

How to Make a Single-Node Chain as a Test Chain

1. Build the Initial Chain Spec

Run the following command to generate the initial chain specification:

```
```bash
```

```
./target/release/fintra-node build-spec --disable-default-bootnode > fintra-spec.json
```

```
```
```

2. Edit the Chain Spec

Open the `fintra-spec.json` file and **remove** the `aura` and `grandpa` sections under `"genesis.runtime"`.

We will use session keys instead, which include both Aura and Grandpa.

3. Get Aura and Grandpa Keys

Use `subkey` to inspect the required keys for Alice:

```
```bash
```

```
subkey inspect //Alice --scheme sr25519 # For Aura
```

```
subkey inspect //Alice --scheme ed25519 # For Grandpa
```

```
```
```

4. Add Session Keys to the Spec

In the `fintra-spec.json`, insert the session keys section like below under `"genesis.runtime"`:

```

```json
"session": {
 "keys": [
 [
 "5GrwvaEF5zXb26Fz9rcQpDWS57CtERHpNehXCPcNoHGKutQY",
 "5GrwvaEF5zXb26Fz9rcQpDWS57CtERHpNehXCPcNoHGKutQY",
 {
 "aura": "5GrwvaEF5zXb26Fz9rcQpDWS57CtERHpNehXCPcNoHGKutQY",
 "grandpa": "5FA9nQDVg267DEd8m1ZypXLBnvN7SFxYwV7ndqSYGiN9TTpu"
 }
]
]
}
```

```

5. Generate Raw Chain Spec

Run the following command to create a raw spec file:

```

```bash
./target/release/fintra-node build-spec --chain fintra-spec.json --raw >
fintra-spec-raw.json
```

```

6. Create a Folder for Blockchain Data

Create a directory to store chain data (replace path as needed):

```

```bash

```

```
mkdir -p /Users/air/Documents/fintra-bloc1
```

```
...
```

## ## 7. Start the Node

Now start the node with:

```
```bash
```

```
./target/release/fintra-node \
```

```
--base-path /Users/air/Documents/fintra-bloc1 \
```

```
--chain fintra-spec-raw.json \
```

```
--validator \
```

```
--alice \
```

```
--rpc-external \
```

```
--rpc-cors=all \
```

```
--rpc-methods=Unsafe
```

```
...
```

8. Fix "missing `secret_ed25519`" Error (If Any)

If you encounter an error related to missing `secret_ed25519`, follow these steps:

a. Create the directory:

```
```bash
```

```
mkdir -p /Users/air/Documents/fintra-bloc1/chains/local_testnet/network/
```

```
...
```

### ### b. Generate an ed25519 key:

```
```bash
```

```
subkey generate --scheme ed25519
```

```
...
```

Copy the **public key** from the output (without the ``0x`` prefix).

c. Store the key:

```
```bash
```

```
echo "60b399f637b342f27e52fd6295be803c08b9fc9fe72a907df60b6009698088fa" | xxd -r -p >
/Users/air/Documents/fintra-bloc1/chains/local_testnet/network/secret_ed25519
```

```
...
```

\*(Replace the hex string above with your actual public key, without the ``0x`` prefix.)\*

## 9. Start the Node Again

After fixing the key issue, re-run the node:

```
```bash
```

```
./target/release/fintra-node \
  --base-path /Users/air/Documents/fintra-bloc1 \
  --chain fintra-spec-raw.json \
  --validator \
  --alice \
  --rpc-external \
  --rpc-cors=all \
  --rpc-methods=Unsafe
```

```
...
```