      "contract": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z",
                      "change": "-46000" },
                    { "kind": "contract",
                      "contract": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z",
                      "change": "-257000" },
                    { "kind": "contract",
                      "contract": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z",
                      "change": "-1000000" },
                    { "kind": "contract",
                      "contract": "KT1WtN9x7dvQ6eDoRfQdwdL3ATYyaNpgPD86",
                      "change": "1000000" } ],
                    "originated_contracts":
                      [ "KT1WtN9x7dvQ6eDoRfQdwdL3ATYyaNpgPD86" ],
                    "consumed_gas": "11037", "storage_size": "46",
                    "paid_storage_size_diff": "46" } } } ] }
```

```
doanha@proglang-thinkpad:~/tezos$ ./tezos-client -l originate contract hello transferring 1
from ha running hello.tz --init ""hello"" --burn-cap 0.303
>>>>0: http://localhost:8732/network/version
<<<<0: 200 OK
```

```

{ "chain_name": "TEZOS_ALPHANET_CARTHAGE_2019-11-28T13:02:13Z",
  "distributed_db_version": 0, "p2p_version": 0 }
>>>>1: http://localhost:8732/chains/main/blocks/head/protocols
<<<<1: 200 OK
{ "protocol": "PsCARTHAGazKbHtnKfLzQg3kms52kSRpgnDY982a9oYsSXRLQEb",
  "next_protocol": "PsCARTHAGazKbHtnKfLzQg3kms52kSRpgnDY982a9oYsSXRLQEb" }
>>>>2:
http://localhost:8732/chains/main/blocks/head/context/contracts/tz1VmefgyE1YPcAa8VurxihsUJX
zLUX6HY8Z/counter
<<<<2: 200 OK
"709692"
>>>>3:
http://localhost:8732/chains/main/blocks/head/context/contracts/tz1VmefgyE1YPcAa8VurxihsUJX
zLUX6HY8Z/manager_key
<<<<3: 200 OK
"edpkutbv6xm9dUJwU4VFwG4sxTV6UvSf4gvrdJHZMukghtFp496gDP"
>>>>4: http://localhost:8732/monitor/bootstrapped
<<<<4: 200 OK
{ "block": "BLN3X3E3mmdwVMPJc8qMswKk1SD4Lu4SFDTrsYXWz7x33RYzqGb",
  "timestamp": "2020-06-28T20:44:34Z" }
Node is bootstrapped, ready for injecting operations.
>>>>5: http://localhost:8732/chains/main/blocks/head/context/constants
<<<<5: 200 OK
{ "proof_of_work_nonce_size": 8, "nonce_length": 32,
  "max_revelations_per_block": 32, "max_operation_data_length": 16384,
  "max_proposals_per_delegate": 20, "preserved_cycles": 3,
  "blocks_per_cycle": 2048, "blocks_per_commitment": 32,
  "blocks_per_roll_snapshot": 256, "blocks_per_voting_period": 2048,
  "time_between_blocks": [ "30", "40" ], "endorsers_per_block": 32,
  "hard_gas_limit_per_operation": "1040000",
  "hard_gas_limit_per_block": "10400000",
  "proof_of_work_threshold": "70368744177663",
  "tokens_per_roll": "8000000000", "michelson_maximum_type_size": 1000,
  "seed_nonce_revelation_tip": "125000", "origination_size": 257,
  "block_security_deposit": "512000000",
  "endorsement_security_deposit": "64000000",
  "baking_reward_per_endorsement": [ "1250000", "187500" ],
  "endorsement_reward": [ "1250000", "833333" ], "cost_per_byte": "1000",
  "hard_storage_limit_per_operation": "60000",
  "test_chain_duration": "43200", "quorum_min": 3000, "quorum_max": 7000,
  "min_proposal_quorum": 500, "initial_endorsers": 24,
  "delay_per_missing_endorsement": "2" }
>>>>6: http://localhost:8732/chains/main/blocks/head/hash
<<<<6: 200 OK
"BLN3X3E3mmdwVMPJc8qMswKk1SD4Lu4SFDTrsYXWz7x33RYzqGb"
>>>>7: http://localhost:8732/chains/main/chain_id
<<<<7: 200 OK
"NetXjD3HPJJmcd"
>>>>8: http://localhost:8732/chains/main/chain_id
<<<<8: 200 OK
"NetXjD3HPJJmcd"
>>>>9: http://localhost:8732/chains/main/blocks/head/helpers/scripts/run_operation

```

```
{ "operation":
  { "branch": "BLN3X3E3mmdwVMPJc8qMswKk1SD4Lu4SFDTrsYXWz7x33RYzqGb",
    "contents":
      [ { "kind": "origination",
          "source": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z", "fee": "0",
          "counter": "709693", "gas_limit": "1040000",
          "storage_limit": "60000", "balance": "1000000",
          "script":
            { "code":
                [ { "prim": "parameter",
                    "args": [ { "prim": "string" } ] },
                  { "prim": "storage", "args": [ { "prim": "string" } ] },
                  { "prim": "code",
                    "args":
                      [ [ { "prim": "CAR" },
                        { "prim": "NIL",
                          "args": [ { "prim": "operation" } ] },
                        { "prim": "PAIR" } ] ] },
                    "storage": { "string": "hello" } } ] },
          "signature":
```

```
"edsigtXomBKi5CTrf5cjATJWSyaRvhfYNHqSUGrn4SdbYRcGwQrUGjzEfQDTuqHhuA8b2d8
NarZjz8TRf65WkpQmo423BtomS8Q" },
```

```
"chain_id": "NetXjD3HPJJmcd" }
```

```
<<<<9: 200 OK
```

```
{ "contents":
  [ { "kind": "origination",
      "source": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z", "fee": "0",
      "counter": "709693", "gas_limit": "1040000",
      "storage_limit": "60000", "balance": "1000000",
      "script":
        { "code":
            [ { "prim": "parameter", "args": [ { "prim": "string" } ] },
              { "prim": "storage", "args": [ { "prim": "string" } ] },
              { "prim": "code",
                "args":
                  [ [ { "prim": "CAR" },
                    { "prim": "NIL",
                      "args": [ { "prim": "operation" } ] },
                    { "prim": "PAIR" } ] ] },
                "storage": { "string": "hello" } } ],
            "metadata":
              { "balance_updates": [],
                "operation_result":
                  { "status": "applied", "big_map_diff": [],
                    "balance_updates":
                      [ { "kind": "contract",
                        "contract": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z",
                        "change": "-46000" },
                      { "kind": "contract",
                        "contract": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z",
                        "change": "-257000" },
```

```

    { "kind": "contract",
      "contract": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z",
      "change": "-1000000" },
    { "kind": "contract",
      "contract": "KT1UT27oUCvBZg5uWMTTeMT7kmVbCmp9YAw2",
      "change": "1000000" } ],
  "originated_contracts":
    [ "KT1UT27oUCvBZg5uWMTTeMT7kmVbCmp9YAw2" ],
  "consumed_gas": "11037", "storage_size": "46",
  "paid_storage_size_diff": "46" } } } ] }
Estimated gas: 11037 units (will add 100 for safety)
Estimated storage: 303 bytes added (will add 20 for safety)
>>>>10: http://localhost:8732/chains/main/blocks/head/hash
<<<<10: 200 OK
  "BLN3X3E3mmdwVMPJc8qMswKk1SD4Lu4SFDTrsYXWz7x33RYzqGb"
>>>>11: http://localhost:8732/chains/main/chain_id
<<<<11: 200 OK
  "NetXjD3HPJJjmcD"
>>>>12: http://localhost:8732/chains/main/blocks/head/helpers/preapply/operations
[ { "protocol": "PsCARTHAGazKbHtnKfLzQg3kms52kSRpgnDY982a9oYsSXRLQEb",
  "branch": "BLN3X3E3mmdwVMPJc8qMswKk1SD4Lu4SFDTrsYXWz7x33RYzqGb",
  "contents":
    [ { "kind": "origination",
      "source": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z", "fee": "1391",
      "counter": "709693", "gas_limit": "11137",
      "storage_limit": "323", "balance": "1000000",
      "script":
        { "code":
          [ { "prim": "parameter", "args": [ { "prim": "string" } ] },
            { "prim": "storage", "args": [ { "prim": "string" } ] },
            { "prim": "code",
              "args":
                [ [ { "prim": "CAR" },
                  { "prim": "NIL",
                    "args": [ { "prim": "operation" } ] },
                  { "prim": "PAIR" } ] ] },
            "storage": { "string": "hello" } } ] },
      "signature":

"edsigtiBqPtrY716mz6wvApZSxhPdWbf5f95rAJMYbyNQffAyJ6ELvYwswHSDPcct5ZYjQkJcLJ
4Fk4pu4NsFdqGyfUtD7bFGdx" } ]
<<<<12: 200 OK
[ { "contents":
  [ { "kind": "origination",
    "source": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z", "fee": "1391",
    "counter": "709693", "gas_limit": "11137",
    "storage_limit": "323", "balance": "1000000",
    "script":
      { "code":
        [ { "prim": "parameter", "args": [ { "prim": "string" } ] },
          { "prim": "storage", "args": [ { "prim": "string" } ] },
          { "prim": "code",
            "args":
              [ [ { "prim": "CAR" },
                { "prim": "NIL",
                  "args": [ { "prim": "operation" } ] },
                { "prim": "PAIR" } ] ] },
            "storage": { "string": "hello" } } ] },
          "signature":

```

```

    "args":
      [ [ { "prim": "CAR" },
          { "prim": "NIL",
            "args": [ { "prim": "operation" } ] },
          { "prim": "PAIR" } ] ] ],
    "storage": { "string": "hello" },
    "metadata":
      { "balance_updates":
        [ { "kind": "contract",
            "contract": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z",
            "change": "-1391" },
          { "kind": "freezer", "category": "fees",
            "delegate": "tz1Ke2h7sDdakHJQh8WX4Z372du1KChksyU",
            "cycle": 255, "change": "1391" } ],
        "operation_result":
          { "status": "applied", "big_map_diff": [],
            "balance_updates":
              [ { "kind": "contract",
                  "contract": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z",
                  "change": "-46000" },
                { "kind": "contract",
                  "contract": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z",
                  "change": "-257000" },
                { "kind": "contract",
                  "contract": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z",
                  "change": "-1000000" },
                { "kind": "contract",
                  "contract": "KT1PsfLU8XdLsZ2cZDPv7dTdM5ty6FSy77DK",
                  "change": "1000000" } ],
            "originated_contracts":
              [ "KT1PsfLU8XdLsZ2cZDPv7dTdM5ty6FSy77DK" ],
            "consumed_gas": "11037", "storage_size": "46",
            "paid_storage_size_diff": "46" } } ],
    "signature":

```

```

"edsigtiBqPtrY716mz6wvApZSxhPdWbf5f95rAJMYbyNQffAyJ6ELvYwswHSDPcct5ZYjQkJcLJ
4Fk4pu4NsFdqGyfUtD7bFGdx" } ]

```

```

>>>>13: http://localhost:8732/injection/operation?chain=main

```

```

"55be23f1b6e6ed8ec4165a8bb19d06f5cd580f17c9397ed22d9172186c3707e56d006f223345fc2ae1
66d72bb47f02670ddd34dcfb92ef0abda82b8157c302c0843d000000001c0200000017050003680501
03680502020000000080316053d036d03420000000a010000000568656c6c6f4f5847469553af3b69d
6716fb24b9cce0c651579c0cd789bbc5bf8ef1a7f366241e55a6b39f7fe8da6b08c4223a3cc5f7381089
172719a1b02701d93fd1f1d02"

```

```

<<<<13: 200 OK

```

```

"opCoNUzxDdESeYbmpqRFYFTggmHFZ8TQg6EUAT7wjTpjhRBHQ21"

```

```

Operation successfully injected in the node.

```

```

Operation hash is 'opCoNUzxDdESeYbmpqRFYFTggmHFZ8TQg6EUAT7wjTpjhRBHQ21'

```

```

Waiting for the operation to be included...

```

```

>>>>14: http://localhost:8732/monitor/heads/main

```

```

<<<<14: 200 OK

```

```

{ "hash": "BLN3X3E3mmdwVMPJc8qMswKk1SD4Lu4SFDTrsYXWz7x33RYzqGb",

```

```

"level": 522611, "proto": 2,
"predecessor": "BLZfC5dfGaQZsfmkTjGz3cBY2YmJGuUnwcgo4gXXVjpHBc4hsVP",
"timestamp": "2020-06-28T20:44:34Z", "validation_pass": 4,
"operations_hash":
  "LLOzYK6xher49xx3P15SktG1hN19Z3Ef6tgZsopwtsP35UEhFdztY",
"fitness": [ "01", "000000000007f972" ],
"context": "CoVD1BWRwWoDksekGtrMGJkqWWL7EcafUkVCn5eGzGYDFgsCb84P",
"protocol_data":

"00006b9f3bc3cadb0000001c151b5c8a840ec083068ac394a4b01f9f594e784d56bbeb0ae1e633646d
bbe6fdfec4465e359b3360e5b6259ae99e4887888eefc78159e0bb50dae2249a8005" }
>>>>15:
http://localhost:8732/chains/main/blocks/BLN3X3E3mmdwVMPJc8qMswKk1SD4Lu4SFDTrsYX
Wz7x33RYzqGb/header/shell
<<<<15: 200 OK
{ "level": 522611, "proto": 2,
  "predecessor": "BLZfC5dfGaQZsfmkTjGz3cBY2YmJGuUnwcgo4gXXVjpHBc4hsVP",
  "timestamp": "2020-06-28T20:44:34Z", "validation_pass": 4,
  "operations_hash":
    "LLOzYK6xher49xx3P15SktG1hN19Z3Ef6tgZsopwtsP35UEhFdztY",
  "fitness": [ "01", "000000000007f972" ],
  "context": "CoVD1BWRwWoDksekGtrMGJkqWWL7EcafUkVCn5eGzGYDFgsCb84P" }
>>>>16:
http://localhost:8732/chains/main/blocks/BLN3X3E3mmdwVMPJc8qMswKk1SD4Lu4SFDTrsYX
Wz7x33RYzqGb/header/shell
<<<<16: 200 OK
{ "level": 522611, "proto": 2,
  "predecessor": "BLZfC5dfGaQZsfmkTjGz3cBY2YmJGuUnwcgo4gXXVjpHBc4hsVP",
  "timestamp": "2020-06-28T20:44:34Z", "validation_pass": 4,
  "operations_hash":
    "LLOzYK6xher49xx3P15SktG1hN19Z3Ef6tgZsopwtsP35UEhFdztY",
  "fitness": [ "01", "000000000007f972" ],
  "context": "CoVD1BWRwWoDksekGtrMGJkqWWL7EcafUkVCn5eGzGYDFgsCb84P" }
>>>>17:
http://localhost:8732/chains/main/blocks/BLN3X3E3mmdwVMPJc8qMswKk1SD4Lu4SFDTrsYX
Wz7x33RYzqGb~1/hash
<<<<17: 200 OK
"BLZfC5dfGaQZsfmkTjGz3cBY2YmJGuUnwcgo4gXXVjpHBc4hsVP"
>>>>18:
http://localhost:8732/chains/main/blocks/BLN3X3E3mmdwVMPJc8qMswKk1SD4Lu4SFDTrsYX
Wz7x33RYzqGb/header/shell
<<<<18: 200 OK
{ "level": 522611, "proto": 2,
  "predecessor": "BLZfC5dfGaQZsfmkTjGz3cBY2YmJGuUnwcgo4gXXVjpHBc4hsVP",
  "timestamp": "2020-06-28T20:44:34Z", "validation_pass": 4,
  "operations_hash":
    "LLOzYK6xher49xx3P15SktG1hN19Z3Ef6tgZsopwtsP35UEhFdztY",
  "fitness": [ "01", "000000000007f972" ],
  "context": "CoVD1BWRwWoDksekGtrMGJkqWWL7EcafUkVCn5eGzGYDFgsCb84P" }
>>>>19:
http://localhost:8732/chains/main/blocks/BLN3X3E3mmdwVMPJc8qMswKk1SD4Lu4SFDTrsYX
Wz7x33RYzqGb/operation_hashes

```



<<<<19: 200 OK

```
[ [ "ooyXF7emUZoWWc8N1KwS8Wn9a1Bchimid3E8HpoJUBxeg1iUQVM",
  "oouwZ5KXzeBxAf1gz2GZHKqcfvKXRv6m8WBKuLs9YEPGLtA5uY",
  "onjwGqpErK5dsgdo5VQMikQqSPF56ThhoX2JUkTLN3mFPu8xnZc",
  "opQ5CLMuWFGs1bGeRMW7yP7fNpgZXgVuRq88EPxvEh7jN1eC37f",
  "oonLUmEM6YxABGv6t3GsW5USfFG1aRntwYYKttoSeD3X3enEDdw",
  "oojZkKtpLVF8wp1oisgU4yJ1Lmff2qDLGqcakSvED49dd88Wj8L",
  "opY7ApJEZ4LgD47binRXbxMqHcLrQhk91eAcm43gm9y6GLv1a1",
  "opKqQ5W2LRf3urBYQutmAYdt8tf7h6H9AgDDQbtFYe18GTEgP1z",
  "opJeqDKtA4UgLMRwwbb2zVjFd4X4novLwWbZhnkhkuPvgtztyFBH",
  "ooRGxHqi9MHzxNFMbsBtftPpe9EBgH8MqCGWP2vE7ar2bPS24QC" ], [], [],
[ "opaHuPAhWNMfn45szPZoGpY5TcNSfu29EN8JTmXKfGWhL3xRiFT",
  "op8ZJ7SZsqbAJkxdxWEBjZkFswD39ArBu9pdaaHozni51Vq5AV1",
  "ooHoEXTSS59DcHcBLBBzL3twPRoMJDnVMs7DJXh9QEaVGSbEksG",
  "ooqvtpiMusBVpEMjRhXVX3szL3NREQ7QF2XdTDpCEyhqhvgRGck" ] ]
```

<<<<14: 200 OK

```
{ "hash": "BLtGZX8oVdaAvcxSCwjzKGLPGaNT3bAqcoQDrWNhfo8CwBT7iRG",
  "level": 522612, "proto": 2,
  "predecessor": "BLN3X3E3mmdwVMPJc8qMswKk1SD4Lu4SFDTrsYXWz7x33RYzqGb",
  "timestamp": "2020-06-28T20:45:04Z", "validation_pass": 4,
  "operations_hash":
    "LLOavxLEPHsh49LUzjWZ5WuebyfLRUrB6VVKDBkon8D89eDWfPZt4",
  "fitness": [ "01", "000000000007f973" ],
  "context": "CoUuHPJWMc8ntnXqFdGwXbExQdFMnZKzybotH3SUuAuR5srnJ4ub",
  "protocol_data":
```

"0000ee87c7045604040000159f94a6deb5c98b80ae1be28def295a6f1cd24e9b9e69d77632ec90b8511269b9c2f722f7f72ec4c8a66d1afc2056a031605e272d4d6c1d12178bee74e5e0a" }

>>>>20:

http://localhost:8732/chains/main/blocks/BLtGZX8oVdaAvcxSCwjzKGLPGaNT3bAqcoQDrWNhf08CwBT7iRG/operation\_hashes

<<<<20: 200 OK

```
[ [ "ooeo6ZJRsrcRx1krVBKxKSctZkjmWESmFseBKupydkg4ecMEYmy",
  "ooYY9rHDctaYejCqhsZZjLJNKGPkKdQsFrH67qCxCdJyg24xnYF",
  "oohyxfgygkPSc8LZ3MprLQcH9Tj7CiC3mFPrtMwcsMmGw7QcTmh",
  "opXHxfhAn8qNNsMFVns4csVjZgoG6MPw9pL9MU9yNK6ZmZWnURd",
  "opTgcs6SAPQbY2kfSptcCvgXdPUTiPeHATrBdJzhM2QmXwWTLSc",
  "oonThctaVATgGKE7BWQ5Q82CV1uHGEyb75w8RRonpyVyrecWzMW",
  "ood6u5eQ9aEvp54bTmSSvwzAphXk1WMrf3bQdR4RBCY6ETokjs3",
  "ooqR7GNhiZLyQJB3njErpHSGMC7eLsz7rcWASWVtVFNrVFwZzpJ" ], [], [],
[ "ootV8EeJm4MK3bXKEiN4ggepNwWdDZXh48ZgdJB1q134GTE3Evn",
  "onfJjX3Dygz6UdiNRYzastWr7XhuvujFqiKGWZGVfRbtGeZ4jLj",
  "opCoNUzxDdESeYbmqRFYFTggmHFZ8TQg6EUAT7wjTpjhRBHQ21",
  "opM5H4RoRRgViADhe39N6hnnsi9YZtSD1SqX1a4g3L6bR6xVx4L",
  "op9U5T2QXYSHf1H9jJ6FSN5VG8TqigueFjzdFwyfVu1FmwVYh5h",
  "oojhBzAwjctSPEGhPkFGNg3vT8q67BA4un7vFdHvD9u58tt2oHQ" ] ]
```

Operation found in block: BLtGZX8oVdaAvcxSCwjzKGLPGaNT3bAqcoQDrWNhfo8CwBT7iRG (pass: 3, offset: 2)

>>>>21:

http://localhost:8732/chains/main/blocks/BLtGZX8oVdaAvcxSCwjzKGLPGaNT3bAqcoQDrWNhf08CwBT7iRG/operations/3/2

<<<<21: 200 OK

```

{ "protocol": "PsCARTHAGazKbHtnKfLzQg3kms52kSRpgnDY982a9oYsSXRLQEb",
  "chain_id": "NetXjD3HPJJmcd",
  "hash": "opCoNUzxDdESeYbmpqRFYFTggmHFZ8TQg6EUAT7wjTpjhRBHQ21",
  "branch": "BLN3X3E3mmdwVMPJc8qMswKk1SD4Lu4SFDTrsYXWz7x33RYzqGb",
  "contents":
  [ { "kind": "origination",
    "source": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z", "fee": "1391",
    "counter": "709693", "gas_limit": "11137", "storage_limit": "323",
    "balance": "1000000",
    "script":
    { "code":
      [ { "prim": "parameter", "args": [ { "prim": "string" } ] },
        { "prim": "storage", "args": [ { "prim": "string" } ] },
        { "prim": "code",
          "args":
          [ [ { "prim": "CAR" },
              { "prim": "NIL",
                "args": [ { "prim": "operation" } ] },
              { "prim": "PAIR" } ] ] },
          "storage": { "string": "hello" } },
        "metadata":
        { "balance_updates":
          [ { "kind": "contract",
            "contract": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z",
            "change": "-1391" },
            { "kind": "freezer", "category": "fees",
              "delegate": "tz1f8Ybid6x2pMvJGauz3Zi8enkABSSkGPn8",
              "cycle": 255, "change": "1391" } ],
            "operation_result":
            { "status": "applied", "big_map_diff": [],
              "balance_updates":
              [ { "kind": "contract",
                "contract": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z",
                "change": "-46000" },
                { "kind": "contract",
                  "contract": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z",
                  "change": "-257000" },
                  { "kind": "contract",
                    "contract": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z",
                    "change": "-1000000" },
                    { "kind": "contract",
                      "contract": "KT1PsfLU8XdLsZ2cZDPv7dTdM5ty6FSy77DK",
                      "change": "1000000" } ],
                    "originated_contracts":
                    [ "KT1PsfLU8XdLsZ2cZDPv7dTdM5ty6FSy77DK" ],
                    "consumed_gas": "11037", "storage_size": "46",
                    "paid_storage_size_diff": "46" } } ] ],
    "signature":

```

```

"sigYNNGqdddq4ujvuxd2niG1Q77jma9gWDFncbosdNRfKA1zGHkRf2nrECJM215z6NNyCpzQn
GtuSs8Kaq3ygw1URp7DnDi5C" }

```

This sequence of operations was run:

Manager signed operations:

From: tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z

Fee to the baker: ₮0.001391

Expected counter: 709693

Gas limit: 11137

Storage limit: 323 bytes

Balance updates:

tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z ..... -₮0.001391

fees(tz1f8Ybid6x2pMvJGauz3Zi8enkABSSkGPn8,255) ... +₮0.001391

Origination:

From: tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z

Credit: ₮1

Script:

{ parameter string ;

storage string ;

code { CAR ; NIL operation ; PAIR } }

Initial storage: "hello"

No delegate for this contract

This origination was successfully applied

Originated contracts:

KT1PsfLU8XdLsZ2cZDPv7dTdM5ty6FSy77DK

Storage size: 46 bytes

Paid storage size diff: 46 bytes

Consumed gas: 11037

Balance updates:

tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z ... -₮0.046

tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z ... -₮0.257

tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z ... -₮1

KT1PsfLU8XdLsZ2cZDPv7dTdM5ty6FSy77DK ... +₮1

New contract KT1PsfLU8XdLsZ2cZDPv7dTdM5ty6FSy77DK originated.

The operation has only been included 0 blocks ago.

We recommend to wait more.

Use command

tezos-client wait for opCoNUzxDdESeYbmpqRFYFTggmHFZ8TQg6EUAT7wjTpjhRBHQ21 to be included --confirmations 30 --branch

BLN3X3E3mmdwVMPJc8qMswKk1SD4Lu4SFDTrsYXWz7x33RYzqGb

and/or an external block explorer.

Contract memorized as hello. "next\_protocol":

"PsCARTHAGazKbHtnKfLzQg3kms52kSRpgnDY982a9oYsSXRLQEb" }

**doanha@proglang-thinkpad:~/tezos\$ ./tezos-client -l originate contract hello transferring 0 from ha running hello.tz --init "'hello'" --burn-cap 0.303**

>>>>0: http://localhost:8732/network/version

<<<<0: 200 OK

{ "chain\_name": "TEZOS\_ALPHANET\_CARTHAGE\_2019-11-28T13:02:13Z",  
"distributed\_db\_version": 0, "p2p\_version": 0 }

>>>>1: http://localhost:8732/chains/main/blocks/head/protocols

<<<<1: 200 OK

```
{ "protocol": "PsCARTHAGazKbHtnKfLzQg3kms52kSRpgnDY982a9oYsSXRLQEb",  
  "next_protocol": "PsCARTHAGazKbHtnKfLzQg3kms52kSRpgnDY982a9oYsSXRLQEb" }
```

Error:

The contract alias hello already exists.

The current value is KT1PsfLU8XdLsZ2cZDPv7dTdM5ty6FSy77DK.

Use --force to update

doanha@proglang-thinkpad:~/tezos\$ ./tezos-client -l originate contract hello1 transferring 0 from

ha running hello.tz --init "hello" --burn-cap 0.303

>>>>0: http://localhost:8732/network/version

<<<<0: 200 OK

```
{ "chain_name": "TEZOS_ALPHANET_CARTHAGE_2019-11-28T13:02:13Z",  
  "distributed_db_version": 0, "p2p_version": 0 }
```

>>>>1: http://localhost:8732/chains/main/blocks/head/protocols

<<<<1: 200 OK

```
{ "protocol": "PsCARTHAGazKbHtnKfLzQg3kms52kSRpgnDY982a9oYsSXRLQEb",  
  "next_protocol": "PsCARTHAGazKbHtnKfLzQg3kms52kSRpgnDY982a9oYsSXRLQEb" }
```

>>>>2:

http://localhost:8732/chains/main/blocks/head/context/contracts/tz1VmefgyE1YPcAa8VurxihsUJX  
zLUX6HY8Z/counter

<<<<2: 200 OK

"709693"

>>>>3:

http://localhost:8732/chains/main/blocks/head/context/contracts/tz1VmefgyE1YPcAa8VurxihsUJX  
zLUX6HY8Z/manager\_key

<<<<3: 200 OK

"edpkutbv6xm9dUJwU4VFwG4sxTV6UvSf4gvrdJHZMukghtFp496gDP"

>>>>4: http://localhost:8732/monitor/bootstrapped

<<<<4: 200 OK

```
{ "block": "BMSuspiqN3k8e3L6RJpuJiWn4oVihsukfhFFNJHWTRJ8MuCZCkt",  
  "timestamp": "2020-06-28T20:46:04Z" }
```

Node is bootstrapped, ready for injecting operations.

>>>>5: http://localhost:8732/chains/main/blocks/head/context/constants

<<<<5: 200 OK

```
{ "proof_of_work_nonce_size": 8, "nonce_length": 32,  
  "max_revelations_per_block": 32, "max_operation_data_length": 16384,  
  "max_proposals_per_delegate": 20, "preserved_cycles": 3,  
  "blocks_per_cycle": 2048, "blocks_per_commitment": 32,  
  "blocks_per_roll_snapshot": 256, "blocks_per_voting_period": 2048,  
  "time_between_blocks": [ "30", "40" ], "endorsers_per_block": 32,  
  "hard_gas_limit_per_operation": "1040000",  
  "hard_gas_limit_per_block": "10400000",  
  "proof_of_work_threshold": "70368744177663",  
  "tokens_per_roll": "8000000000", "michelson_maximum_type_size": 1000,  
  "seed_nonce_revelation_tip": "125000", "origination_size": 257,  
  "block_security_deposit": "512000000",  
  "endorsement_security_deposit": "64000000",  
  "baking_reward_per_endorsement": [ "1250000", "187500" ],  
  "endorsement_reward": [ "1250000", "833333" ], "cost_per_byte": "1000",  
  "hard_storage_limit_per_operation": "60000",  
  "test_chain_duration": "43200", "quorum_min": 3000, "quorum_max": 7000,  
  "min_proposal_quorum": 500, "initial_endorsers": 24,  
  "delay_per_missing_endorsement": "2" }
```

```

>>>>6: http://localhost:8732/chains/main/blocks/head/hash
<<<<6: 200 OK
"BMSuspiqN3k8e3L6RJpuJiWn4oVihsukfhFFNJHWTRJ8MuCZCkt"
>>>>7: http://localhost:8732/chains/main/chain_id
<<<<7: 200 OK
"NetXjD3HPJJjmcD"
>>>>8: http://localhost:8732/chains/main/chain_id
<<<<8: 200 OK
"NetXjD3HPJJjmcD"
>>>>9: http://localhost:8732/chains/main/blocks/head/helpers/scripts/run_operation
{ "operation":
  { "branch": "BMSuspiqN3k8e3L6RJpuJiWn4oVihsukfhFFNJHWTRJ8MuCZCkt",
    "contents":
      [ { "kind": "origination",
          "source": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z", "fee": "0",
          "counter": "709694", "gas_limit": "1040000",
          "storage_limit": "60000", "balance": "0",
          "script":
            { "code":
              [ { "prim": "parameter",
                  "args": [ { "prim": "string" } ] },
                { "prim": "storage", "args": [ { "prim": "string" } ] },
                { "prim": "code",
                  "args":
                    [ [ { "prim": "CAR" },
                        { "prim": "NIL",
                          "args": [ { "prim": "operation" } ] },
                        { "prim": "PAIR" } ] ] },
                  "storage": { "string": "hello" } } ] },
            "signature":
              "edsigtXomBK5CTrf5cjATJWSyaRvhfYNHqSUGrn4SdbYRcGwQrUGjzEfQDTuqHhuA8b2d8
              NarZjz8TRf65WkpQmo423BtomS8Q" },
          "chain_id": "NetXjD3HPJJjmcD" }
    }
  }
<<<<9: 200 OK
{ "contents":
  [ { "kind": "origination",
      "source": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z", "fee": "0",
      "counter": "709694", "gas_limit": "1040000",
      "storage_limit": "60000", "balance": "0",
      "script":
        { "code":
          [ { "prim": "parameter", "args": [ { "prim": "string" } ] },
            { "prim": "storage", "args": [ { "prim": "string" } ] },
            { "prim": "code",
              "args":
                [ [ { "prim": "CAR" },
                    { "prim": "NIL",
                      "args": [ { "prim": "operation" } ] },
                    { "prim": "PAIR" } ] ] },
              "storage": { "string": "hello" } },
            "metadata":

```

```
{ "balance_updates": [],
  "operation_result":
    { "status": "applied", "big_map_diff": [],
      "balance_updates":
        [ { "kind": "contract",
            "contract": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z",
            "change": "-46000" },
          { "kind": "contract",
            "contract": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z",
            "change": "-257000" } ],
        "originated_contracts":
          [ "KT1QYCdkUGX3hZiBWX5S63qRZH2uhHc1v81j" ],
        "consumed_gas": "11037", "storage_size": "46",
        "paid_storage_size_diff": "46" } } ] }
```

Estimated gas: 11037 units (will add 100 for safety)

Estimated storage: 303 bytes added (will add 20 for safety)

>>>>10: http://localhost:8732/chains/main/blocks/head/hash

<<<<10: 200 OK

"BMSuspiqN3k8e3L6RJpuJiWn4oVihsukfhFFNJHWTRJ8MuCZCkt"

>>>>11: http://localhost:8732/chains/main/chain\_id

<<<<11: 200 OK

"NetXjD3HPJJjmcD"

>>>>12: http://localhost:8732/chains/main/blocks/head/helpers/preapply/operations

```
[ { "protocol": "PsCARTHAGazKbHtnKfLzQg3kms52kSRpgnDY982a9oYsSXRLQEb",
    "branch": "BMSuspiqN3k8e3L6RJpuJiWn4oVihsukfhFFNJHWTRJ8MuCZCkt",
    "contents":
      [ { "kind": "origination",
          "source": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z", "fee": "1389",
          "counter": "709694", "gas_limit": "11137",
          "storage_limit": "323", "balance": "0",
          "script":
            { "code":
                [ { "prim": "parameter", "args": [ { "prim": "string" } ] },
                  { "prim": "storage", "args": [ { "prim": "string" } ] },
                  { "prim": "code",
                    "args":
                      [ [ { "prim": "CAR" },
                        { "prim": "NIL",
                          "args": [ { "prim": "operation" } ] },
                        { "prim": "PAIR" } ] ] },
                  "storage": { "string": "hello" } } ] },
        "signature":
```

"edsigtddko3pXR1qBRwXggEVwhUrKV89scMhs7JfBKf2cpYq3q82qYs3gaeiFJwjbLjJtfBppvhwVQBE9j3ePjMCiMXGdnsXqPC" ] }

<<<<12: 200 OK

```
[ { "contents":
    [ { "kind": "origination",
        "source": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z", "fee": "1389",
        "counter": "709694", "gas_limit": "11137",
        "storage_limit": "323", "balance": "0",
        "script":
```

```

{ "code":
  [ { "prim": "parameter", "args": [ { "prim": "string" } ] },
    { "prim": "storage", "args": [ { "prim": "string" } ] },
    { "prim": "code",
      "args":
        [ [ { "prim": "CAR" },
            { "prim": "NIL",
              "args": [ { "prim": "operation" } ] },
            { "prim": "PAIR" } ] ] },
      "storage": { "string": "hello" } },
  "metadata":
    { "balance_updates":
      [ { "kind": "contract",
          "contract": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z",
          "change": "-1389" },
        { "kind": "freezer", "category": "fees",
          "delegate": "tz1Ke2h7sDdakHJQh8WX4Z372du1KChksyU",
          "cycle": 255, "change": "1389" } ],
      "operation_result":
        { "status": "applied", "big_map_diff": [],
          "balance_updates":
            [ { "kind": "contract",
                "contract": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z",
                "change": "-46000" },
              { "kind": "contract",
                "contract": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z",
                "change": "-257000" } ],
          "originated_contracts":
            [ "KT1CRbC3bN1KBfgiiZbKiiLWMWPEyUnX2kVn" ],
          "consumed_gas": "11037", "storage_size": "46",
          "paid_storage_size_diff": "46" } } ],
    "signature":

```

```

"edsigtddko3pXR1qBRwXggEVwhUrKV89scMhs7JfBKf2cpYq3q82qYs3gaeiFJwjbLjJtfBppvhw
VQBE9j3ePjMCiMXGdnsXqPC" } ]

```

```

>>>>13: http://localhost:8732/injection/operation?chain=main

```

```

"e47e270129f3af4f611bb36b64db778e8e8bac378d3c181e76884faf6dc89bf56d006f223345fc2ae16
6d72bb47f02670ddd34dcfb92ed0abea82b8157c30200000000001c02000000170500036805010368
050202000000080316053d036d03420000000a010000000568656c6c6f2c8af7bebc9783986517bcc
8188b9d4f595458edbeb63edaa396732bf5e38757eb2f92c49f1b80b8c9e0ae5bf76643dddf25b035ae
2dad19ea4a1faa614c5506"

```

```

<<<<13: 200 OK

```

```

"ongUPcT8qxXSdxxF8EHkN3LL6VSq2YUuQzvdst9zB8xwAd4FaeL"

```

```

Operation successfully injected in the node.

```

```

Operation hash is 'ongUPcT8qxXSdxxF8EHkN3LL6VSq2YUuQzvdst9zB8xwAd4FaeL'

```

```

Waiting for the operation to be included...

```

```

>>>>14: http://localhost:8732/monitor/heads/main

```

```

<<<<14: 200 OK

```

```

{ "hash": "BMSuspiqN3k8e3L6RJpuJiWn4oVihsukfhFFNJHWTRJ8MuCZCkt",
  "level": 522614, "proto": 2,
  "predecessor": "BKjVuezgGH4vjDimmgDLdJwPHKwxCb4jFM96QNbuUKsWnTCUZPh",

```

```

"timestamp": "2020-06-28T20:46:04Z", "validation_pass": 4,
"operations_hash":
  "LLOzo2a45T2smNNXeuVNagLzmLnskKBA27teYK178knQApZzCvr5h",
"fitness": [ "01", "000000000007f975" ],
"context": "CoV3k6iW4bkEVUUhEajHhWBh7BaLhTt5RxDxWPmstbTLFfEKzuSW",
"protocol_data":

"0000ee87c704ac800100000e6107f61069a3f8f388a8f0f95add0e6ef1520359a4d947cb8a148a79410
33c3d5b9ecd70013429e23b4764c3dce477764c936a0b29b5b3a8785dfae95c1d0e" }
>>>>15:
http://localhost:8732/chains/main/blocks/BMSuspiqN3k8e3L6RJpuJiWn4oVihsukfhFFNJHWTRJ8
MuCZCkt/header/shell
<<<<15: 200 OK
{ "level": 522614, "proto": 2,
  "predecessor": "BKjVuezgGH4vjDimmgDLdJwPHKwxCb4jFM96QNbuUKsWnTCUZPh",
  "timestamp": "2020-06-28T20:46:04Z", "validation_pass": 4,
  "operations_hash":
    "LLOzo2a45T2smNNXeuVNagLzmLnskKBA27teYK178knQApZzCvr5h",
  "fitness": [ "01", "000000000007f975" ],
  "context": "CoV3k6iW4bkEVUUhEajHhWBh7BaLhTt5RxDxWPmstbTLFfEKzuSW" }
>>>>16:
http://localhost:8732/chains/main/blocks/BMSuspiqN3k8e3L6RJpuJiWn4oVihsukfhFFNJHWTRJ8
MuCZCkt/header/shell
<<<<16: 200 OK
{ "level": 522614, "proto": 2,
  "predecessor": "BKjVuezgGH4vjDimmgDLdJwPHKwxCb4jFM96QNbuUKsWnTCUZPh",
  "timestamp": "2020-06-28T20:46:04Z", "validation_pass": 4,
  "operations_hash":
    "LLOzo2a45T2smNNXeuVNagLzmLnskKBA27teYK178knQApZzCvr5h",
  "fitness": [ "01", "000000000007f975" ],
  "context": "CoV3k6iW4bkEVUUhEajHhWBh7BaLhTt5RxDxWPmstbTLFfEKzuSW" }
>>>>17:
http://localhost:8732/chains/main/blocks/BMSuspiqN3k8e3L6RJpuJiWn4oVihsukfhFFNJHWTRJ8
MuCZCkt~1/hash
<<<<17: 200 OK
  "BKjVuezgGH4vjDimmgDLdJwPHKwxCb4jFM96QNbuUKsWnTCUZPh"
>>>>18:
http://localhost:8732/chains/main/blocks/BMSuspiqN3k8e3L6RJpuJiWn4oVihsukfhFFNJHWTRJ8
MuCZCkt/header/shell
<<<<18: 200 OK
{ "level": 522614, "proto": 2,
  "predecessor": "BKjVuezgGH4vjDimmgDLdJwPHKwxCb4jFM96QNbuUKsWnTCUZPh",
  "timestamp": "2020-06-28T20:46:04Z", "validation_pass": 4,
  "operations_hash":
    "LLOzo2a45T2smNNXeuVNagLzmLnskKBA27teYK178knQApZzCvr5h",
  "fitness": [ "01", "000000000007f975" ],
  "context": "CoV3k6iW4bkEVUUhEajHhWBh7BaLhTt5RxDxWPmstbTLFfEKzuSW" }
>>>>19:
http://localhost:8732/chains/main/blocks/BMSuspiqN3k8e3L6RJpuJiWn4oVihsukfhFFNJHWTRJ8
MuCZCkt/operation_hashes
<<<<19: 200 OK
[ [ "ooXdCvGyDUsc1D6ay4pFK8mrqscFBsujc7VbpTTmZc1mY5TeTrq",

```



"oovLg7npsH93GQuLh6WfYjWPsw6KQqOjvfSUSqG86oBZagTZzT4",  
"ooLExDdfSD3DfB2qrfmetEwq8N6aToXvL5my4LZnVTNGpN6kQSL",  
"ooRn8vhgBa3kAC1b3tFwhw8AfG3ifrDqJ4ARYpp7VMPW9b2BFCz",  
"ooyaMCYKA5NnwDRYVoHjoiJdVPpRddo5eNn1FJHrdJNCmu4HH5W",  
"oooJL8EJ62WcmqjCUL429hkSkh8o9Zw6rFrcZDwLrV7WjvwMzNP",  
"opRg2qJd4sUmcYHwDE4NShPK4stYZxE1fDzJNMH4s63ktrBYBeD",  
"op9nvGKdsKofCnyu6XrSKvJRudbz35YeXM9ekchQT6MoMUftviG",  
"oo6fUa3Gu9Auerp8Bs9DeVB8iz8iSyFoJDmsVudNWowYGhH3pZp",  
"onhYSfVRpCpw3JzWpSEpZk45Da4SGZTtde9wgM42YuEUby4aTsT",  
"oo3X34tj1zovvW3Edh4aF9NEVVhv1QdBGZvuW5utLCJvM1qQ9xf",  
"ooqvLicYeKaLVVYQ426m8AyBaR2sxLy8WWkXxVNtJmLzg4bybZF",  
"ooeHbQL3oaiYovVVYfwPQc2kre37oM2SFAKsvW8qXXqerrLDo2H" ], [], [  
[ "opJaamSf72bsnMJUqPZyA2NqPoJfVBy9Aza4xFj2QAUZfbwWe1",  
"onkNrMCTUYqxhheJc7Uui6gPzXmGPHd8YUuwyuTkWi3tLqg13Kk",  
"onrztYXJP97DXE9rrcqUoEguZzAtBYTXaNNudsvQybXroeihLY",  
"opGmr7cM62AXNCwKZxa42BGR27VgANXseBwoYu4eVRFaAnhkdAZ",  
"ooZHUwWWumxnqgNLVZ14mv9NPmVemc294rhzgtwYDbsu9HqAjnM" ] ]

<<<<14: 200 OK

{ "hash": "BLumsoNeHqiNwnYY1zxbmfr6nrAJPVYPvRBFaLkM4mjodtp9kd8",  
"level": 522615, "proto": 2,  
"predecessor": "BMSuspiqN3k8e3L6RJpuJiWn4oVihsukfhFFNJHWTRJ8MuCZCkt",  
"timestamp": "2020-06-28T20:46:34Z", "validation\_pass": 4,  
"operations\_hash":  
"LLOaUBBYmjM5BE9BqorDfWwfnaUxU6M7CHqhnJFuqtwGTy1YPgo8P",  
"fitness": [ "01", "000000000007f976" ],  
"context": "CoW79PZetJEHDQ6soqQ7go1o37QW9fyNyo6WPxxJMQtyq83rcqZr",  
"protocol\_data":

"00006b9f3bc3a78c01000011437d3a12a1caf8c3de9a6d5e2896aabf147691a8b8cdd232297e814784  
8efb96af44c99e62315d52ddf8e05f68fe859914273a1d3dcbb459fd1c40d7fa6009" }

>>>>20:

http://localhost:8732/chains/main/blocks/BLumsoNeHqiNwnYY1zxbmfr6nrAJPVYPvRBFaLkM4  
mjodtp9kd8/operation\_hashes

<<<<20: 200 OK

[ [ "oosseeN9azZotGhyjxXrqzbWDXKZbc43Dqnqr7YLMaNQFcAbgNED",  
"ooLcNKNaUDbVpjr2eSyXNGWPwJ6RGKak7j2xPaeReo4NQUTLqS",  
"ooTqoJ8hMRKF8KM4KM8bzhBMrdTeBrVeup6nRprUWajniRbdc49",  
"ooRjbThoa1uULX2ciGVpgJFxfgcbyEizyUEhdXEQTyCt2RX6mZy",  
"op8Q5BDf1FGuACGfYQDqtdE8LHcgoTj1xjMLkmYDMFKdG4Wj22S",  
"onqG4ToX1PpvYFa4nYYtcmkh3yLF5zHPgxZiD7LhoFdWDF11bqH",  
"onfy7MjRMcfKACM1A63BkuqjYsJnD8ep1HTviWfWBjJEcgXZHxf",  
"oovbvVXqBeCEYHg4TtvRtxQy25xHG5ac12Gesqy39y17rywx7vh",  
"opF2RP2r9UoYucgR48MUxRxAsq8BjasrQ8kKwLeVSKwz4qV9PHE",  
"oo43VzsVdEekZ9Wznid5GMN5XwH9sjFcgzV41iUk9xfhqLs5RRc",  
"ooQ2zXG5mStYBU1TaEg8XiDkQXHALNuKr9knjMmy19zVKroxLhY",  
"onpo9qVPAaaMoN8mWNUyH9TsJAUvar47NLeSsU5wnDccTfho4G2" ], [], [  
[ "onp2ydfxhW4jwX4PfKUo3te8p9kVYtvftJ1vfA9D2KL68w5vaeL",  
"ooVLuBhfGkn7waKYUfTghHjLxqHqLawva12LkPs2VitXyQXZ2G8",  
"ongUPcT8qxXSdxxF8EHkN3LL6VSq2YUuQzvdst9zB8xwAd4FaeL",  
"oo65g5q1cRncMptnjuMM1wYNpyVHAzB9iwepupAAEk2F1Zd45M6",  
"oparFNnv9eD4ZnMXBTM9fwGdMWcGebguUwmKzYXvuV1dkYFrppi" ] ]

Operation found in block: BLumsoNeHqiNwnYY1zxbmfr6nrAJPVYPvRBFaLkM4mjodtp9kd8  
(pass: 3, offset: 2)

>>>>21:

http://localhost:8732/chains/main/blocks/BLumsoNeHqiNwnYY1zxbmfr6nrAJPVYPvRBFaLkM4mjodtp9kd8/operations/3/2

<<<<21: 200 OK

```
{ "protocol": "PsCARTHAGazKbHtnKfLzQg3kms52kSRpgnDY982a9oYsSXRLQEb",
  "chain_id": "NetXjD3HPJJmcd",
  "hash": "ongUPcT8qxXSdxxF8EHkN3LL6VSq2YUuQzvdst9zB8xwAd4FaeL",
  "branch": "BMSuspiqN3k8e3L6RJpuJiWn4oVihsukfhFFNJHWTRJ8MuCZCkt",
  "contents":
    [ { "kind": "origination",
        "source": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z", "fee": "1389",
        "counter": "709694", "gas_limit": "11137", "storage_limit": "323",
        "balance": "0",
        "script":
          { "code":
              [ { "prim": "parameter", "args": [ { "prim": "string" } ] },
                { "prim": "storage", "args": [ { "prim": "string" } ] },
                { "prim": "code",
                  "args":
                    [ [ { "prim": "CAR" },
                      { "prim": "NIL",
                        "args": [ { "prim": "operation" } ] },
                      { "prim": "PAIR" } ] ] },
                "storage": { "string": "hello" } },
          "metadata":
            { "balance_updates":
                [ { "kind": "contract",
                    "contract": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z",
                    "change": "-1389" },
                  { "kind": "freezer", "category": "fees",
                    "delegate": "tz1RpdqrmqYY6JUn5a3RVCdFCi1UeBMAmNwN",
                    "cycle": 255, "change": "1389" } ],
              "operation_result":
                { "status": "applied", "big_map_diff": [],
                  "balance_updates":
                    [ { "kind": "contract",
                        "contract": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z",
                        "change": "-46000" },
                      { "kind": "contract",
                        "contract": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z",
                        "change": "-257000" } ],
                  "originated_contracts":
                    [ "KT1CRbC3bN1KBfgiiZbKiiLWMWPEyUnX2kVn" ],
                  "consumed_gas": "11037", "storage_size": "46",
                  "paid_storage_size_diff": "46" } } ],
          "signature":
```

"sigTpHfzbd95e9NkYPYCekkBZoiJ4wdiqGjcuSbK2dpCp6XJ6F3y8bVbULGM7oFG8YDeMD1C  
A8ZZGNzFcC5CrkAUCXsXeTX7" }

This sequence of operations was run:

Manager signed operations:

From: tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z

Fee to the baker: ₮0.001389

Expected counter: 709694

Gas limit: 11137

Storage limit: 323 bytes

Balance updates:

tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z ..... -₮0.001389

fees(tz1RpdqrmqYY6JUn5a3RVCdFCi1UeBMaMNwN,255) ... +₮0.001389

Origination:

From: tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z

Credit: ₮0

Script:

{ parameter string ;

storage string ;

code { CAR ; NIL operation ; PAIR } }

Initial storage: "hello"

No delegate for this contract

This origination was successfully applied

Originated contracts:

KT1CRbC3bN1KBfgiiZbKiiLWMWPEyUnX2kVn

Storage size: 46 bytes

Paid storage size diff: 46 bytes

Consumed gas: 11037

Balance updates:

tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z ... -₮0.046

tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z ... -₮0.257

New contract KT1CRbC3bN1KBfgiiZbKiiLWMWPEyUnX2kVn originated.

The operation has only been included 0 blocks ago.

We recommend to wait more.

Use command

tezoz-client wait for ongUPcT8qxXSdxxF8EHkN3LL6VSq2YUuQzvdst9zB8xwAd4FaeL to be included --confirmations 30 --branch

BMSuspiqN3k8e3L6RJpuJiWn4oVihsukfhFFNJHWTRJ8MuCZCkt

and/or an external block explorer.

Contract memorized as hello1.

**doanha@proglang-thinkpad:~/tezos\$ ./tezoz-client -l transfer 0 from ha to hello --arg  
""world""**

>>>>0: http://localhost:8732/network/version

<<<<0: 200 OK

{ "chain\_name": "TEZOS\_ALPHANET\_CARTHAGE\_2019-11-28T13:02:13Z",  
"distributed\_db\_version": 0, "p2p\_version": 0 }

>>>>1: http://localhost:8732/chains/main/blocks/head/protocols

<<<<1: 200 OK

{ "protocol": "PsCARTHAGazKbHtnKfLzQg3kms52kSRpgnDY982a9oYsSXRLQEb",  
"next\_protocol": "PsCARTHAGazKbHtnKfLzQg3kms52kSRpgnDY982a9oYsSXRLQEb" }

>>>>2:

http://localhost:8732/chains/main/blocks/head/context/contracts/tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z/counter

```

<<<<2: 200 OK
  "709694"
>>>>3:
http://localhost:8732/chains/main/blocks/head/context/contracts/tz1VmefgyE1YPcAa8VurxihsUJX
zLUX6HY8Z/manager_key
<<<<3: 200 OK
  "edpkutbv6xm9dUJwU4VFwG4sxTV6UvSf4gvrdJHZMukghtFp496gDP"
>>>>4: http://localhost:8732/monitor/bootstrapped
<<<<4: 200 OK
  { "block": "BKpXZTXQLdZmAEE2L8SVG2h7S3LXbRoVc1nz2EKqeWEEfUwdL",
    "timestamp": "2020-06-28T20:48:04Z" }
Node is bootstrapped, ready for injecting operations.
>>>>5: http://localhost:8732/chains/main/blocks/head/context/constants
<<<<5: 200 OK
  { "proof_of_work_nonce_size": 8, "nonce_length": 32,
    "max_revelations_per_block": 32, "max_operation_data_length": 16384,
    "max_proposals_per_delegate": 20, "preserved_cycles": 3,
    "blocks_per_cycle": 2048, "blocks_per_commitment": 32,
    "blocks_per_roll_snapshot": 256, "blocks_per_voting_period": 2048,
    "time_between_blocks": [ "30", "40" ], "endorsers_per_block": 32,
    "hard_gas_limit_per_operation": "1040000",
    "hard_gas_limit_per_block": "10400000",
    "proof_of_work_threshold": "70368744177663",
    "tokens_per_roll": "8000000000", "michelson_maximum_type_size": 1000,
    "seed_nonce_revelation_tip": "125000", "origination_size": 257,
    "block_security_deposit": "512000000",
    "endorsement_security_deposit": "64000000",
    "baking_reward_per_endorsement": [ "1250000", "187500" ],
    "endorsement_reward": [ "1250000", "833333" ], "cost_per_byte": "1000",
    "hard_storage_limit_per_operation": "60000",
    "test_chain_duration": "43200", "quorum_min": 3000, "quorum_max": 7000,
    "min_proposal_quorum": 500, "initial_endorsers": 24,
    "delay_per_missing_endorsement": "2" }
>>>>6: http://localhost:8732/chains/main/blocks/head/hash
<<<<6: 200 OK
  "BKpXZTXQLdZmAEE2L8SVG2h7S3LXbRoVc1nz2EKqeWEEfUwdL"
>>>>7: http://localhost:8732/chains/main/chain_id
<<<<7: 200 OK
  "NetXjD3HPJJjmcD"
>>>>8: http://localhost:8732/chains/main/chain_id
<<<<8: 200 OK
  "NetXjD3HPJJjmcD"
>>>>9: http://localhost:8732/chains/main/blocks/head/helpers/scripts/run_operation
  { "operation":
    { "branch": "BKpXZTXQLdZmAEE2L8SVG2h7S3LXbRoVc1nz2EKqeWEEfUwdL",
      "contents":
        [ { "kind": "transaction",
            "source": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z", "fee": "0",
            "counter": "709695", "gas_limit": "1040000",
            "storage_limit": "60000", "amount": "0",
            "destination": "KT1PsflU8XdLsZ2cZDPv7dTdM5ty6FSy77DK",
            "parameters":

```

```
    { "entrypoint": "default", "value": { "string": "world" } } } ],  
"signature":
```

```
"edsigtXomBKi5CTrf5cjATJWSyaRvhfYNHqSUGrn4SdbYRcGwQrUGjzEfQDTuqHhuA8b2d8  
NarZjz8TRf65WkpQmo423BtomS8Q" },  
"chain_id": "NetXjD3HPJJjmcid" }
```

<<<<9: 200 OK

```
{ "contents":  
  [ { "kind": "transaction",  
    "source": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z", "fee": "0",  
    "counter": "709695", "gas_limit": "1040000",  
    "storage_limit": "60000", "amount": "0",  
    "destination": "KT1PsflU8XdLsZ2cZDPv7dTdM5ty6FSy77DK",  
    "parameters":  
      { "entrypoint": "default", "value": { "string": "world" } },  
    "metadata":  
      { "balance_updates": [],  
        "operation_result":  
          { "status": "applied", "storage": { "string": "world" },  
            "consumed_gas": "11529", "storage_size": "46" } } } ] }
```

Estimated gas: 11529 units (will add 100 for safety)

Estimated storage: no bytes added

>>>>10: http://localhost:8732/chains/main/blocks/head/hash

<<<<10: 200 OK

```
"BKpXZTXQLdZmAEE2L8SVG2h7S3LXbRoVc1nz2EKqeWEEfUwdL"
```

>>>>11: http://localhost:8732/chains/main/chain\_id

<<<<11: 200 OK

```
"NetXjD3HPJJjmcid"
```

>>>>12: http://localhost:8732/chains/main/blocks/head/helpers/preapply/operations

```
[ { "protocol": "PsCARTHAGazKbHtnKfLzQg3kms52kSRpgnDY982a9oYsSXRLQEb",  
  "branch": "BKpXZTXQLdZmAEE2L8SVG2h7S3LXbRoVc1nz2EKqeWEEfUwdL",  
  "contents":  
    [ { "kind": "transaction",  
      "source": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z", "fee": "1428",  
      "counter": "709695", "gas_limit": "11629", "storage_limit": "0",  
      "amount": "0",  
      "destination": "KT1PsflU8XdLsZ2cZDPv7dTdM5ty6FSy77DK",  
      "parameters":  
        { "entrypoint": "default", "value": { "string": "world" } } } ],  
  "signature":
```

```
"edsigthMD8dxq1ttbhDrcGbo52XN9j5mx7XttcrgaZ1UimZwXA8W5jtLENqqGjZPwhkFDKashn1  
sBUBAR7h4WTm8E55ndYR28mh" } ]
```

<<<<12: 200 OK

```
[ { "contents":  
  [ { "kind": "transaction",  
    "source": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z", "fee": "1428",  
    "counter": "709695", "gas_limit": "11629", "storage_limit": "0",  
    "amount": "0",  
    "destination": "KT1PsflU8XdLsZ2cZDPv7dTdM5ty6FSy77DK",  
    "parameters":  
      { "entrypoint": "default", "value": { "string": "world" } } },
```

```
"metadata":
  { "balance_updates":
    [ { "kind": "contract",
        "contract": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z",
        "change": "-1428" },
      { "kind": "freezer", "category": "fees",
        "delegate": "tz1Ke2h7sDdakHJQh8WX4Z372du1KChkskyU",
        "cycle": 255, "change": "1428" } ],
    "operation_result":
      { "status": "applied", "storage": { "string": "world" },
        "consumed_gas": "11529", "storage_size": "46" } } ],
  "signature":
```

```
"edsigthMD8dxq1ttbhDrcGbo52XN9j5mx7XttcrgaZ1UimZwXA8W5jtLENqqGjZPwhkFDKashn1
sBUBAR7h4WTm8E55ndYR28mh" } ]
```

```
>>>>13: http://localhost:8732/injection/operation?chain=main
```

```
"0e2e3ce2df86cc17da984c2bcf8c1bacf8f59e88ca99df4e17407eb66d263bb56c006f223345fc2ae166
d72bb47f02670ddd34dcfb92940bbfa82bed5a000001a7bbc2187e5441724903f9fca820944d3d0e1e9
d00ff000000000a010000005776f726c6448efcc057786669de22d64649f31a2e2d2988cf1a0125f1b
b5e7a7eb27576f6b98bdc09413bc793f09451ac459c02a8326922a55e8142a4434e47d006f68a908"
```

```
<<<<13: 200 OK
```

```
"onxnfB4TckmSoAvLmhyknXrCqj4AZr16kNAcdSV9ejUAzR7WVSx"
```

Operation successfully injected in the node.

Operation hash is 'onxnfB4TckmSoAvLmhyknXrCqj4AZr16kNAcdSV9ejUAzR7WVSx'

Waiting for the operation to be included...

```
>>>>14: http://localhost:8732/monitor/heads/main
```

```
<<<<14: 200 OK
```

```
{ "hash": "BKpXZTXQLdZmAEEeME2L8SVG2h7S3LXbRoVc1nz2EKqeWEEfUwdL",
  "level": 522618, "proto": 2,
  "predecessor": "BMFKMU7msiZYoYcSvnkDz4iBeShvDpPc2ctPQ5nG2JpVV9u9Wje",
  "timestamp": "2020-06-28T20:48:04Z", "validation_pass": 4,
  "operations_hash":
    "LLOaGs1LCH3ua5qAbBRHFyimdARXefmkda9Xj1R3XHKGTcyi6c7hK",
  "fitness": [ "01", "000000000007f979" ],
  "context": "CoUsABVGeao8CUZnDncnvS4rbYHSpsrpuxpFnp7w8aTXVRUnXm9z",
  "protocol_data":
```

```
"0000ee87c7047263000000a74c50e2545a6db7d6d6db873369357190f0e445d8dce004faf6861a114c
aae2c3dc0c578d27a8c097e78405248e2f56ea6c3f78aa0b57a9e743769d46e3590e" }
```

```
>>>>15:
```

```
http://localhost:8732/chains/main/blocks/BKpXZTXQLdZmAEEeME2L8SVG2h7S3LXbRoVc1nz2
EKqeWEEfUwdL/header/shell
```

```
<<<<15: 200 OK
```

```
{ "level": 522618, "proto": 2,
  "predecessor": "BMFKMU7msiZYoYcSvnkDz4iBeShvDpPc2ctPQ5nG2JpVV9u9Wje",
  "timestamp": "2020-06-28T20:48:04Z", "validation_pass": 4,
  "operations_hash":
    "LLOaGs1LCH3ua5qAbBRHFyimdARXefmkda9Xj1R3XHKGTcyi6c7hK",
  "fitness": [ "01", "000000000007f979" ],
  "context": "CoUsABVGeao8CUZnDncnvS4rbYHSpsrpuxpFnp7w8aTXVRUnXm9z" }
```

```

>>>>16:
http://localhost:8732/chains/main/blocks/BKpXZTXQLdZmAEEeME2L8SVG2h7S3LXbRoVc1nz2
EKqeWEEfUwdL/header/shell
<<<<16: 200 OK
{ "level": 522618, "proto": 2,
  "predecessor": "BMFKMU7msiZYoYcSvnkDz4iBeShvDpPc2ctPQ5nG2JpVV9u9Wje",
  "timestamp": "2020-06-28T20:48:04Z", "validation_pass": 4,
  "operations_hash":
    "LLoaGs1LCH3ua5qAbBRHFyimdARXefmkda9Xj1R3XHKGTcyi6c7hK",
  "fitness": [ "01", "000000000007f979" ],
  "context": "CoUsABVGeao8CUZnDncnvS4rbYHSpsrpuxpFnp7w8aTXVRUnXm9z" }
>>>>17:
http://localhost:8732/chains/main/blocks/BKpXZTXQLdZmAEEeME2L8SVG2h7S3LXbRoVc1nz2
EKqeWEEfUwdL~1/hash
<<<<17: 200 OK
  "BMFKMU7msiZYoYcSvnkDz4iBeShvDpPc2ctPQ5nG2JpVV9u9Wje"
>>>>18:
http://localhost:8732/chains/main/blocks/BKpXZTXQLdZmAEEeME2L8SVG2h7S3LXbRoVc1nz2
EKqeWEEfUwdL/header/shell
<<<<18: 200 OK
{ "level": 522618, "proto": 2,
  "predecessor": "BMFKMU7msiZYoYcSvnkDz4iBeShvDpPc2ctPQ5nG2JpVV9u9Wje",
  "timestamp": "2020-06-28T20:48:04Z", "validation_pass": 4,
  "operations_hash":
    "LLoaGs1LCH3ua5qAbBRHFyimdARXefmkda9Xj1R3XHKGTcyi6c7hK",
  "fitness": [ "01", "000000000007f979" ],
  "context": "CoUsABVGeao8CUZnDncnvS4rbYHSpsrpuxpFnp7w8aTXVRUnXm9z" }
>>>>19:
http://localhost:8732/chains/main/blocks/BKpXZTXQLdZmAEEeME2L8SVG2h7S3LXbRoVc1nz2
EKqeWEEfUwdL/operation_hashes
<<<<19: 200 OK
[ [ "oo1b78bqm2A1TYaJLr5C9aLwHnSgMGHxfJSoZcpC691oywRjvCP",
    "ooPXbDWbDFFajnfnyqMiMBj7cJDYBRmcT6V5vY69NN1CyMpTAmc",
    "ooJz5t1tXKr5WLhsvCrLWiLN4YPAGegtSadt9gYqjs3yTFEZqUT",
    "oorN3c8gGY7Azmd6haT4g57tfQMnd3wxFctP2GmqCpfyWQEqWME",
    "ooB7EZHoqNLzeMTw9HdQWdstmAztsfgG8AxTSszRYD4AwXTdnEM",
    "oovu7BNumbKYsMQE1RUHS9YWSCPuV1dBfNUSbWnb8Y637MwsUvv",
    "op1Yn7ib83G28A19DmdcDVZiLKaWStNW6Rv6mp3LgS9QvzHZ3e",
    "ooHTMeNWHE5PKjcsyDxKQvVRGDKvB56o89jmwTfqoHHCeEgX2Z",
    "oo4GJ6VnNCWvewD5o3MeCzE3pmVznU4vrdFvYyWNfWtdCuzFmFo",
    "opX1d5ddRWqEad5KUxs5mKSfuptdrWaxr5kRD4DLxRmCwDG8tvJ",
    "oocfu3YgVn2TLc2MkaKbcTGFTB47HhHoZNGXF4PGQXEc549Kchr" ], [], [],
  [ "oo3mLmYdPMPAqvLXvJU6uF7wMubEdAEKq3UfaQPfXAJJTQvkioQ",
    "opNHp6bTVfXwAyGdAGV3EaXJsdFSm1kyFuKvyFU8ZjKsflvdc3s",
    "oomR7s2kYqD5caet3jT3Ecrg4EfMVcdksDgf2xzKPHjYkqpuVm6",
    "ooqxsq9s4FyV3iaU99aErxnRsHuCoeAcArha8djFsRc2byhcyVQ",
    "opKRG8uAn8pDd5tWri99unGjRupVM4UZSSaZsMYkxA8TLeYPUhA" ] ]
<<<<14: 200 OK
{ "hash": "BLUFWesFYVswMi2rorzPd2PBShWj2UMeNWaLbJWV6spNyKHvXgB",
  "level": 522619, "proto": 2,
  "predecessor": "BKpXZTXQLdZmAEEeME2L8SVG2h7S3LXbRoVc1nz2EKqeWEEfUwdL",
  "timestamp": "2020-06-28T20:49:14Z", "validation_pass": 4,

```

```
"operations_hash":
  "LLoaedM3LFarpzVhB3h1cS52MFr68obG8iHpEy4h1RhUgNaR6hgqe",
"fitness": [ "01", "000000000007f97a" ],
"context": "CoVDv7dhub5x11BMB2JTNQ7jm4YJv64iYsJ4TkGYZoEbuwAoLg1k",
"protocol_data":
```

```
"0001b7ed34cbb06803000030bc2ae3092c6777855136506f4ccde1aaa8e9250bc26fefb4800475a158
960841147ea510408269b10a74723b80ce574655a37e576db6b0a9a9b399296cf104" }
```

>>>>20:

```
http://localhost:8732/chains/main/blocks/BLUFWesFYVswMi2rorzPd2PBShWj2UMeNWaLbJWV
6spNyKHvXgB/operation_hashes
```

<<<<20: 200 OK

```
[ [ "opPYQwPzc4WAY2cycVhVwTSXNo6qTCJFj7J13gB1L2JFYSNu3oX",
  "ooaiLrfUUigftKrvZN5Y6XmJegUGrYrZQXyubDJrYyXBhyPtNUf",
  "onw9Wm6VNrMqrSUT3yKQm1LxRV54LD6t3thodM2T4athtFKcGBx",
  "onsf5kawp7Uc3x4cN6hkLP82fuxyeWkzfp79nEAdDRvMUeH74nY",
  "op6ucSFARyc3R4p84n8V4XXEXiABrrJaD7qb7DTVCL9q5mWxihw",
  "opCYj7GgxtqoeDKMyKqWZku4nePs1wx1nypsHuHdxesemdqZg",
  "onyPJzetT1RakPohheeSuoMj3NWAUwFmrnd2YimcvejJ7ZPm3Fm",
  "op8WALQDYqntb91UkZBpabZBQwrtNNHrKvyuaz2Ny5QkoCsaJD5",
  "opDkUhWYV91Grevzvp14Ff2PGvHcWr1BLjB3cxsNPRMMV1FR7n3",
  "op1qRAmyMxNkiX23v88GYiSQnUERDnfBBm8DsS8Rsb62d5kguPN",
  "ooGF6XCPEbyb2jr3x8vHi6NJsw5pzJCS8x1rhK7iU32qD54nveR" ], [], [],
[ "ooei2ZfQPAqADkoEwtHDct5bCygXJbsMcCKMKD8LZ9YB11UdjKS",
  "op8xLkJVcQEkW58iYC8p9wKZNqYFHRfi8AwtYXPugTXYf93b6dP",
  "onxnfB4TckmSoAvLmhyknXrCqj4AZr16kNAcdSV9ejUAzR7WVSx",
  "onraCZmbjx8mctd5NWD41BTxR3tcJtRQKVYKa8q3a3wKskKf5Yv",
  "ongrFD5fUcwAezP6hjkGrdZQ3HPrxGMKrNSBQGefiixpKvm7BmQ" ] ]
```

Operation found in block:

```
BLUFWesFYVswMi2rorzPd2PBShWj2UMeNWaLbJWV6spNyKHvXgB (pass: 3, offset: 2)
```

>>>>21:

```
http://localhost:8732/chains/main/blocks/BLUFWesFYVswMi2rorzPd2PBShWj2UMeNWaLbJWV
6spNyKHvXgB/operations/3/2
```

<<<<21: 200 OK

```
{ "protocol": "PsCARTHAGazKbHtnKfLzQg3kms52kSRpgnDY982a9oYsSXRLQEb",
  "chain_id": "NetXjD3HPJJmcd",
  "hash": "onxnfB4TckmSoAvLmhyknXrCqj4AZr16kNAcdSV9ejUAzR7WVSx",
  "branch": "BKpXZTXQLdZmAEE2L8SVG2h7S3LXbRoVc1nz2EKqeWEEfUwdL",
  "contents":
    [ { "kind": "transaction",
      "source": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z", "fee": "1428",
      "counter": "709695", "gas_limit": "11629", "storage_limit": "0",
      "amount": "0",
      "destination": "KT1PsfLU8XdLsZ2cZDPv7dTdM5ty6FSy77DK",
      "parameters":
        { "entrypoint": "default", "value": { "string": "world" } },
      "metadata":
        { "balance_updates":
          [ { "kind": "contract",
            "contract": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z",
            "change": "-1428" },
            { "kind": "freezer", "category": "fees",
```



```
"delegate": "tz1RomaiWJV3NFDZWMTMVR2aEeHknsn3iF5Gi",
"cycle": 255, "change": "1428" } ],
"operation_result":
{ "status": "applied", "storage": { "string": "world" },
  "consumed_gas": "11529", "storage_size": "46" } } ],
"signature":
```

```
"sigXXk1ajvjxhZe2sK8Zwt5E5dxFh28u2JFAvqpfUjmDvZrJZVEzR9HnbMgxn9cH4rt3Q5rW5pd
ZCeNu2JocnFt2iXdKVN7Y" }
```

This sequence of operations was run:

Manager signed operations:

From: tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z

Fee to the baker:  $\text{tz0.001428}$

Expected counter: 709695

Gas limit: 11629

Storage limit: 0 bytes

Balance updates:

tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z ..... - $\text{tz0.001428}$

fees(tz1RomaiWJV3NFDZWMTMVR2aEeHknsn3iF5Gi,255) ... + $\text{tz0.001428}$

Transaction:

Amount:  $\text{tz0}$

From: tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z

To: KT1PsflU8XdLsZ2cZDPv7dTdM5ty6FSy77DK

Parameter: "world"

This transaction was successfully applied

Updated storage: "world"

Storage size: 46 bytes

Consumed gas: 11529

The operation has only been included 0 blocks ago.

We recommend to wait more.

Use command

tezos-client wait for onxnfb4TckmSoAvLmhyknXrCqj4AZr16kNAcdSV9ejUAzR7WVSx to be  
included --confirmations 30 --branch  
BKpXZTXQLdZmAEEME2L8SVG2h7S3LXbRoVc1nz2EKqeWEEfUwdL  
and/or an external block explorer.

**doanha@proglang-thinkpad:~/tezos\$ ./tezos-client -l transfer 0 from ha to hello --arg "'hello world'"**

>>>>0: http://localhost:8732/network/version

<<<<0: 200 OK

```
{ "chain_name": "TEZOS_ALPHANET_CARTHAGE_2019-11-28T13:02:13Z",
  "distributed_db_version": 0, "p2p_version": 0 }
```

>>>>1: http://localhost:8732/chains/main/blocks/head/protocols

<<<<1: 200 OK

```
{ "protocol": "PsCARTHAGazKbHtnKfLzQg3kms52kSRpgnDY982a9oYsSXRLQEb",
  "next_protocol": "PsCARTHAGazKbHtnKfLzQg3kms52kSRpgnDY982a9oYsSXRLQEb" }
```

>>>>2:

http://localhost:8732/chains/main/blocks/head/context/contracts/tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z/counter

<<<<2: 200 OK

"709695"

```
>>>>3:
http://localhost:8732/chains/main/blocks/head/context/contracts/tz1VmefgyE1YPcAa8VurxihsUJX
zLUX6HY8Z/manager_key
<<<<3: 200 OK
"edpkutbv6xm9dUJwU4VFwG4sxTV6UvSf4gvrdJHZMukghtFp496gDP"
>>>>4: http://localhost:8732/monitor/bootstrapped
<<<<4: 200 OK
{ "block": "BLuMjwZgATpFUbeBKza5C21ToftUUNLtSm2ZNhdEF1kRBJDYKFM",
  "timestamp": "2020-06-28T20:50:14Z" }
Node is bootstrapped, ready for injecting operations.
>>>>5: http://localhost:8732/chains/main/blocks/head/context/constants
<<<<5: 200 OK
{ "proof_of_work_nonce_size": 8, "nonce_length": 32,
  "max_revelations_per_block": 32, "max_operation_data_length": 16384,
  "max_proposals_per_delegate": 20, "preserved_cycles": 3,
  "blocks_per_cycle": 2048, "blocks_per_commitment": 32,
  "blocks_per_roll_snapshot": 256, "blocks_per_voting_period": 2048,
  "time_between_blocks": [ "30", "40" ], "endorsers_per_block": 32,
  "hard_gas_limit_per_operation": "1040000",
  "hard_gas_limit_per_block": "10400000",
  "proof_of_work_threshold": "70368744177663",
  "tokens_per_roll": "8000000000", "michelson_maximum_type_size": 1000,
  "seed_nonce_revelation_tip": "125000", "origination_size": 257,
  "block_security_deposit": "512000000",
  "endorsement_security_deposit": "640000000",
  "baking_reward_per_endorsement": [ "1250000", "187500" ],
  "endorsement_reward": [ "1250000", "833333" ], "cost_per_byte": "1000",
  "hard_storage_limit_per_operation": "60000",
  "test_chain_duration": "43200", "quorum_min": 3000, "quorum_max": 7000,
  "min_proposal_quorum": 500, "initial_endorsers": 24,
  "delay_per_missing_endorsement": "2" }
>>>>6: http://localhost:8732/chains/main/blocks/head/hash
<<<<6: 200 OK
"BLuMjwZgATpFUbeBKza5C21ToftUUNLtSm2ZNhdEF1kRBJDYKFM"
>>>>7: http://localhost:8732/chains/main/chain_id
<<<<7: 200 OK
"NetXjD3HPJJjmcD"
>>>>8: http://localhost:8732/chains/main/chain_id
<<<<8: 200 OK
"NetXjD3HPJJjmcD"
>>>>9: http://localhost:8732/chains/main/blocks/head/helpers/scripts/run_operation
{ "operation":
  { "branch": "BLuMjwZgATpFUbeBKza5C21ToftUUNLtSm2ZNhdEF1kRBJDYKFM",
    "contents":
      [ { "kind": "transaction",
          "source": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z", "fee": "0",
          "counter": "709696", "gas_limit": "1040000",
          "storage_limit": "60000", "amount": "0",
          "destination": "KT1PsfLU8XdLsZ2cZDPv7dTdM5ty6FSy77DK",
          "parameters":
            { "entrypoint": "default",
              "value": { "string": "hello world" } } } ],
```

"signature":

"edsigtXomBK5CTRf5cjATJWSyaRvhfYNHqSUGrn4SdbYRcGwQrUGjzEfQDTuqHhuA8b2d8  
NarZjz8TRf65WkpQmo423BtomS8Q" },

"chain\_id": "NetXjD3HPJJjmcid" }

<<<<9: 200 OK

{ "contents":

[ { "kind": "transaction",

"source": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z", "fee": "0",

"counter": "709696", "gas\_limit": "1040000",

"storage\_limit": "60000", "amount": "0",

"destination": "KT1PsflU8XdLsZ2cZDPv7dTdM5ty6FSy77DK",

"parameters":

{ "entrypoint": "default", "value": { "string": "hello world" } },

"metadata":

{ "balance\_updates": [],

"operation\_result":

{ "status": "applied",

"storage": { "string": "hello world" },

"balance\_updates":

[ { "kind": "contract",

"contract": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z",

"change": "-6000" } ], "consumed\_gas": "11625",

"storage\_size": "52", "paid\_storage\_size\_diff": "6" } } ] }

Fatal error:

The operation will burn  $\text{tz}0.006$  which is higher than the configured burn cap ( $\text{tz}0$ ).

Use `--burn-cap 0.006` to emit this operation.

doanha@proglang-thinkpad:~/tezos\$ ./tezos-client -l transfer 1 from ha to hello --arg "'hello world'"

>>>>0: http://localhost:8732/network/version

<<<<0: 200 OK

{ "chain\_name": "TEZOS\_ALPHANET\_CARTHAGE\_2019-11-28T13:02:13Z",

"distributed\_db\_version": 0, "p2p\_version": 0 }

>>>>1: http://localhost:8732/chains/main/blocks/head/protocols

<<<<1: 200 OK

{ "protocol": "PsCARTHAGazKbHtnKfLzQg3kms52kSRpgnDY982a9oYsSXRLQEb",

"next\_protocol": "PsCARTHAGazKbHtnKfLzQg3kms52kSRpgnDY982a9oYsSXRLQEb" }

>>>>2:

http://localhost:8732/chains/main/blocks/head/context/contracts/tz1VmefgyE1YPcAa8VurxihsUJX  
zLUX6HY8Z/counter

<<<<2: 200 OK

"709695"

>>>>3:

http://localhost:8732/chains/main/blocks/head/context/contracts/tz1VmefgyE1YPcAa8VurxihsUJX  
zLUX6HY8Z/manager\_key

<<<<3: 200 OK

"edpkutbv6xm9dUJwU4VFwG4sxTV6UvSf4gvrkJHZMukghtFp496gDP"

>>>>4: http://localhost:8732/monitor/bootstrapped

<<<<4: 200 OK

{ "block": "BLsxKQNgGj2xFhQ93rXobXibPifnw5fLoRb7siRdBrRjPwfUGEv",

"timestamp": "2020-06-28T20:50:44Z" }

Node is bootstrapped, ready for injecting operations.

```

>>>>5: http://localhost:8732/chains/main/blocks/head/context/constants
<<<<5: 200 OK
{ "proof_of_work_nonce_size": 8, "nonce_length": 32,
  "max_revelations_per_block": 32, "max_operation_data_length": 16384,
  "max_proposals_per_delegate": 20, "preserved_cycles": 3,
  "blocks_per_cycle": 2048, "blocks_per_commitment": 32,
  "blocks_per_roll_snapshot": 256, "blocks_per_voting_period": 2048,
  "time_between_blocks": [ "30", "40" ], "endorsers_per_block": 32,
  "hard_gas_limit_per_operation": "1040000",
  "hard_gas_limit_per_block": "10400000",
  "proof_of_work_threshold": "70368744177663",
  "tokens_per_roll": "8000000000", "michelson_maximum_type_size": 1000,
  "seed_nonce_revelation_tip": "125000", "origination_size": 257,
  "block_security_deposit": "512000000",
  "endorsement_security_deposit": "64000000",
  "baking_reward_per_endorsement": [ "1250000", "187500" ],
  "endorsement_reward": [ "1250000", "833333" ], "cost_per_byte": "1000",
  "hard_storage_limit_per_operation": "60000",
  "test_chain_duration": "43200", "quorum_min": 3000, "quorum_max": 7000,
  "min_proposal_quorum": 500, "initial_endorsers": 24,
  "delay_per_missing_endorsement": "2" }
>>>>6: http://localhost:8732/chains/main/blocks/head/hash
<<<<6: 200 OK
"BLsxKQNgGj2xFhQ93rXobXibPifnw5fLoRb7siRdBrRjPwfUGEv"
>>>>7: http://localhost:8732/chains/main/chain_id
<<<<7: 200 OK
"NetXjD3HPJJjmcD"
>>>>8: http://localhost:8732/chains/main/chain_id
<<<<8: 200 OK
"NetXjD3HPJJjmcD"
>>>>9: http://localhost:8732/chains/main/blocks/head/helpers/scripts/run_operation
{ "operation":
  { "branch": "BLsxKQNgGj2xFhQ93rXobXibPifnw5fLoRb7siRdBrRjPwfUGEv",
    "contents":
      [ { "kind": "transaction",
          "source": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z", "fee": "0",
          "counter": "709696", "gas_limit": "1040000",
          "storage_limit": "60000", "amount": "1000000",
          "destination": "KT1PsflU8XdLsZ2cZDPv7dTdM5ty6FSy77DK",
          "parameters":
            { "entrypoint": "default",
              "value": { "string": "hello world" } } },
        "signature":

"edsigtXomBK5CTrf5cjATJWSyaRvhfYNHqSUGrn4SdbYRcGwQrUGjzEfQDTuqHhuA8b2d8
NarZjz8TRf65WkpQmo423BtomS8Q" },
  "chain_id": "NetXjD3HPJJjmcD" }
<<<<9: 200 OK
{ "contents":
  [ { "kind": "transaction",
      "source": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z", "fee": "0",
      "counter": "709696", "gas_limit": "1040000",

```

```

"storage_limit": "60000", "amount": "1000000",
"destination": "KT1PsfLU8XdLsZ2cZDPv7dTdM5ty6FSy77DK",
"parameters":
{ "entrypoint": "default", "value": { "string": "hello world" } },
"metadata":
{ "balance_updates": [],
  "operation_result":
  { "status": "applied",
    "storage": { "string": "hello world" },
    "balance_updates":
    [ { "kind": "contract",
        "contract": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z",
        "change": "-6000" },
      { "kind": "contract",
        "contract": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z",
        "change": "-1000000" },
      { "kind": "contract",
        "contract": "KT1PsfLU8XdLsZ2cZDPv7dTdM5ty6FSy77DK",
        "change": "1000000" } ], "consumed_gas": "11525",
    "storage_size": "52", "paid_storage_size_diff": "6" } } } ] }

```

Fatal error:

The operation will burn  $\text{tz0.006}$  which is higher than the configured burn cap ( $\text{tz0}$ ).  
Use `--burn-cap 0.006` to emit this operation.

**doanha@proglang-thinkpad:~/tezos\$ ./tezos-client -l transfer 1 from ha to hello --arg "'hello world'" --burn-cap 0.006**

>>>>0: http://localhost:8732/network/version

<<<<0: 200 OK

```

{ "chain_name": "TEZOS_ALPHANET_CARTHAGE_2019-11-28T13:02:13Z",
  "distributed_db_version": 0, "p2p_version": 0 }

```

>>>>1: http://localhost:8732/chains/main/blocks/head/protocols

<<<<1: 200 OK

```

{ "protocol": "PsCARTHAGazKbHtnKfLzQg3kms52kSRpgnDY982a9oYsSXRLQEb",
  "next_protocol": "PsCARTHAGazKbHtnKfLzQg3kms52kSRpgnDY982a9oYsSXRLQEb" }

```

>>>>2:

http://localhost:8732/chains/main/blocks/head/context/contracts/tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z/counter

<<<<2: 200 OK

"709695"

>>>>3:

http://localhost:8732/chains/main/blocks/head/context/contracts/tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z/manager\_key

<<<<3: 200 OK

"edpkutbv6xm9dUJwU4VFwG4sxTV6UvSf4gvrdJHZMukghtFp496gDP"

>>>>4: http://localhost:8732/monitor/bootstrapped

<<<<4: 200 OK

```

{ "block": "BLsxKQNgGj2xFhQ93rXobXibPifnw5fLoRb7siRdBrRjPwfUGEv",
  "timestamp": "2020-06-28T20:50:44Z" }

```

Node is bootstrapped, ready for injecting operations.

>>>>5: http://localhost:8732/chains/main/blocks/head/context/constants

<<<<5: 200 OK

```

{ "proof_of_work_nonce_size": 8, "nonce_length": 32,

```

```

"max_revelations_per_block": 32, "max_operation_data_length": 16384,
"max_proposals_per_delegate": 20, "preserved_cycles": 3,
"blocks_per_cycle": 2048, "blocks_per_commitment": 32,
"blocks_per_roll_snapshot": 256, "blocks_per_voting_period": 2048,
"time_between_blocks": [ "30", "40" ], "endorsers_per_block": 32,
"hard_gas_limit_per_operation": "1040000",
"hard_gas_limit_per_block": "10400000",
"proof_of_work_threshold": "70368744177663",
"tokens_per_roll": "8000000000", "michelson_maximum_type_size": 1000,
"seed_nonce_revelation_tip": "125000", "origination_size": 257,
"block_security_deposit": "512000000",
"endorsement_security_deposit": "64000000",
"baking_reward_per_endorsement": [ "1250000", "187500" ],
"endorsement_reward": [ "1250000", "833333" ], "cost_per_byte": "1000",
"hard_storage_limit_per_operation": "60000",
"test_chain_duration": "43200", "quorum_min": 3000, "quorum_max": 7000,
"min_proposal_quorum": 500, "initial_endorsers": 24,
"delay_per_missing_endorsement": "2" }
>>>>6: http://localhost:8732/chains/main/blocks/head/hash
<<<<6: 200 OK
"BLsxKQNgGj2xFhQ93rXobXibPifnw5fLoRb7siRdBrRjPwfUGEv"
>>>>7: http://localhost:8732/chains/main/chain_id
<<<<7: 200 OK
"NetXjD3HPJJjmcD"
>>>>8: http://localhost:8732/chains/main/chain_id
<<<<8: 200 OK
"NetXjD3HPJJjmcD"
>>>>9: http://localhost:8732/chains/main/blocks/head/helpers/scripts/run_operation
{ "operation":
  { "branch": "BLsxKQNgGj2xFhQ93rXobXibPifnw5fLoRb7siRdBrRjPwfUGEv",
    "contents":
      [ { "kind": "transaction",
          "source": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z", "fee": "0",
          "counter": "709696", "gas_limit": "1040000",
          "storage_limit": "60000", "amount": "1000000",
          "destination": "KT1PsfLU8XdLsZ2cZDPv7dTdM5ty6FSy77DK",
          "parameters":
            { "entrypoint": "default",
              "value": { "string": "hello world" } } } ],
    "signature":

"edsigtXomBK5CTrf5cjATJWSyaRvhfYNHqSUGrn4SdbYRcGwQrUGjzEfQDTuqHhuA8b2d8
NarZjz8TRf65WkpQmo423BtomS8Q" },
  "chain_id": "NetXjD3HPJJjmcD" }
<<<<9: 200 OK
{ "contents":
  [ { "kind": "transaction",
      "source": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z", "fee": "0",
      "counter": "709696", "gas_limit": "1040000",
      "storage_limit": "60000", "amount": "1000000",
      "destination": "KT1PsfLU8XdLsZ2cZDPv7dTdM5ty6FSy77DK",
      "parameters":

```

```

    { "entrypoint": "default", "value": { "string": "hello world" } },
  "metadata":
    { "balance_updates": [],
      "operation_result":
        { "status": "applied",
          "storage": { "string": "hello world" },
          "balance_updates":
            [ { "kind": "contract",
                "contract": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z",
                "change": "-6000" },
              { "kind": "contract",
                "contract": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z",
                "change": "-1000000" },
              { "kind": "contract",
                "contract": "KT1PsfLU8XdLsZ2cZDPv7dTdM5ty6FSy77DK",
                "change": "1000000" } ], "consumed_gas": "11525",
          "storage_size": "52", "paid_storage_size_diff": "6" } } } ] }

```

Estimated gas: 11525 units (will add 100 for safety)

Estimated storage: 6 bytes added (will add 20 for safety)

>>>>10: http://localhost:8732/chains/main/blocks/head/hash

<<<<10: 200 OK

"BLsxKQNgGj2xFhQ93rXobXibPifnw5fLoRb7siRdBrRjPwfUGEv"

>>>>11: http://localhost:8732/chains/main/chain\_id

<<<<11: 200 OK

"NetXjD3HPJJjmcD"

>>>>12: http://localhost:8732/chains/main/blocks/head/helpers/preapply/operations

```

[ { "protocol": "PsCARTHAGazKbHtnKfLzQg3kms52kSRpgnDY982a9oYsSXRLQEb",
    "branch": "BLsxKQNgGj2xFhQ93rXobXibPifnw5fLoRb7siRdBrRjPwfUGEv",
    "contents":
      [ { "kind": "transaction",
          "source": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z", "fee": "1436",
          "counter": "709696", "gas_limit": "11625", "storage_limit": "26",
          "amount": "1000000",
          "destination": "KT1PsfLU8XdLsZ2cZDPv7dTdM5ty6FSy77DK",
          "parameters":
            { "entrypoint": "default",
              "value": { "string": "hello world" } } },
        "signature":

```

```

"edsigtatTdYYg1k9wRFcG4uv5hGs8HcBrFj1cJX7sqxND3RKP9uZuN9PCq2LBUxJ5nMoksfaZj2
ZaH31T6QwA5cr5R9oHRwg4HV" } ]

```

<<<<12: 200 OK

```

[ { "contents":
    [ { "kind": "transaction",
        "source": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z", "fee": "1436",
        "counter": "709696", "gas_limit": "11625", "storage_limit": "26",
        "amount": "1000000",
        "destination": "KT1PsfLU8XdLsZ2cZDPv7dTdM5ty6FSy77DK",
        "parameters":
          { "entrypoint": "default",
            "value": { "string": "hello world" } },
        "metadata":

```

```
{ "balance_updates":
  [ { "kind": "contract",
      "contract": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z",
      "change": "-1436" },
    { "kind": "freezer", "category": "fees",
      "delegate": "tz1Ke2h7sDdakHJQh8WX4Z372du1KChksyU",
      "cycle": 255, "change": "1436" } ],
  "operation_result":
  { "status": "applied",
    "storage": { "string": "hello world" },
    "balance_updates":
    [ { "kind": "contract",
        "contract": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z",
        "change": "-6000" },
      { "kind": "contract",
        "contract": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z",
        "change": "-1000000" },
      { "kind": "contract",
        "contract": "KT1PsfLU8XdLsZ2cZDPv7dTdM5ty6FSy77DK",
        "change": "1000000" } ], "consumed_gas": "11525",
    "storage_size": "52", "paid_storage_size_diff": "6" } } ],
  "signature":
```

"edsigmatTdYYg1k9wRFcG4uv5hGs8HcBrFj1cJX7sqxND3RKP9uZuN9PCq2LBUXJ5nMoksfaZj2ZaH31T6QwA5cr5R9oHRwg4HV" } ]

>>>>13: http://localhost:8732/injection/operation?chain=main

"99a8662c7d18035196258fb85601fd1e91d078e6d3285527766fc2ff8d45a0006c006f223345fc2ae166d72bb47f02670ddd34dcfb929c0bc0a82be95a1ac0843d01a7bbc2187e5441724903f9fca820944d3d0e1e9d00ff0000000010010000000b68656c6c6f20776f726c64178cc2c8de116d489e53d00df465e03ffd51da0883da0b130bcf3db17d09c198d7d1807f5006d8abb589fbdf13fa8fa1888ca1ac7fbae5eda0948f7a39bbe404"

<<<<13: 200 OK

"onvaUMpmhUZ2Maig1SkJby2MYcPT2cZ11yTdeHCME5vWYBG4vHP"

Operation successfully injected in the node.

Operation hash is 'onvaUMpmhUZ2Maig1SkJby2MYcPT2cZ11yTdeHCME5vWYBG4vHP'

Waiting for the operation to be included...

>>>>14: http://localhost:8732/monitor/heads/main

<<<<14: 200 OK

```
{ "hash": "BLsxKQNgGj2xFhQ93rXobXibPifnw5fLoRb7siRdBrRjPwfUGEv",
  "level": 522622, "proto": 2,
  "predecessor": "BLuMjwZgATpFUbEbkZa5C21ToftUUNLtSm2ZNhdEF1kRBJDYKFM",
  "timestamp": "2020-06-28T20:50:44Z", "validation_pass": 4,
  "operations_hash":
  "LLob77NKVLWMQBYWWdFeuqaRWKams1obxtRigRroXSQjv2SNFP8hf",
  "fitness": [ "01", "000000000007f97d" ],
  "context": "CoVrqYRBizpSCKK6nfgAg1dQzaMMeAKARJzpPJ5Na2YnjS4TNzV1",
  "protocol_data":
```

"0000ee87c704172906000091c73e1c8338d64ec36737f201e6cdd94b8dbf288b3b0f61eff2d174ee097db64266ccb7451404f07eb2ee21b8bd7e12dc26f837fa55d4383d33e8f46e735905" }



>>>>15:

http://localhost:8732/chains/main/blocks/BLsxKQNgGj2xFhQ93rXobXibPifnw5fLoRb7siRdBrRjPwfUGEv/header/shell

<<<<15: 200 OK

```
{ "level": 522622, "proto": 2,
  "predecessor": "BLuMjwZgATpFUbeBKza5C21ToftUUNLtSm2ZNhdEF1kRBJDYKFM",
  "timestamp": "2020-06-28T20:50:44Z", "validation_pass": 4,
  "operations_hash":
    "LLob77NKVLWMQBYWWdFeuqaRwKams1obxtRigRroXSQjv2SNFP8hf",
  "fitness": [ "01", "000000000007f97d" ],
  "context": "CoVrqYRBizpSCKK6nfgAg1dQzaMMeAKARJzpPJ5Na2YnjS4TNzV1" }
```

>>>>16:

http://localhost:8732/chains/main/blocks/BLsxKQNgGj2xFhQ93rXobXibPifnw5fLoRb7siRdBrRjPwfUGEv/header/shell

<<<<16: 200 OK

```
{ "level": 522622, "proto": 2,
  "predecessor": "BLuMjwZgATpFUbeBKza5C21ToftUUNLtSm2ZNhdEF1kRBJDYKFM",
  "timestamp": "2020-06-28T20:50:44Z", "validation_pass": 4,
  "operations_hash":
    "LLob77NKVLWMQBYWWdFeuqaRwKams1obxtRigRroXSQjv2SNFP8hf",
  "fitness": [ "01", "000000000007f97d" ],
  "context": "CoVrqYRBizpSCKK6nfgAg1dQzaMMeAKARJzpPJ5Na2YnjS4TNzV1" }
```

>>>>17:

http://localhost:8732/chains/main/blocks/BLsxKQNgGj2xFhQ93rXobXibPifnw5fLoRb7siRdBrRjPwfUGEv~1/hash

<<<<17: 200 OK

```
"BLuMjwZgATpFUbeBKza5C21ToftUUNLtSm2ZNhdEF1kRBJDYKFM"
```

>>>>18:

http://localhost:8732/chains/main/blocks/BLsxKQNgGj2xFhQ93rXobXibPifnw5fLoRb7siRdBrRjPwfUGEv/header/shell

<<<<18: 200 OK

```
{ "level": 522622, "proto": 2,
  "predecessor": "BLuMjwZgATpFUbeBKza5C21ToftUUNLtSm2ZNhdEF1kRBJDYKFM",
  "timestamp": "2020-06-28T20:50:44Z", "validation_pass": 4,
  "operations_hash":
    "LLob77NKVLWMQBYWWdFeuqaRwKams1obxtRigRroXSQjv2SNFP8hf",
  "fitness": [ "01", "000000000007f97d" ],
  "context": "CoVrqYRBizpSCKK6nfgAg1dQzaMMeAKARJzpPJ5Na2YnjS4TNzV1" }
```

>>>>19:

http://localhost:8732/chains/main/blocks/BLsxKQNgGj2xFhQ93rXobXibPifnw5fLoRb7siRdBrRjPwfUGEv/operation\_hashes

<<<<19: 200 OK

```
[ [ "opR3fk3LyBW7UhtvKzb78Qj6z6nT1Vy5fMbe44DckUsFSV9gfZ5",
    "opXtbyk2oZwmFuM8s8ec3c9PgvEuaPWwHXMizkW8oRyLpa5JhHp",
    "op4exMCnB2DvCgCmhfpB6mfPYeoEb8aRUabDKJTuaPvWYbSSg99",
    "ooVBxfHyRrBph7sX8yreoJA5pkqaVatTMfuHAonQski6LiLWYfS",
    "opDpbG5Ff3WhHr7nzPc91kZCBZLpCAxtZZinPb9caGCytRHR2f6",
    "op21FYuSftQdk5SKPEbvWJUKAkyeowuChAJwhRGawyygm1GNHLP",
    "op6zXkW699LsjN2GNFNXbaB8nLshPKQsHG9Vj6tMyFpeU61QAe4",
    "oogQzWR15ZYYwvX2kqk18JS2bVZhjTupD19wctV6QmXmUuPNb8f",
    "oo5WGxwhN62aiXrbYUNnnuynNe6QoY1CCU3JbeTEe4aCZZChj2V",
    "ooJQ3z1BV7g82oRFVkJTFmHHrCQJdm9yJPL8rYrpMnBtTZc2vKyG",
```

```
"opNXfNkdjYG7FrzqW8qTtCBTrZ4nXRcHfYC712zHxmAG2W7aPLr" ], [], [],
[ "onvPpSqH9wzJyGriCymo84QCEMdc8Qj8PWCk7wVH61FB2T1bHqw",
"oor7EyuvH7Ps1inmzvq28pPXibKib5Ms4y2rfn413SaK5fw5qtb",
"oocHPzdKCWUn7AMV34RjeAw2HLBw1hYjt6u55E92ZhabEdAwvnm",
"ooWtWMqDSRA4cqQv9DEAnkyEqWVnqQcPqm9yvSEj1AwS2Xf7Asw",
"ongBgj3UZj9S5BYKKZZeLUGaHVALNbbnPW4oofhqAafXrYo1i3i" ] ]
<<<<14: 200 OK
{ "hash": "BLMaedZcxHsvLL2TQ1yXs3cQveqFVbXypscsHSY2ZYmJMnCjKw",
"level": 522623, "proto": 2,
"predecessor": "BLsxKQNgGj2xFhQ93rXobXibPifnw5fLoRb7siRdBrRjPwfUGEv",
"timestamp": "2020-06-28T20:51:54Z", "validation_pass": 4,
"operations_hash":
"LLoZxuV9FRz2QJYBharJ9mynpwAfJbvkHQtQBdRJu1HEsmFcdYx6a",
"fitness": [ "01", "000000000007f97e" ],
"context": "CoWEPMDrgUVDjw6Qkgtx1Dotcfv74xgY5uPo2rY1VzWgnveBh6n",
"protocol_data":

"0001cde7fbbb95ff000000ffd484b055f910ac3b0e5aa982400817c66a989a47541e4384fb63fde19e2
c010b68e8e34c24cfcfa2f9da1248f440502f04e3ec20387405e8cf2245e0a520b" }
>>>>20:
http://localhost:8732/chains/main/blocks/BLMaedZcxHsvLL2TQ1yXs3cQveqFVbXypscsHSY2ZY
mJMnCjKw/operation_hashes
<<<<20: 200 OK
[ [ "ooEYwLYRxaR1g7QkV7z5uhZX8fyD4MNYshgcvTtcEtNgGWe682U",
"onnNZwSjonbzpj1NYDuB7AaQroZ4bUaLisN5aNN2xHG9bHJWDWa",
"ons2cnsRP2Gp5iaSsb4tQNP3mmmzkxCpQemWdWr4K6WjjMotSiR",
"onzLa8svF4gKYVyQcqTUTA2LNzJqv9NvU4r7oKdwUgSN2ovFrqm",
"oo8WTMjiutFD8fAkiavNMFpy8DT5fpKCZY54yvnsVdoWPL3P48E",
"ooS8bHbuMWhFi6T4uQD8os2FibWHjGKSZnt6PvgV5ebevcCohSr",
"oomD4iRFxqdiSn4hwQGvxQ2uhvZSgy7ftTXwDVdefsqYCbQ5dqV",
"oocZfjPSHFw6hUQ5jSPNi4RkfQzoKXWURTnUoCKLtydkhfUH3BZ",
"oos37FxJnxnHRow9qk4kbAZr73E9dJZ3bmLuC9f6dH8X3WVZuUF" ], [], [],
[ "oosvkDq2Wbx3gs783ZkjwTpvbBio9TmdeaSNXo4u3PWEak6PxJQ",
"ooWV7idJ39t4aBi2jWxnsi3JxbcnvTj9kDdvzYJMxXgyNNYR8hP",
"oo3Yr7kyBYNfdKhfzF9kak6CUJsJxf8nc6YyFTse2RzL2vBXM1",
"onvaUMpmhUZ2Maig1SkJby2MYcPT2cZ11yTdeHCME5vWYBG4vHP",
"opD7Nectyz9pUXCJj4kSjJLxCFmt68xQAyrgmesZyubhiG5XoAL",
"ooS6K8wtAMDaqPQ3BheCntS1u1ffvL2s8oeteYGGuXZ2BYrdMD" ] ]
Operation found in block: BLMaedZcxHsvLL2TQ1yXs3cQveqFVbXypscsHSY2ZYmJMnCjKw
(pass: 3, offset: 3)
>>>>21:
http://localhost:8732/chains/main/blocks/BLMaedZcxHsvLL2TQ1yXs3cQveqFVbXypscsHSY2ZY
mJMnCjKw/operations/3/3
<<<<21: 200 OK
{ "protocol": "PsCARTHAGazKbHtnKfLzQg3kms52kSRpgnDY982a9oYsSXRLQEb",
"chain_id": "NetXjd3HPJJjmc",
"hash": "onvaUMpmhUZ2Maig1SkJby2MYcPT2cZ11yTdeHCME5vWYBG4vHP",
"branch": "BLsxKQNgGj2xFhQ93rXobXibPifnw5fLoRb7siRdBrRjPwfUGEv",
"contents":
[ { "kind": "transaction",
"source": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z", "fee": "1436",
"counter": "709696", "gas_limit": "11625", "storage_limit": "26",
```

```

"amount": "1000000",
"destination": "KT1PsfLU8XdLsZ2cZDPv7dTdM5ty6FSy77DK",
"parameters":
{ "entrypoint": "default", "value": { "string": "hello world" } },
"metadata":
{ "balance_updates":
  [ { "kind": "contract",
      "contract": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z",
      "change": "-1436" },
    { "kind": "freezer", "category": "fees",
      "delegate": "tz1SVwdLNf3ANMQE1AXrxS1pBG8tcn2joVZg",
      "cycle": 255, "change": "1436" } ],
    "operation_result":
    { "status": "applied",
      "storage": { "string": "hello world" },
      "balance_updates":
      [ { "kind": "contract",
          "contract": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z",
          "change": "-6000" },
        { "kind": "contract",
          "contract": "tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z",
          "change": "-1000000" },
        { "kind": "contract",
          "contract": "KT1PsfLU8XdLsZ2cZDPv7dTdM5ty6FSy77DK",
          "change": "1000000" } ], "consumed_gas": "11525",
      "storage_size": "52", "paid_storage_size_diff": "6" } } ],
"signature":

```

"sigR4zWVKmjoxuN4cxvt4tjyacWn6vH691vqN97cNE35JRr5dJsFU7jy6GSMgHgtDQS86woWnDSR3gMctxRUW7E6jBXem5cH" }

This sequence of operations was run:

Manager signed operations:

From: tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z

Fee to the baker: ₮0.001436

Expected counter: 709696

Gas limit: 11625

Storage limit: 26 bytes

Balance updates:

tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z ..... -₮0.001436

fees(tz1SVwdLNf3ANMQE1AXrxS1pBG8tcn2joVZg,255) ... +₮0.001436

Transaction:

Amount: ₮1

From: tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z

To: KT1PsfLU8XdLsZ2cZDPv7dTdM5ty6FSy77DK

Parameter: "hello world"

This transaction was successfully applied

Updated storage: "hello world"

Storage size: 52 bytes

Paid storage size diff: 6 bytes

Consumed gas: 11525

Balance updates:

tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z ... -₮0.006

tz1VmefgyE1YPcAa8VurxihsUJXzLUX6HY8Z ... -tz1  
KT1PsfLU8XdLsZ2cZDPv7dTdM5ty6FSy77DK ... +tz1

The operation has only been included 0 blocks ago.

We recommend to wait more.

Use command

tezos-client wait for onvaUMpmhUZ2Maig1SkJby2MYcPT2cZ11yTdeHCME5vWYBG4vHP to  
be included --confirmations 30 --branch  
BLsxKQNgGj2xFhQ93rXobXibPifnw5fLoRb7siRdBrRjPwfUGEv  
and/or an external block explorer.

doanha@proglang-thinkpad:~/tezos\$