

Perpetual Protocol Smart contract deployment

1. 13 smart contracts in total. All are upgradable contracts except **ChainlinkPriceFeedV2**
2. Contracts that can be deployed without any dependency injection

- ClearingHouseConfig()
- ChainlinkPriceFeedV2(`AggregatorV3Interface`
`aggregator, uint80 cacheTwapInterval`)

- `aggregator`: Price Feed Contract Addresses

Refer link below

<https://docs.chain.link/docs/data-feeds/price-feeds/addresses/>

I have used Goerli Testnet BTC / ETH.

<https://goerli.etherscan.io/address/0x779877A7B0D9E8603169DdbD7836e478b4624789>

We have to deploy several ChainlinkPriceFeedV2 contracts to get multiple Price Feed pairs.

Refer link below

<https://metadata.perp.exchange/v2/optimism.json>

- `cacheTwapInterval`: const value for cache Twap Interval

- QuoteToken(`string memory nameArg, string memory symbolArg`)
 - ERC20 token arguments
- DelegateApproval()
- InsurfaceFund(`address tokenArg`)

- `tokenArg`: Address of stable in chain network

I have set it USDC on Ethereum Goerli

Refer url below

<https://developers.circle.com/docs/usdc-on-testnet>

3. Deployment order based on dependency injection

- BaseToken(`string memory nameArg, string memory symbolArg, address priceFeedArg`)

- i. **priceFeedArg**: Address of corresponding ChainlinkPriceFeedV2 contract address
- **MarketRegistry**(`address` uniswapV3FactoryArg, `address` quoteTokenArg)
 - i. **uniswapV3FactoryArg**: Address of UniswapV3Factory

Refer link below

<https://docs.uniswap.org/protocol/reference/deployments>

- **OrderBook**(`address` marketRegistryArg)
- **AccountBalance**(`address` clearingHouseConfigArg, `address` orderBookArg)
- **Exchange**(`address` marketRegistryArg, `address` orderBookArg, `address` clearingHouseConfigArg)
- **Vault**(`address` insuranceFundArg, `address` clearingHouseConfigArg, `address` accountBalanceArg, `address` exchangeArg)
- **CollateralManager**(`address` clearingHouseConfigArg, `address` vaultArg, `uint8` maxCollateralTokensPerAccountArg, `uint24` debtNonSettlementTokenValueRatioArg, `uint24` liquidationRatioArg, `uint24` mmRatioBufferArg, `uint24` clInsuranceFundFeeRatioArg, `uint256` debtThresholdArg, `uint256` collateralValueDustArg)
- **ClearingHouse**(`address` clearingHouseConfigArg, `address` vaultArg, `address` quoteTokenArg, `address` uniV3FactoryArg, `address` exchangeArg, `address` accountBalanceArg, `address` insuranceFundArg)