



# DEVXIRE



**HOW TO  
DEPLOY ON SUPRA  
IN 10 STEPS!**

# GET STARTED BUILDING ON SUPRA!

Welcome, here is your quick guide to getting started with blockchain development on Supra's Layer 1 (L1).

Getting started with blockchain development can be overwhelming due to the variety of tools, concepts, and technologies involved. That's exactly why this guide exists—to simplify the process and break everything down into easy, actionable steps.

To build and interact effectively with any L1, including Supra's, you need to know what tools you're working with. This isn't just a random list; it's your starter pack filled with the key components every developer needs to get started with confidence.



If you're starting fresh, here are the basic steps to get up and running on Supra's Layer 1.

**STEP-BY-STEP**

# STARTING FROM SCRATCH



The Command Line Interface (CLI)  
is your gateway to interacting with  
Supra's blockchain.

---

# DOWNLOADING CLI



01

Docker allows you to create an environment for Supra's CLI by storing it in a container, which holds all the necessary files in an isolated setting.

- Download Docker: For [Windows, Mac, Linux](#)
- Follow Docker [\*\*post-installation steps\*\*](#).  
*(Linux only, if needed).*



02

- Create a folder for your Docker container environment.
- Open your Command Prompt terminal.
- Create a folder in your Documents, called **supra**.

Type in Command Prompt:

```
cd Documents && mkdir supra
```

*Note: You can make this folder anywhere you would like, we have suggested an example so it's easier to follow.*

**Example:**

Type in Command Prompt:

```
curl --output compose.yaml "https://raw.githubusercontent.com/Entropy-Foundation/supra-dev-hub/refs/heads/main/Scripts/compose.yaml"
```

```
C:\Users\ADMIN>cd Documents
C:\Users\ADMIN\Documents>mkdir supra
C:\Users\ADMIN\Documents>cd supra
C:\Users\ADMIN\Documents\supra>curl --output compose.yaml "https://raw.githubusercontent.com/Entropy-Foundation/supra-dev-hub/refs/heads/main/Scripts/compose.yaml"
% Total    % Received % Xferd  Average Speed   Time   Time     Time  Current
          Dload  Upload Total Spent   Left Speed
100  905  100  905    0      0  1464      0  --:--:--  --:--:-- 1473
```



03

## Start Your Docker Environment

Execute the command to create your container using the `compose.yaml` file. This file includes all the necessary parameters for the container setup.

Type in Command Prompt:

```
docker compose up -d
```

```
C:\Users\ADMIN\Documents\supra>docker compose up -d
[+] Running 1/1
✓Container supra_cli  Started
```

This will create your `supra_cli` container.

04

## Enter Your Container

To be able to interact with SupraCLI, we will work from within the container.

Type in Command Prompt:

```
docker exec -it supra_cli /bin/bash
```

```
C:\Users\ADMIN\Documents\supra>docker exec -it supra_cli /bin/bash
root@docker-desktop:/supra#
```



05

Type supra

While being in your supra\_cli container, type supra

```
root@docker-desktop:/supra# supra
Supra Command Line Utilities

Usage: supra [OPTIONS] <COMMAND>

Commands:
key          Manage SMR keys
nidkg        Manage NiDKG dealings
node         Operations for Supra Nodes.
config       Manage the configurations
move         Supra CLI target the MoveVM
data         Tool to manage and export data
genesis      Perform Genesis Ceremony
governance   Tool for on-chain governance
help         Print this message or the help of the given subcommand(s)

Options:
-o <LOG>      Set the log level.
-h, --help     Print help (see more with '--help')
-V, --version  Print version
```



Your profile acts as your blockchain identity, allowing you to sign transactions and interact with the network.

---

# CREATING A PROFILE



## Generate Profile

To create a profile, you will need to type in Command Prompt:

```
supra profile new <PROFILE_NAME>
```

```
root@docker-desktop:/supra# supra profile new john_again
Enter your password:
Exported public profile file at /supra/configs/smr_public_key.json
----- Profile List -----
hello
CliProfile { account_address: "0x7b51bad750f4ee8fef2e108da352886dc3b01144524ac4e12f4d2fde896083e9", ed25519_public_key: 2c23db29a16d2f4500f0
99a309668d32182a23bde6f264eed66c890357c19ded, rpc_url: "http://localhost:27000/", faucet_url: "http://localhost:27001/", chain_id: 255 }
(*) john
CliProfile { account_address: "0xa526b58fb186018cba4e3c7bf9f3b01a7b895939f3fc4dccccdf2cf940115c6e", ed25519_public_key: 9c8b40b4753bb8ddd084
908dd608912eb30411cfdc71febe2c42001bd5f63b5, rpc_url: "http://localhost:27000/", faucet_url: "http://localhost:27001/", chain_id: 255 }
john_again
CliProfile { account_address: "0xa17112031391706b383321a7fe15ec8e15403427ec8a3b21240b6308d9568de4", ed25519_public_key: e20aab29bbd9b6f69a6e
cf34861d2efbc0a1f2629d2b2c04bc2850abf238f548, rpc_url: "http://localhost:27000/", faucet_url: "http://localhost:27001/", chain_id: 255 }
```



Before you can interact with the network or deploy smart contracts, you'll need testnet \$SUPRA to cover transaction fees.

---

## FUND A PROFILE



## Add Testnet \$SUPRA to Your Profile

To fund your profile with testnet \$SUPRA, run the following command in your terminal:

```
supra move account fund-with-faucet --profile  
<PROFILE_NAME> --rpc-url <RPC_URL>
```

*Note: Here is the RPC\_URL [network information](#)*

```
root@docker-desktop:/supra# supra move account fund-with-faucet --profile john --rpc-url https://rpc-testnet.supra.com  
> Would you like to switch the chain id from ChainId(255) to ChainId fetch from Url(https://rpc-testnet.supra.com/)>(6  
? Yes  
> Would you like to switch the chain id from ChainId(255) to ChainId fetch from Url(https://rpc-testnet.supra.com/)>(6  
? Yes  
> Would you like to switch the chain id from ChainId(255) to ChainId fetch from Url(https://rpc-testnet.supra.com/)>(6  
? Yes  
{  
    "Accepted": "0x319d25a492d293f3ae3c0020e4251f6efd8a960f7ce65534ddfcf0a3a53913a5"  
}
```



Interacting with a smart contract allows you to deploy, manage, and test its functions directly on the blockchain, ensuring it performs as intended.

# INTERACT WITH SMART CONTRACT



## Create a New Move Package

In your supra\_cli container move into the folder configs  
Create a folder called move\_workspace

Directory Structure in Docker Container:

```
supra_cli/
└── supra/
    └── configs/
        └── move_workspace/
            └── <project_folder>/
```

Type in Command Prompt:

```
supra move tool init --package-dir /supra/configs/
move_workspace/<PROJECT_NAME> --name <PACKAGE_NAME>
```

```
root@docker-desktop:/supra# cd configs
root@docker-desktop:/supra/configs# mkdir move_workspace
root@docker-desktop:/supra/configs# supra move tool init --package-dir /supra/configs/move_workspace/move --name john
{
  "Result": "Success"
}
```

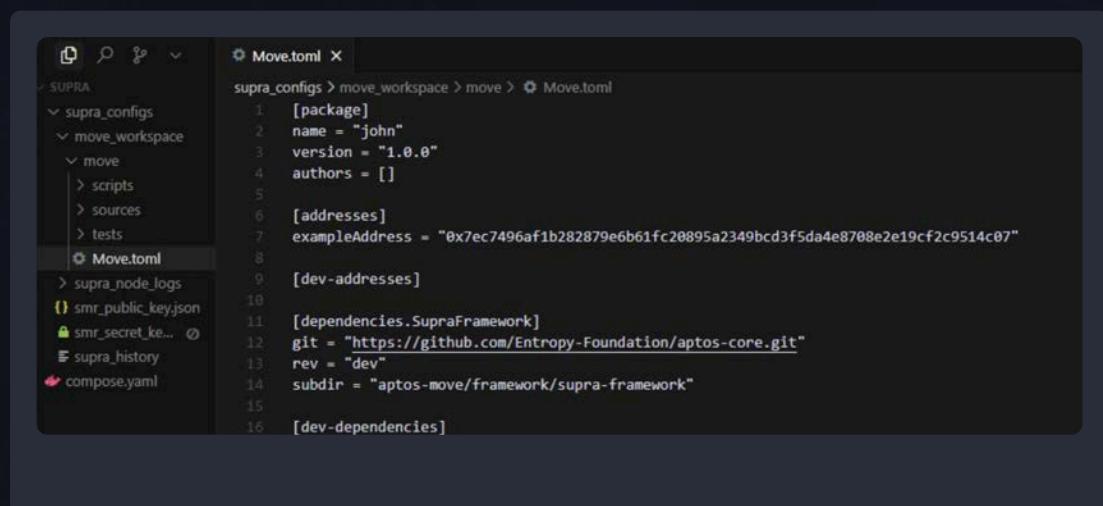


09

## Add Your Address to the Environment

Open the Move.toml file and enter your exampleAddress under the profile created in Step 6. Replace the placeholder text "Enter Your Address" with your actual address.

*Note: To view your profile list, run: supra key -l  
Use the account\_address from that list when adding it to your Move.toml.*



```
Move.toml x
supra_configs > move_workspace > move > Move.toml
1 [package]
2 name = "john"
3 version = "1.0.0"
4 authors = []
5
6 [addresses]
7 exampleAddress = "0x7ec7496af1b282879e6b61fc20895a2349bcd3f5da4e8708e2e19cf2c9514c07"
8
9 [dev-addresses]
10
11 [dependencies.SupraFramework]
12 git = "https://github.com/Entropy-Foundation/aptos-core.git"
13 rev = "dev"
14 subdir = "aptos-move/framework/supra-framework"
15
16 [dev-dependencies]
```



## Publish the “transfer” Smart Contract on Supra L1

Copy the “**transfer**” module from the Write a Module section.

Then run the following command in your terminal:

```
supra move tool publish --package-dir /supra/
configs/move_workspace/<PROJECT_NAME> --profile
<YOUR_PROFILE> --rpc-url <RPC_URL>
```

*Note: Here is the RPC\_URL **network information***

```
root@docker-desktop:/supra# supra move tool publish --package-dir /supra/configs/move_workspace/exampleContract --profile john --rpc-url https://rpc-testnet.supra.com
Compiling, may take a little while to download git dependencies...
UPDATING GIT DEPENDENCY https://github.com/Entropy-Foundation/aptos-core.git
INCLUDING DEPENDENCY AptosStdlib
INCLUDING DEPENDENCY MoveStdlib
INCLUDING DEPENDENCY SupraFramework
INCLUDING DEPENDENCY SupraStdlib
BUILDING example
```

```
{
  "type": "0x1::code::PublishPackage",
  "data": {
    "code_address": "0x7ec7496af1b282879e6b61fc20895a2349bcd3f5da4e8708e2e19cf2c9514c07",
    "is_upgrade": false
  },
  {
    "guid": {
      "creation_number": "0",
      "account_address": "0x0"
    },
    "sequence_number": "0",
    "type": "0x1::transaction_fee::FeeStatement",
    "data": {
      "execution_gas_units": "5",
      "io_gas_units": "67",
      "storage_fee_quants": "132960",
      "storage_fee_refund_quants": "0",
      "total_charge_gas_units": "1401"
    }
  }
},
  "vm_status": "Executed successfully"
},
"status": "Success"
}
```



## You have officially deployed your first smart contract on Supra's L1—congrats!

This is just the beginning of your journey as a blockchain developer. Now that you've mastered the basics, you can start exploring more complex smart contract functionalities, experiment with dApp development, and contribute to the growing Supra ecosystem.

Continue building and expanding your skills with Supra's developer tools and resources.



Here are some example smart contracts to help you dive deeper and expand your skills.

---

# EXAMPLE SMART CONTRACTS TO GET YOU ROLLING





## CRYPTO INDEX FUND SMART CONTRACT

Build a crypto index fund smart contract using Supra's price feed Oracle with the Move programming language on the Sui Blockchain. This guide walks you through creating an index fund that tracks the value of a basket of crypto assets with equal weighting, integrating Supra's Oracle for real-time price data.

[Visit Guide →](#)



## CROWDFUNDING SMART CONTRACT

Learn how to create a crowdfunding smart contract using Supra's price feed Oracle on the Sui blockchain. This guide demonstrates how easily Supra's Oracle can be integrated into any smart contract, equipping you to add price feed functionality to your own projects.

[Visit Guide →](#)



## LOTTERY SMART CONTRACT

This guide shows you how to build a lottery smart contract using Supra's Verifiable Random Function (VRF) on the Aptos blockchain. Integrating the Supra VRF ensures fairness and transparency in the lottery draw. You'll also learn how to apply VRF in other smart contract use cases.

[Visit Guide →](#)



---

# IMPORTANT RESOURCES FOR SUPRA



## SUPRA'S DEVELOPER DOCUMENTATION



The central hub for all technical resources, guides, and APIs. It provides comprehensive documentation for Supra's tools, APIs, SDKs, and best practices.

Supra's Dev Docs are the foundation of your development journey. They help you understand Supra's architecture, coding standards, and tools, making it easier to build secure, efficient, and scalable dApps. If you ever get stuck, this should be your first stop.

[Developer Documentation →](#)

## SUPRA'S NETWORK INFORMATION



This section breaks down the nuts and bolts of Supra's network, including RPC URLs, node configurations, and how the infrastructure works behind the scenes.

To build on Supra, you need to connect to the right network—whether it's the testnet for experimenting or the mainnet for real deployments. This resource ensures you're plugged into the correct environment for your development needs.

[Network Information →](#)



## INSTALL SUPRA'S CLI



The Command Line Interface (CLI) is your direct line to Supra's blockchain. It's like having a backstage pass that lets you deploy smart contracts, interact with the network, and manage nodes from your terminal.

The CLI streamlines your workflow, making it faster and easier to handle development tasks. Whether you're deploying a contract or checking network status, the CLI puts powerful tools right at your fingertips.

**Prerequisites: Download Docker**

[\*\*Download Link →\*\*](#)

[\*\*Post Installation Steps \(Linux Only\) →\*\*](#)

[\*\*Download Supra CLI →\*\*](#)

## CREATING CLI KEY PROFILES



Key profiles are like your digital ID on the blockchain. They use cryptography to sign transactions securely, ensuring your activity is verified and authentic.

Without key profiles, you can't interact with the blockchain in a meaningful way. They're essential for deploying contracts, transferring tokens, and maintaining security across the network.

[\*\*CLI Key Profiles →\*\*](#)



## TESTNET FAUCET



A faucet provides free testnet tokens, which are like play money for developers. You can use them to simulate transactions and test your smart contracts.

Testing is crucial in blockchain development. The faucet lets you experiment freely without risking real funds, helping you catch bugs and optimize your code before going live.

[Testnet Faucet →](#)

## LEARN MOVE 101



An introductory guide to the Move programming language, designed specifically for building secure, high-performance smart contracts.

Move is at the core of Supra's smart contract development. Understanding its principles and syntax will help you write more safe, and more scalable contracts for Supra's ecosystem.

[Move 101 →](#)



## **STARKEY WALLET**



A secure, easy-to-use wallet for managing your Supra tokens, interacting with dApps, and signing transactions.

A good wallet is essential for both developers and users. StarKey makes it simple to manage your assets, test dApps, and participate in the Supra ecosystem without hassle.

[StarKey Wallet →](#)

## **BLOCK EXPLORER (SUPRASCAN)**



A blockchain explorer that lets you view transactions, monitor smart contracts, and track network activity in real-time.

Transparency is a core principle of blockchain. SupraScan helps you audit transactions, debug smart contracts, and gain insights into how your dApp interacts with the network.

[SupraScan →](#)



## SUPRA DEV-HUB



This repository is a central hub for developers working on the Supra L1 Chain. It provides essential resources, troubleshooting guides, and a collaborative platform for discussions and issue resolution.

Whether you're looking for community support, sharing insights, or resolving technical issues, Supra Dev-Hub is your go-to resource for collaborative development.

[\*\*Supra Dev-Hub →\*\*](#)

## SUPRA MOVE VS EXTENSION



A powerful VS Code plugin built to simplify development on Supra's MoveVM.

It brings syntax highlighting, smart suggestions, and auto-completion right into your editor — no more jumping between tabs or docs.

This is your go-to tool for writing, testing, and navigating Move smart contracts faster and cleaner inside VS Code.

[\*\*Supra Move VS Extension →\*\*](#)



## SUPRA DAPP TEMPLATES



Your fast lane to building dApps on the Supra network.

The `@supranpm/supra-dapp-templates` package jumpstarts your development with ready-to-use templates — whether you're testing contracts, integrating StarKey Wallet, or building with Supra's SDK and VRF.

Just run one CLI command and follow the prompts. It's that easy.

From boilerplates to full-stack examples, these templates help you go from zero to deployed without the setup headache. Great for hackathons, MVPs, or learning the stack.

[Supra Dapp Templates →](#)

