

Modifying Predeployed Contracts

⚠ OP Stack Hacks are explicitly things that you can do with the OP Stack that are not currently intended for production use.

OP Stack Hacks are not for the faint of heart. You will not be able to receive significant developer support for OP Stack Hacks — be prepared to get your hands dirty and to work without support. OP Stack blockchains have a number of [predeployed contracts \(opens in a new tab\)](#) that provide important functionality. Most of those contracts are proxies that can be upgraded using the `proxyAdminOwner` which was configured when the network was initially deployed.

Before You Begin

In this tutorial, you learn how to modify predeployed contracts for an OP Stack chain by upgrading the proxy. The predeploys are controlled from a predeploy called [ProxyAdmin \(opens in a new tab\)](#), whose address is `0x420018`. The function to call is [upgrade\(address,address\) \(opens in a new tab\)](#). The first parameter is the proxy to upgrade, and the second is the address of a new implementation.

Modify the LegacyL1BlockNumber

contract

For example, the `legacyL1BlockNumber` contract is at `0x420...013`. To disable this function, we'll set the implementation to `0x00...00`. We do this using the [Foundry \(opens in a new tab\)](#) `commandcast`.

We'll need several constants.

- Set these addresses as variables in your terminal.
- `L1BLOCKNUM`
- `=`
- `0x420013`
- `PROXY_ADMIN`
- `=`
- `0x420018`
- `ZERO_ADDR`
- `=`
- `0x00`
- `SetPRIVKEY`
- to the private key of your ADMIN address.
- `SetETH_RPC_URL`
- . If you're on the computer that runs the blockchain, use this command.
- `export`
- `ETH_RPC_URL`
- `=`
- `http://localhost:8545`

VerifyL1BlockNumber

works correctly.

See that when you call the contract you get a block number, and twelve seconds later you get the next one (block time on L1 is twelve seconds).

cast

call L1BLOCKNUM 'number()'

|

cast

--to-dec sleep

12

&&

cast

call L1BLOCKNUM 'number()'

--to-dec

Get the current implementation for the contract.

L1BLOCKNUM_IMPLEMENTATION

```
` cast
```

```
call L1BLOCKNUM "implementation()" |
```

[illegible]

Change the implementation to the zero address

cast

send

```
--private-key PRIVKEY PROXY_ADMIN "upgrade(address,address)" L1BLOCKNUM ZERO_ADDR
```

See that the implementation is address zero, and that calling it fails.

cast

call L1BLOCKNUM 'implementation()' cast

call L1BLOCKNUM 'number()'

Fix the predeploy by returning it to the previous implementation, and verify it works.

cast

send

```
--private-key PRIVKEY PROXY_ADMIN "upgrade(address,address)" L1BLOCKNUM L1BLOCKNUM_IMPLEMENTATION
cast
```

call L1BLOCKNUM 'number()'

1

cast

--to-dec

Adding a Precompile Configuration