

# Core Contract Deployment

## 1. Update Script and Getting Started File

```
temp@DESKTOP-47VGQDK:~/home/optimism/packages/contracts-bedrock$ ./scripts/getting-started.sh
deploy-config      justfile          scripts           src
deploy-config-periphery lib               semver-lock.json STYLE_GUIDE.md
deployments        LICENSE           slither.config.json test
```

## 2. Modify Generated Config

getting-started.json

home > optimism > packages > contracts-bedrock > deploy-config > {} getting-started.json > ...

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```
"l2GenesisCanyonTimeOffset": "0x0",
"systemConfigStartBlock": 0,

"requiredProtocolVersion": "0x0000000000000000000000000000000000000000000000000000000000000000",
"recommendedProtocolVersion": "0x0000000000000000000000000000000000000000000000000000000000000000",

"faultGameAbsolutePrestate": "0x03c7ae758795765c6664a5d39bf63841c71ff191e91895221",
"faultGameMaxDepth": 44,
"faultGameClockExtension": 0,
"faultGameMaxClockDuration": 1200,
"faultGameGenesisBlock": 0,
"faultGameGenesisOutputRoot": "0x0000000000000000000000000000000000000000000000000000000000000000",
"faultGameSplitDepth": 14,
"faultGameWithdrawalDelay": 600,

"preimageOracleMinProposalSize": 180000,
"preimageOracleChallengePeriod": 300,
"daCommitmentType": "GenericCommitment",
"daChallengeWindow": 160,
"daResolveWindow": 160,
"daBondSize": 1000000,
"daResolverRefundPercentage": 0
}
```

EXPLORER

OPEN EDITORS

getting-started.j...

TEMPPP [WSL: DEBIAN]

home

optimism

op-conductor

op-dispute-mon

op-e2e

op-node

op-preimage

op-program

op-proposer

op-service

op-supervisor

op-ufm

op-wheel

ops

ops-bedrock

packages / contract...

deploy-config

devnetL1-templ...

getting-started.j...

hardhat.json

internal-devnet...

mainnet.json

sepolia-devnet...

sepolia.json

deploy-config-pe...

deployments

OUTLINE

TIMELINE

### 3. Deploy Contracts - Part 1

```
temp@DESKTOP-47VGQDK:~/home/optimism/packages/contracts-bedrock$ DEPLOYMENT_OUTFILE=deployments/artifacts/artifacts.json \
> DEPLOY_CONFIG_PATH=deploy-config/getting-started.json \
> forge script scripts/deploy/Deploy.s.sol:Deploy --broadcast --private-key $GS_ADMIN_PRIVATE_KEY \
> --rpc-url $L1_RPC_URL --slow
[.] Compiling...
[+] Compiling 61 files with Solc 0.8.25
[+] Compiling 242 files with Solc 0.8.15
[.] Compiling 20 files with Solc 0.8.19
[+] Installing Solc version 0.8.15
[+] Installing Solc version 0.8.25
[+] Installing Solc version 0.8.19
[~] Successfully installed Solc 0.8.19
[+] Successfully installed Solc 0.8.15
[~] Solc 0.8.19 finished in 2.45s
[+] Successfully installed Solc 0.8.25
[+] Solc 0.8.25 finished in 3.77s^B
[+] Solc 0.8.15 finished in 31.43s
Compiler run successful!
█
```

## 4. Deploy Contracts - Part 2

```
Saving AnchorStateRegistry: 0xfa9f3796Ee1607c368982a501Ca43ED6Bfb4B3B
AnchorStateRegistry deployed at 0xfa9f3796Ee1607c368982a501Ca43ED6Bfb4B3B
Initializing implementations
Upgrading and initializing OptimismPortal proxy
OptimismPortal version: 2.8.1-beta.1
Running chain assertions on the OptimismPortal
Guardian has no code: 0x6A06226C406f7298E1F7CF3F1aa72f3Bc5eF4247
Upgrading and initializing SystemConfig proxy
SystemConfig version: 2.3.0-beta.2
Running chain assertions on the SystemConfig
Upgrading and initializing L1StandardBridge proxy
L1StandardBridge version: 2.2.0
Running chain assertions on the L1StandardBridge
Upgrading and initializing L1ERC721Bridge proxy
L1ERC721Bridge version: 2.1.1+beta.1
Running chain assertions on the L1ERC721Bridge
Upgrading and initializing OptimismMintableERC20Factory proxy
OptimismMintableERC20Factory version: 1.10.0
Running chain assertions on the OptimismMintableERC20Factory
Upgrading and initializing L1CrossDomainMessenger proxy
L1CrossDomainMessenger version: 2.4.0
Running chain assertions on the L1CrossDomainMessenger
Upgrading and initializing L2OutputOracle proxy
L2OutputOracle version: 1.8.0
Running chain assertions on the L2OutputOracle
Upgrading and initializing DisputeGameFactory proxy
DisputeGameFactory version: 1.0.0
Running chain assertions on the DisputeGameFactory
Upgrading and initializing DelayedWETH proxy
DelayedWETH version: 1.1.0-rc.1
Running chain assertions on the DelayedWETH
Upgrading and initializing permissioned DelayedWETH proxy
DelayedWETH version: 1.1.0-rc.1
Running chain assertions on the permissioned DelayedWETH
Upgrading and initializing AnchorStateRegistry proxy
AnchorStateRegistry version: 2.0.0-rc.1
Setting Cannon FaultDisputeGame implementation
[Cannon Dispute Game] Using absolute prestate from config: 0x3c7ae758795765c6664a5d39bf63841c71ff191e9189522bad8ebff
5d4eca98
DisputeGameFactoryProxy: set 'FaultDisputeGame' implementation (Backend: Cannon | GameType: 0)
Setting Cannon PermissionedDisputeGame implementation
[Cannon Dispute Game] Using absolute prestate from config: 0x3c7ae758795765c6664a5d39bf63841c71ff191e9189522bad8ebff
5d4eca98
DisputeGameFactoryProxy: set 'FaultDisputeGame' implementation (Backend: PermissionedCannon | GameType: 1)
Transferring DisputeGameFactory ownership to Safe
DisputeGameFactory ownership transferred to Safe at: 0x603DabDe6841AD8030052B0ea91C756E5E6dBdD3
Running chain assertions on the DisputeGameFactory
Transferring DelayedWETH ownership to Safe
DelayedWETH ownership transferred to Safe at: 0x603DabDe6841AD8030052B0ea91C756E5E6dBdD3
Running chain assertions on the DelayedWETH
set up op chain!

## Setting up 1 EVM.
Warning: Script contains a transaction to 0x9568d36E291c2C4c34fa5593fcE73715abEf6F9c which does not contain any code.
Do you wish to continue? [y/n]
```

## 5. Deploy Contracts - Part 3

```
##### sepolia
✅ [Success]Hash: 0xce2df5cbe7b6e10ae38b61057e75ff60b375f9834b25125e17235dbefbacb46f
Contract Address: 0x3626B91c72e649e2BF6AA98567367CCaFAf98EB5
Block: 6961814
Paid: 0.006709501206690755 ETH (5337145 gas * 1.257133019 gwei)

##### sepolia
✅ [Success]Hash: 0xcf1c7b2a065b3968da9efc00790bf65587e111e802f9c7f89f27aed635e9d1a9
Block: 6961815
Paid: 0.000071344259537736 ETH (52828 gas * 1.350500862 gwei)

##### sepolia
✅ [Success]Hash: 0x490b12ca40c503110c885584432e9b2b1698e527a5e2763903f1ac97d2e0bfe0
Block: 6961819
Paid: 0.00004397827463442 ETH (33570 gas * 1.310046906 gwei)

##### sepolia
✅ [Success]Hash: 0x45ea793648bcd671490c4cd0506f887ac649653ff4db4dd8603030fd568f156
Block: 6961821
Paid: 0.000040368965672416 ETH (33548 gas * 1.203319592 gwei)

✅ Sequence #1 on sepolia | Total Paid: 0.065138732903202409 ETH (54864019 gas * avg 1.231700485 gwei)

=====

ONCHAIN EXECUTION COMPLETE & SUCCESSFUL.

Transactions saved to: /root/avail-project/optimism/packages/contracts-bedrock/broadcast/Deploy.s.sol/
11155111/run-latest.json

Sensitive values saved to: /root/avail-project/optimism/packages/contracts-bedrock/cache/Deploy.s.sol/
11155111/run-latest.json

root@DESKTOP-47VGQDK:~/avail-project/optimism/packages/contracts-bedrock#
```

## 6. L2 Allocations - Part 1

```
root@DESKTOP-47VGQDK:~/avail-project/optimism/packages/contracts-bedrock# CONTRACT_ADDRESSES_PATH=deployments/artifact
.json DEPLOY_CONFIG_PATH=deploy-config/getting-started.json STATE_DUMP_PATH=deploy-config/statedump.json forge script
scripts/L2Genesis.s.sol:L2Genesis --sig 'runWithStateDump()' --chain 42069
[!] Compiling...
No files changed, compilation skipped
Script ran successfully.
Gas used: 27813055

== Logs ==
Writing artifact to /root/avail-project/optimism/packages/contracts-bedrock/deployments/42069-deploy.json
Connected to network with chainid 42069
Loading addresses from deployments/artifact.json
Saving AddressManager: 0xA87De2C5E291f2255E0b155C4B21BAC519f50008
Saving AnchorStateRegistry: 0xf9f3796EEe1607c368982a501Ca43ED68fb4B3B
Saving AnchorStateRegistryProxy: 0xBd20Df9fc3114135d4Fe17EC4DfEad1AE08a15db
Saving DelayedWETH: 0x5d6d2541747cf68D12df715B37f5B0E9920f14Ed
Saving DelayedWETHProxy: 0x99F40ddb4Fc0415715168Ae78672308AB2b87C95
Saving DisputeGameFactory: 0x78e3dC26C757d1840e89Baa6019C9244756af6F0
Saving DisputeGameFactoryProxy: 0x6F9F876dFF89e57B2ab75bf67ec404535879f579
Saving L1CrossDomainMessenger: 0x167400043E1980d4CA959361B3173763253d8217
Saving L1CrossDomainMessengerProxy: 0x2a0c14E19Cae937fa9A70608A75fd4C434006b68
Saving L1ERC721Bridge: 0x586C01794c98E2c62A29e7E1E0eB0A4284C355c4
Saving L1ERC721BridgeProxy: 0xeE75c776ED24AB79cED5dEdD7535E601bAbe33A
Saving L1StandardBridge: 0xf150693422159e47F23B184067Cb6e9525605987
Saving L1StandardBridgeProxy: 0x5a00612F7285069476b4Df10747D7d4C0853FE3A
Saving L2OutputOracle: 0x893aC06bEAC5cf725E8D0b5A252DB1e24D9104e
Saving L2OutputOracleProxy: 0x080c05fa085A7faB3fE12D0E928AF6aC7984c842
Saving Mips: 0xcc7C40ddA549180354DF8A3Ae3D73D2044F21199
Saving OptimismMintableERC20Factory: 0x93eC5029a9F7D6ce2Bc5F4AE5DF2E9F9bD4FEd1b
Saving OptimismMintableERC20FactoryProxy: 0xa429878b16161c317d5d334676c40A6715Ba2a05
Saving OptimismPortal: 0x3e4f17cc6376a06b3Cf58df191d45D93410450C7
Saving OptimismPortal2: 0x9274c0e4AD7582E1fAb09983afDDee34675dFf49
Saving OptimismPortalProxy: 0xc868a244F4077720976189032CA7eA7914a7eBc9
Saving PermissionedDelayedWETHProxy: 0x2Fc620005713F6245Da0490CC117AeCf3dEe595b
Saving PreimageOracle: 0x174059D29f043cc18599D8C7dfB07dFE83cEa16d
Saving ProtocolVersions: 0x807cFAE94aC7c2133128a992Bf00Cb1d38EC2223
Saving ProtocolVersionsProxy: 0x0F406479e66C9E5CeFcdDA50e88F9540ce4677
Saving ProxyAdmin: 0xf6d35A53f189eBD47434da6CC3c56f1a66EDC190
Saving SafeProxyFactory: 0xa6B71E26C5e0845f74c812102Ca7114b6a896AB2
Saving SafeSingleton: 0xd9Db270c1B5E3Bd161E8c8503c55cEABeE709552
Saving SuperchainConfig: 0x8f0C255F4f9b50CaF99B4867C9AB265b51f02F89
Saving SuperchainConfigProxy: 0xDe21cC4467A7556bcC183980675Cb45D7FB42C6C
Saving SystemConfig: 0xa649b0De82579dA9482A2a8ACa766f9e9F48D3B9
Saving SystemConfigProxy: 0x254f6D6096F0cdD1c096aE0632Aa133136c51543
Saving SystemOwnerSafe: 0x603DabDe6841AD8030052B0ea91C756E5E6d8dD3
Commit hash: 4797ddb70e05d4952685bad53e608cb5606284e6
DeployConfig: reading file deploy-config/getting-started.json
DeployConfig: using deploy config fork: fjord
```

## 7. L2 Allocations - Part 2

```
Setting proxy 0x4200000000000000000000000000000000000010 implementation: 0xc0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d30010
Setting proxy 0x4200000000000000000000000000000000000011 implementation: 0xc0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d30011
Setting proxy 0x4200000000000000000000000000000000000012 implementation: 0xc0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d30012
Setting proxy 0x4200000000000000000000000000000000000013 implementation: 0xc0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d30013
Setting proxy 0x4200000000000000000000000000000000000014 implementation: 0xc0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d30014
Setting proxy 0x4200000000000000000000000000000000000015 implementation: 0xc0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d30015
Setting proxy 0x4200000000000000000000000000000000000016 implementation: 0xc0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d30016
Setting proxy 0x4200000000000000000000000000000000000017 implementation: 0xc0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d30017
Setting proxy 0x4200000000000000000000000000000000000018 implementation: 0xc0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d30018
Setting proxy 0x4200000000000000000000000000000000000019 implementation: 0xc0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d30019
Setting proxy 0x420000000000000000000000000000000000001A implementation: 0xc0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3001A
Setting proxy 0x4200000000000000000000000000000000000020 implementation: 0xc0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d30020
Setting proxy 0x4200000000000000000000000000000000000021 implementation: 0xc0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d30021
Skipping proxy at 0x4200000000000000000000000000000000000042
Setting predeploy implementations with L1 contract dependencies:
- L1CrossDomainMessengerProxy: 0x2a0c14E19Cae937f9A70608A75fd4C434006b68
- L1StandardBridgeProxy: 0x5a00612F7285069476b4Df10747D7d4C0853FE3A
- L1ERC721BridgeProxy: 0xe75c776ED24AB79cED5Edcd7535E601bAbe33A
Setting LegacyMessagePasser implementation at: 0xc0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d30000
Setting DeployerWhitelist implementation at: 0xc0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d30002
Setting WETH implementation at: 0x4200000000000000000000000000000000000000000000000000000000000000
Setting L2CrossDomainMessenger implementation at: 0xc0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d30007
Setting GasPriceOracle implementation at: 0xc0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3000f
Setting L2StandardBridge implementation at: 0xc0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d300010
Setting SequencerFeeVault implementation at: 0xc0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d300011
Setting OptimismMintableERC20Factory implementation at: 0xc0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d30012
Setting L1BlockNumber implementation at: 0xc0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d300013
Setting L2ERC721Bridge implementation at: 0xc0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d300014
Setting L1Block implementation at: 0xc0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d300015
Setting L2Tol1MessagePasser implementation at: 0xc0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d300016
Setting OptimismMintableERC721Factory implementation at: 0xc0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d300017
Setting ProxyAdmin implementation at: 0xc0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d300018
Setting BaseFeeVault implementation at: 0xc0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d300019
Setting L1FeeVault implementation at: 0xc0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d30001A
Setting SchemaRegistry implementation at: 0xc0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d300020
Setting EAS implementation at: 0xc0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d3c0d300021
Setting GovernanceToken implementation at: 0x4200000000000000000000000000000000000000000000000000000000000042
Setting MultiCall3 preinstall code at: 0xcA11bde05977b3631167028862bE2a17397cA11
Setting Create2Deployer preinstall code at: 0x13b0D85Cc8B8f860b679AF3029fCA081AE9beF2
Setting Safe_v130 preinstall code at: 0x69f4D1788e39c87893C980c06EdF4bf686e2938
Setting SafeL2_v130 preinstall code at: 0xfB1bffc9D739B8D520DaF37dF666da4C687191EA
Setting MultiSendCallOnly_v130 preinstall code at: 0xA1dabEF33b382c7814B6D82A79e50F4AC44102B
Setting SafeSingletonFactory preinstall code at: 0x914d7Fec6aaC8cd542e27Bca78B30650d5463d7
Setting DeterministicDeploymentProxy preinstall code at: 0x4e59b44847b379578588920cA78BfB26c0B4956C
Setting MultiSend_v130 preinstall code at: 0x998739BFdAAdde7C933B942a68053933098f9EDa
Setting Permit2 preinstall code at: 0x000000000022D473030F116dDEF9F6B43aC78BA3
Setting SenderCreator_v060 preinstall code at: 0x7fc98430eAEdbb6070B35B39D798725049088348
Setting EntryPoint_v060 preinstall code at: 0x5FF137D4b0FDCD49DcA30c7CF5E75E78a026d2789
Setting SenderCreator_v070 preinstall code at: 0xEFC2c1444eBCC4Db75e7613d20C6a62FF67A167C
Setting EntryPoint_v070 preinstall code at: 0x0000000071727De22E5E9d8BAF0edAc6f37da032
Setting BeaconBlockRoots preinstall code at: 0x000F3df60732807Ef1319fB78B8B522d0Beac02
Activating ecotone in GasPriceOracle contract
Activating fjord in GasPriceOracle contract
Writing state dump to: deploy-config/statedump.json
```

