Deploy Arbitrum Orbit with Avail DA

Prerequisites

1. You need to havedocker(opens in a new tab)
2. anddocker-compose(opens in a new tab)
3. installed on your machine.
4. An Avail account with some AVAIL tokens in it. You can refer toour docs here
5. to get started.
6. This guide will useArbitrum's ArbSepolia(opens in a new tab)
7. andAvail's Turing
8. testnets.

Step-1 :- Download avail nitro node docker image

1. Download the avail-nitro-node image from docker hub:-avail-nitro-node(opens in a new tab)
2. .
3. docker
4. pull
5. availrishabh/avail-nitro-node-dev:v2.3.1

Step-2 :- Deploy Rollup Contracts

1. Download the nitro-contract with Avail DA :- Clone thenitro-contracts(opens in a new tab)
2. git
3. clone
4. https://github.com/availproject/nitro-contracts.git
5. cd
6. nitro-contracts
7. git
8. checkout
9. data-availability-verifiaction-v2.3.1
10. yarn
11. install
12. yarn
13. build
14. Create.env
15. file as per.env.sample
16. and Set Rollup Creator Address and Devnet Private key
17. ROLLUP_CREATOR_ADDRESS
18. =
19. "0xADCBE5c221566FA6e6Ebf5BA08759c83177DfCDA"
20. Set the config filescripts/config.ts
21. with required configurations wherewasmModuleRoot
22. .
23. This must be based on your cpu arch.
24. // for amd64
25. wasmModuleRoot
26. :
27. '0xba5ff5ddc46b5c63fa02168819b8e236fa18b4b551f20eba378e3543477298bf'
28. // for arm64
29. wasmModuleRoot
30. :
31. '0x1cc4dd8f036f93e37b6c9fa4edfbefaf19cf893558e9358ad41ccb3804684092'
32. Now deploy rollup contract using
33. yarn
34. run
35. deploy-eth-rollup
36. —-network
37. arbSepolia
38. You will get to see this way of addresses:

Step-3 :- Spin up the chain using orbit-setup-script

1. Download orbit-setup-script:- Cloneorbit-setup-script(opens in a new tab)
2. git
3. clone
4. https://github.com/OffchainLabs/orbit-setup-script.git
5. cd
6. orbit-setup-script
7. Add thenodeConfig.json
8. in./config
9. {
10. "chain"
11. :
12. {
13. "info-json"
14. :
15. "[{\"chain-id\":555371422,\"parent-chain-id\":421614,\"parent-chain-is-arbitrum\":true,\"chain-name\":\"My Arbitrum L3 Chain\",\"chain-config\":
    {\"homesteadBlock\":0,\"daoForkBlock\":null,\"daoForkSupport\":true,\"eip150Block\":0,\"eip150Hash\":\"0x0000000000000000000000000000000000000000000000000000000000000000\",\"eip155
    {\"period\":0,\"epoch\":0},\"arbitrum\":
    {\"EnableArbOS\":true,\"AllowDebugPrecompiles\":false,\"DataAvailabilityCommittee\":false,\"InitialArbOSVersion\":11,\"GenesisBlockNum\":0,\"MaxCodeSize\":24576,\"MaxInitCodeSize\":49152,\"I
    {\"bridge\":\"0x1F4f5F72376a163B2e39db27d73CA029145d16f1\",\"inbox\":\"0x909f9B9aE47e28E4e37C06E47d848a6f49C3ed63\",\"sequencer-
    inbox\":\"0x4a063a85c0198887e6bA499a50e2226f8AE9F43b\",\"rollup\":\"0xC067884D8ED8EC03cB913e901A05C60532f63C02\",\"validator-
    utils\":\"0xB11EB62DD2B352886A4530A9106fE427844D515f\",\"validator-wallet-creator\":\"0xEb9885B6c0e117D339F47585cC06a2765AaE2E0b\",\"deployed-at\":27754620}}]"
16. ,
17. "name"
18. :
19. "My Arbitrum L3 Chain"
20. }
21. ,
22. "parent-chain"
23. :
24. {
25. "connection"
26. :
27. {
28. "url"
29. :
30. "https://sepolia-rollup.arbitrum.io/rpc"
31. }
32. }
33. ,
34. "http"
35. :
36. {
37. "addr"
38. :

```
"0.0.0.0"
,
"port"
:
8449
,
"vhosts"
:
[
"*"
]
,
"corsdomain"
:
[
"*"
]
,
"api"
:
[
"eth"
,
"net"
,
"web3"
,
"arb"
,
"debug"
]
}
,
"node"
:
{
"sequencer"
:
true
,
"delayed-sequencer"
:
{
"enable"
:
true
,
"use-merge-finality"
:
false
,
"finalize-distance"
:
1
}
,
"batch-poster"
:
{
"max-size"
:
90000
,
"enable"
:
true
,
"parent-chain-wallet"
:
{
"private-key"
:
"pkpkpkpkpkpkpkpkpkpkpkpkpkpkpkpkpkpkpkpkpkpkpkpkpkpkpkpkpkpkpk"
}
}
,
"staker"
:
{
"enable"
:
true
,
"strategy"
:
"MakeNodes"
,
"parent-chain-wallet"
:
{
"private-key"
:
"pkpkpkpkpkpkpkpkpkpkpkpkpkpkpkpkpkpkpkpkpkpkpkpkpkpkpkpkpkpkpk"
}
}
,
"dangerous"
:
{
"no-sequencer-coordinator"
:
true
}
,
"avail"
:
{
"enable"
:
true
```

,
"seed"
:
"test test test test test test test test test test test test avail"
,
"api-url"
:
"wss://turing-rpc.avail.so/ws"
,
"app-id"
:
1
,
"timeout"
:
'
100
s'
,
"vectorx"
:
"0xA712dfec48AF3a78419A8FF90fE8f97Ae74680F0"
,
"arbSepolia-rpc"
:
"wss://arb-sepolia.g.alchemy.com/v2/xxxxxxxxxx"
}
}
,
"execution"
:
{
"forwarding-target"
:
""
,
"sequencer"
:
{
"enable"
:
true
,
"max-tx-data-size"
:
85000
,
"max-block-speed"
:
"250ms"
}
,
"caching"
:
{
"archive"
:
true
}
}
}
Updatedocker-compose
file oforbit-setup-script
...
nitro:
image: avail-nitro-node-dev
ports:
...
Run your chain
cd
orbit-setup-script
docker-compose
up
-d
A Nitro node and BlockScout explorer instance will be started. Visithttp://localhost:4000/(opens in a new tab)
to access your BlockScout explorer instance - this will allow you to view your chain's transactions and blocks, which can be useful for debugging.

Hurray!

Congratulations, Your local Orbit chain with Avail DA is now running.