

java钱包文档

一.获得jar包二种方式

1.下载最新版本的jar包

网址: <https://github.com/elastos/Elastos.ELA.Utilities.Java/releases>

下载: Elastos.ELA.Utilities.Java_v0.1.*.jar

2.下载源代码, 编译jar包

网址: <https://github.com/elastos/Elastos.ELA.Utilities.Java>

- 编译jar包

```
File -> Project Structure -> Artifacts -> + -> JAR -> From modules with  
1、-> Main Class  
2、-> extract to the target JAR  
3、-> META-INF PATH (C:\DNA\src\ela_tool\src\main\resources)  
4、ok -> Include in project build -> Apply ->ok
```

- 删除签名jar包依赖, 必须使用

```
命令: zip -d Elastos.ELA.Utilities.Java 'META-INF/*.SF' 'META-INF/*.RSA' 'META-INF/*.SF'
```

二.启动jar包

建议java版本: 1.8

启动命令: java -cp Elastos.ELA.Utilities.v0.1.*.Java org.elastos.elaweb.HttpServer

web服务默认端口: 8989, 可修改

三.创建交易 (自动获取utxo)

自动获取utxo,也称非离线签名

特点:

- 构造交易方便, 不用计算utxo
- 不用计算找零地址金额, 拿到从小到大排序的utxo, 根据输出(outputs)金额, 自动计算找零金额

需要准备程序, 并且后三个程序必须在同级目录下:

- ela —— ela节点
- jar包 —— java离线签名程序
- java-config.json —— 用来连接ela节点
- keystore.dat —— 账户钱包

参数说明:

- java程序金额为最小单位1塞拉(1 ela = 100000000 sela(1亿塞拉)), 只能是正整数
- java-config.json 文件需要放在java程序同级目录, 目的是连接节点获取utxo
- Host: 节点程序所在的服务器ip和rpc端口
- Fee: 双方规定的交易费, 一笔交易的单个输出或多个输出交易费是一样的
- Confirmation: 区块确认交易的次数, 即区块数; 建议16个确认数
- Account: password是该address对应账户密码
- Outputs: 充值地址及金额
- ChangeAddress: 转账后找零的地址, 找零金额java程序自动处理
- 输入金额小于输出金额, 提示金额不足
- 接口名: **genRawTransactionByAccount**

java-config.json

```
{
  "Host": "127.0.0.1:11336",
  "Fee": 5000,
  "Confirmation": 16
}
```

Request

```
{
  "method": "genRawTransactionByAccount",
  "id": 0,
  "params": [
    {
      "Transactions": [
        {
          "Account": [
            {
              "password": "12345",
              "address": "ENKj2J5dGjSRgHHxBZ3yLjB6RyXvHikW5K"
            }
          ],
          "Outputs": [
            {
              "address": "EQSpUzE4XYJhBSx5j7Tf2cteaKdFdixfVB",
              "amount": 3
            }
          ],
          "ChangeAddress": "Edi5WMMFBsEL2qgggrFhnJe1HTjDnw447H"
        }
      ]
    }
  ]
}
```

Response

```
{
  "Action": "genRawTransaction",
  "Desc": "SUCCESS",
  "Result": {
    "rawTx": "0200010013323235E5F9463B37EDE39688*****8E7456FDE2554E77E1D9A1AB3360562F1D6FF4BAC",
    "txHash": "A32203B48C740552AF0CDB1E77ECCEBE147C5CDA51B2BD80BA9C59662CDCD322"
  }
}
```

五.账户接口

生成的keystore.dat文件在java离线签名程序同级目录下

- **genRawTransactionByAccount** 指定账户创建交易

Request

```
{
  "method": "genRawTransactionByAccount",
  "id": 0,
  "params": [
    {
      "Transactions": [
        {
          "Account": [
            {
              "password": "12345",
              "address": "ENKj2J5dGjSRgHHxBZ3yLjB6RyXvHikW5K"
            }
          ],
          "Outputs": [
            {
              "address": "EQSpUzE4XYJhBSx5j7Tf2cteaKdFdixfVB",
              "amount": 3
            }
          ],
          "ChangeAddress": "Edi5WMMFBsEL2qgggrFhnJe1HTjDnw447H"
        }
      ]
    }
  ]
}
```

Response

```
{
  "Action": "genRawTransactionByAccount",
  "Desc": "SUCCESS",
  "Result": {
    "rawTx":
    "0200010013363731323032A214F6036D8221E7F1C010000000000B67901062723993D9FBADC32C33807EE7B9FCB370D777C5A955A3056DF3B9CB4012B20EB60E4191B374DFC69503E1ED6888E7456FDE2554E77E1D9A1AB3360562F1D6FF4BAC",
    "txHash": "98FCA1FABB606AEDF84921E24CDF7A0931FF11DAFDCC1B8584206881A5229060"
  }
}
```

- **createAccount** 创建账户

Request

```
{
  "method": "createAccount",
  "id": 0,
  "params": [
    {
      "Account": [
        {
          "password": "12345"
        }
      ]
    }
  ]
}
```

Response

```

{
  "Action": "createAccount",
  "Desc": "SUCCESS",
  "Result": [
    {
      "address": "EbrydLF4BuJ7mPJYpxk7qzwx1CirFCdCpg",
      "encryptedPrivateKey": "8xHdZwJFeYLS0zRRf4uvxZThhGUA0jwwkae/WFfIXbf1aBy3Hm+iTbuVtkusFYiA",
      "salt": "ZUPbh6H6LcNv6PZ64e1HPw==",
      "script": {
        "dkLen": 64,
        "n": 16384,
        "p": 8,
        "r": 8
      },
      "version": "1.0"
    }
  ]
}

```

• importAccount 导入账户

Request

```

{
  "method": "importAccount",
  "id": 0,
  "params": [
    {
      "Account": [
        {
          "password": "12345",
          "privateKey": "5FA927E5664E563F019F50DCD4D7E2D9404F2D5D49E31F9482912E23D6D7B9EB"
        }
      ]
    }
  ]
}

```

Response

```

{
  "Action": "importAccount",
  "Desc": "SUCCESS",
  "Result": [
    {
      "address": "EKNh1wS42ur6Pfai6DthfH61vDUmg8M93v",
      "encryptedPrivateKey": "sbMP2vWA/5rDMUT0aB22rLkS+QA7zHVXS3xEhJjhzeX0YPR4+HkPaQ8QSAg5LRJw",
      "salt": "sE7vPJSD2pnd1qDjIsHXnw==",
      "script": {
        "dkLen": 64,
        "n": 16384,
        "p": 8,
        "r": 8
      },
      "version": "1.0"
    },
    {
      "address": "EQSpUzE4XYJhBSx5j7Tf2cteaKdFdxifVB",
      "encryptedPrivateKey": "+PVia2LLfWwmsfRIWGE1BwGGgg1YtnG5jBHepI6x26TtEB12y2jf0m6FCp7Tc9BN",
      "salt": "Zu0sQcTq14ce7mCcP9emKA==",
      "script": {
        "dkLen": 64,
        "n": 16384,
        "p": 8,
        "r": 8
      },
      "version": "1.0"
    }
  ]
}

```

- removeAccount 移出账户

Request

```
{
  "method": "removeAccount",
  "id": 0,
  "params": [
    {
      "Account": [
        {
          "password": "12345",
          "address": "EQSpUzE4XYJhBSx5j7Tf2cteaKdFdifVB"
        }
      ]
    }
  ]
}
```

Response

```
{
  "Action": "removeAccount",
  "Desc": "SUCCESS",
  "Result": [
    {
      "address": "EKNh1wS42ur6Pfa16DthfH61vDUmg8M93v",
      "encryptedPrivateKey": "sbMP2vWA/5rDMUT0aB22rLkS+QA7zHVXS3xEhJjhzeX0YPR4+HkPaQ8QSAg5LRJw",
      "salt": "sE7vPJSD2pnd1qDjIsHXnw==",
      "script": {
        "dkLen": 64,
        "n": 16384,
        "p": 8,
        "r": 8
      },
      "version": "1.0"
    }
  ]
}
```

- exportPrivateKey 导出私钥

Request

```
{
  "method": "exportPrivateKey",
  "id": 0,
  "params": [
    {
      "Account": [
        {
          "password": "12345",
          "address": "EQSpUzE4XYJhBSx5j7Tf2cteaKdFdifVB"
        },
        {
          "password": "12345",
          "address": "EKNh1wS42ur6Pfa16DthfH61vDUmg8M93v"
        }
      ]
    }
  ]
}
```

Response

```
{
  "Action": "exportPrivateKey",
  "Desc": "SUCCESS",
  "Result": [
    "5fa927e5664e563f019f50dcd4d7e2d9404f2d5d49e31f9482912e23d6d7b9eb",
    "06d243f6835ced1253c6cd939de12d4f482922b86c165d532384368ea2bbe72b"
  ]
}
```

- **getAccounts** 获取所有账户

Request

```
{
  "method": "getAccounts",
  "id": 0,
  "params": [
  ]
}
```

Response

```
{
  "Action": "getAccounts",
  "Desc": "SUCCESS",
  "Result": [
    {
      "address": "EKNh1wS42ur6Pfai6DthfH61vDUmg8M93v",
      "encryptedPrivateKey": "sbMP2vWA/5rDMUT0aB22rLkS+QA7zHVXS3xEhJjhzhEX0YPR4+HkPaQ8QSAg5LRJw",
      "salt": "sE7vPJSD2pnd1qDjIsHXnw==",
      "script": {
        "dkLen": 64,
        "n": 16384,
        "p": 8,
        "r": 8
      },
      "version": "1.0"
    },
    {
      "address": "EQSpUzE4XYJhBSx5j7Tf2cteaKdFdixfVB",
      "encryptedPrivateKey": "+PVia2LLfWmwsfRIWGE1BwGGgg1YtnG5jBHepI6x26TtEB12y2jf0m6FCp7Tc9BN",
      "salt": "Zu0sQcTq14ce7mCcP9emkA==",
      "script": {
        "dkLen": 64,
        "n": 16384,
        "p": 8,
        "r": 8
      },
      "version": "1.0"
    }
  ]
}
```

- **getAccountAddresses** 获取所有账户地址

Request

```
{
  "method": "getAccountAddresses",
  "id": 0,
  "params": [
  ]
}
```

Response

```
{  
  "Action": "getAccountAddresses",  
  "Desc": "SUCCESS",  
  "Result": "[EKNh1wS42ur6Pfa16DthfH61vDUmg8M93v, EQSpUzE4XYJhBSx5j7Tf2cteaKdFdxVB]"  
}
```