

Nix bitcoin

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What is nix?

- A declarative programming language
- A package manager
- Nixos, a linux distro based on those

Why nix?

Reproducibility

Every “build” is in an hash directory -> multiple versions

```
ls /nix/store | head -n 3
```

```
000ghm78048kh2prsfzkf93xm3803m0r-default.md
```

```
000hxqh70ck7sjhdvcn66zdsyp2yprpb-source.drv
```

```
000mr3jfk81q7511ljdskn2mk6g76rnr-libva-2.22.0
```

Declarative

Your os configuration is a bunch of files

```
vim /etc/nixos/configuration.nix
```

What is nixpkgs

- It is the repository of package definitions
- It contains modules, which defines for example system services
- <https://search.nixos.org/>

What is nix-bitcoin

- It's a repository like nixpkgs but specific to bitcoin
- the aim is to provide security and privacy by default
- <https://github.com/fort-nix/nix-bitcoin/>
- Search nix-bitcoin¹

¹<https://search.nixos.org/flakes?channel=unstable&show=services.bitcoind.extraConfig&type=options&query=bitcoin>

How to use it?

Multiple ways:

- as a container
- as a flake
- in your nixos

Channels

shell

```
sudo nix-channel --list
sudo nix-channel --add \
  https://github.com/fort-nix/nix-bitcoin/archive/refs/tags/v0
  nix-bitcoin
sudo nix-channel --update
```

Add channel

```
/etc/nixos/configuration.nix
```

```
imports =  
  [  
    ./hardware-configuration.nix  
    <nix-bitcoin/modules/modules.nix>  
  ];
```

Let's start

```
/etc/nixos/configuration.nix
```

```
...  
nix-bitcoin.generateSecrets = true;  
services.bitcoind.enable = true;  
...
```

```
shell
```

```
nixos-rebuild switch
```

Some more configuration

/etc/nixos/configuration.nix

```
...  
services.bitcoind = {  
  enable = true;  
  prune = 1000;  
};  
...
```

Some uncommon configuration

/etc/nixos/configuration.nix

```
...
services.bitcoind = {
  enable = true;
  extraConfig = ''
    uncommonflag = true;
  '';
};
...
```

Add other software

```
/etc/nixos/configuration.nix
```

```
...  
services.clightning.enable = true;  
...
```

And some more

/etc/nixos/configuration.nix

```
...  
services.rtl = {  
  enable = true;  
  nodes.clightning.enable = true;  
};  
...
```

Slides available

- <https://riccardo.casatta.it>