

# Initializing Core Kit SFA Android SDK

Once you have installed the Web3Auth SDK, the next crucial step is to initialize it. This step requires passing various parameters that align with your project preferences. It's important to note that the initialization process is critical to the successful use of Web3Auth.

## Create Web3Auth Instance

In your activity, create a `SingleFactorAuth` instance with `SingleFactorAuthArgs`.

## SingleFactorAuth

`SingleFactorAuth ( SingleFactorAuthArgs )`

### Arguments

#### SingleFactorAuthArgs

The `SingleFactorAuth` Constructor takes `SingleFactorAuthArgs` as input.

- Table
- Function Definition

Parameter Type Mandatory Description network enum org.torusresearch.fetchnodedetails.types.TorusNetwork Yes Network to run `SingleFactorAuth`, either MAINNET, TESTNET, AQUA, or CYAN public

```
enum TorusNetwork { MAINNET ( "mainnet" ) , TESTNET ( "testnet" ) , CYAN ( "cyan" ) , AQUA ( "aqua" ) ,
```

```
private
```

```
final String val ;
```

```
TorusNetwork ( String s )
```

```
{ this . val = s ; }
```

```
public String toString ( )
```

```
{ return
```

```
val ; }
```

```
public
```

```
SingleFactorAuthArgs ( TorusNetwork network )
```

```
{ this . network = network ; }
```

### Instance

## SingleFactorAuthArgs

`SingleFactorAuthArgs ( TorusNetwork . TESTNET ) singleFactorAuth =`

`SingleFactorAuth ( singleFactorAuthArgs )`

### Example

```
class MainActivity :
```

```
AppCompatActivity ( )
```

```
{ // ... private
```

```

lateinit
var singleFactorAuth : SingleFactorAuth private

lateinit
var singleFactorAuthArgs : SingleFactorAuthArgs private

lateinit
var loginParams : LoginParams private

var torusKey : TorusKey ?

=

null

override

fun

onCreate ( savedInstanceState : Bundle ? )

{ super . onCreate ( savedInstanceState ) setContentView ( R . layout . activity_main )

```

## singleFactorAuthArgs

```

SingleFactorAuthArgs ( TorusNetwork . TESTNET ) singleFactorAuth =
SingleFactorAuth ( singleFactorAuthArgs )

// Setup UI and event handlers val signInButton = findViewById < Button
    ( R . id . signIn ) signInButton . setOnClickListener

{
    signIn ( )
}

private

fun

signIn ( )

{ loginParams =
LoginParams ( "web3auth-firebase-examples" ,
"sub" ,
"id_token" ) try

{ torusKey = singleFactorAuth . getKey ( loginParams ) . get ( ) }

catch

( e : ExecutionException )

{ e . printStackTrace ( ) }

catch

( e : InterruptedException )

{ e . printStackTrace ( ) } println ( ""Private Key: { torusKey !! . privateKey . toString ( 16 ) } "" . trimIndent ( ) ) println (
""Public Address: { torusKey !! . publicAddress } "" . trimIndent ( ) ) //... } Edit this page Previous Install Next
Authentication

```