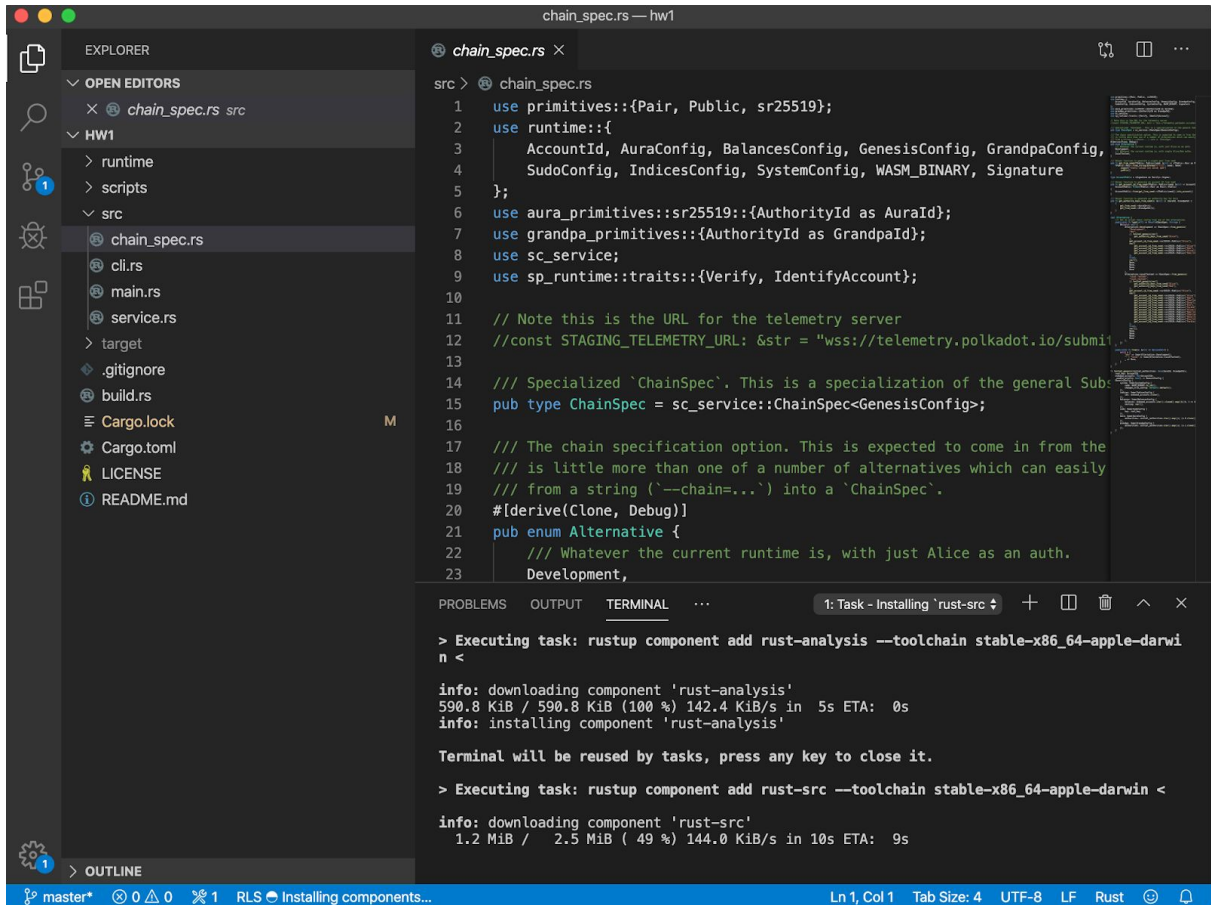


## 安装Rust环境

```
Team4 [master] rustc --version
rustc 1.39.0 (4560ea788 2019-11-04)
```

## 安装IDE : VSCode RUST rls



## 创建项目 :

curl

<https://raw.githubusercontent.com/paritytech/substrate-up/9c966504b4a60c2e6b9187b118926a12d2da9448/substrate-node-new> -sSf | sh -s hw1 kuoyehs

<项目名> <作者名>

```
1. Mac@MacBook-Pro-2: ~/project/Team4/projects/lesson1/hw1 (zsh)

Compiling rocksdb v0.13.0
1 Compiling kvdb-rocksdb v0.2.0
Compiling sc-client-db v2.0.0 (https://github.com/paritytech/substrate.git?rev=665304397ff7e60d7cda177a0623a571e5909a2c#66530439)
Compiling sc-service v2.0.0 (https://github.com/paritytech/substrate.git?rev=665304397ff7e60d7cda177a0623a571e5909a2c#66530439)
Compiling sc-cli v2.0.0 (https://github.com/paritytech/substrate.git?rev=665304397ff7e60d7cda177a0623a571e5909a2c#66530439)
Finished release [optimized] target(s) in 66m 24s

Chain client created in hw1.
To start a dev chain, run:
$ hw1/target/release/hw1 --dev
To create a basic Bonds UI for your chain, run:
$ substrate-ui-new hw1
To push to a newly created GitHub repository, inside hw1, run:
$ git remote add origin git@github.com:myusername/myprojectname && git push -u origin master

lesson1 [master] ⚡ cd ..
```


从新项目启动单节点测试网络

WASM\_BUILD\_TYPE=release cargo run -- --dev

```
2019-12-17 03:07:35 Idle (0 peers), best: #17 (0x93ab...5aac), finalized #16 (0xfb2f...ecf
0), ↓ 0 ↑ 0
2019-12-17 03:07:36 Starting consensus session on top of parent 0x93ab2c90dd60c85b87a6
7d0a53ff8e5afcb5c1e862090f55fa04339810d85aac
2019-12-17 03:07:36 Prepared block for proposing at 18 [hash: 0xf25c0b85d0bd7ee766961f
6a82c7ced344c08b7b33744d77219688c1daeca8ea; parent_hash: 0x93ab...5aac; extrinsics: [0xf
539...7591]]
2019-12-17 03:07:36 Pre-sealed block for proposal at 18. Hash now 0x28ce7bff0d8ff4ff6c
8defb4f0b9e0f20b29f752e24b13f0017f48613b7e23d3, previously 0xf25c0b85d0bd7ee766961f6a8
2c7ced344c08b7b33744d77219688c1daeca8ea.
2019-12-17 03:07:36 Imported #18 (0x28ce...23d3)
2019-12-17 03:07:40 Idle (0 peers), best: #18 (0x28ce...23d3), finalized #17 (0x93ab...5aa
c), ↓ 0 ↑ 0
2019-12-17 03:07:42 Starting consensus session on top of parent 0x28ce7bff0d8ff4ff6c8d
efb4f0b9e0f20b29f752e24b13f0017f48613b7e23d3
2019-12-17 03:07:42 Prepared block for proposing at 19 [hash: 0x752b44bd57c39f9675102f
cd1d1d30dbf00c20907759122b7d93b339ada6a944; parent_hash: 0x28ce...23d3; extrinsics: [0xf
105...4ee6]]
2019-12-17 03:07:42 Pre-sealed block for proposal at 19. Hash now 0x1115fef70142337d1
cb26abe149c8673beedec0f2915778a0b6101bac23fe52, previously 0x752b44bd57c39f9675102fcd1
d1d30dbf00c20907759122b7d93b339ada6a944.
2019-12-17 03:07:42 Imported #19 (0x1115...fe52)
```

使用 <https://polkadot.js.org/apps/> 连接本地测试网络并成功发起一笔转账交易

← → ↻ polkadot.js.org/apps/#/settings ☆



Development  
version 1  
#73

- Explorer
- Accounts
- Address book
- Transfer
- Chain state
- Extrinsics
- Sudo
- Settings
- Toolbox
- Javascript

General Developer


remote node/endpoint to connect to ?  
Local Node (Own, 127.0.0.1:9944) custom

address prefix ?  
Default for the connected node

default icon theme ?  
Default for the connected node

interface operation mode ?  
Fully featured

default interface language  
Default browser language (auto-detect)



Development  
version 1  
#74

- Explorer
- Accounts
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- Javascript
- GitHub
- Wiki

General Developer ?

remote node/endpoint to connect to ?  
Local Node (Own, 127.0.0.1:9944) custom endpoint ☐

address prefix ?  
Default for the connected node

default icon theme ?  
Default for the connected node

interface operation mode ?  
Fully featured

default interface language  
Default browser language (auto-detect)

Save

Development  
version 1  
#78

Explorer

Accounts

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Transfer

Chain state

Extrinsics

Sudo

Settings

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Javascript

GitHub

Wiki

substrate-node v2.0.0  
api v0.100.0-beta.2

Chain info

Block details

Node info

block hash or number to query

last block

target

total issuance

finalized

best

2.6s6s4.611M7778

recent blocks

recent events

78

0xe771f92709e81ccbdb56e238fa6...

parentHash 0x5608967169bc24cb19d87a17aa...

extrinsicsRoot 0x4d69a467254296cd3789ddef86...

stateRoot 0xda1318e7cbf66ea1ab2ef3c23f...

77

0x5608967169bc24cb19d87a17aa...

76

0x3a7406945e360691fb2f5bf10451...

75

0x053ce5e698742affb470842e962...

74

0x89d97fa350728f226eb46fdeff8f7...

73

0x868dbbba87ab6aa4748c628941...

72

0x0833b1b5f22756b43281d4b1ea...

no events available

Development  
version 1  
#95

Explorer

Accounts

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GitHub

Wiki

substrate-node v2.0.0  
api v0.100.0-beta.2

My accounts

Vanity address

It is recommended that you create/store your accounts securely and externally from the app. On Chrome the following browser extensions are available for use -

polkadot-js extension

(Basic account injection and signer)

Accounts injected from any of these extensions will appear in this application and be available for use. The above list is updated as more extensions with external signing capability become available. [Learn more...](#)

+ Add account

or

Restore JSON

or

Add via QR

filter by tags

☆

ALICE

F7Hs

no tags

balances

1.152M DEV

transactions 0

type sr25519

send

☆

ALICE\_STASH

F7Pa

no tags

balances

1.152M DEV

transactions 0

type sr25519

send

☆

ALICE\_SESSION

-

no tags

balances

0.000 DEV

transactions 0

type ed25519

send

☆

BOB

F7NZ

no tags

balances

1.152M DEV

transactions 0

type sr25519

send

☆

BOB\_STASH

F7XB

no tags

balances

1.152M DEV

transactions 0

type sr25519

send

☆

CHARLIE

-

no tags

balances

0.000 DEV

transactions 0

type sr25519

send

☆

DAVE

-

no tags

balances

transactions 0

send

Development  
version  
#10

Explorer

Accounts

Address book

Transfer

Chain state

Extrinsics

Send funds

send from account ?

ALICE

5GrwvaEF5zXb26Fz9rcQpDWS57CtERHpNehXCPeNo...

transferrable 1.152M DEV

send to address ?

BOB

5FHneW46xGXgs5mUiveU4sbTyGBzmstUspZC92Uhj...

transferrable 1.152M DEV

amount ?

1

DEV

Cancel

or

Make Transfer

?

Add via Qr

Development  
version 1  
#109

Explorer

Accounts

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Transfer

Chain state

Extrinsics

Sudo

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substrate-node v2.0.0  
api v0.100.0-beta.2

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Accounts injected from any of these extensions will appear in this application and be available for use. The above list is updated as more extensions with external signing capability become available. [Learn more](#)

+ Add account or

filter by tags

☆	ALICE F7Hs	no tags	balances	1.152M DEV	transactions 1 type sr25519	send	⚙
☆	ALICE_STASH F7Pa	no tags	balances	1.152M DEV	transactions 0 type sr25519	send	⚙
☆	ALICE_SESSION -	no tags	balances	0.000 DEV	transactions 0 type ed25519	send	⚙
☆	BOB F7NZ	no tags	balances	1.152M DEV	transactions 0 type sr25519	send	⚙
☆	BOB_STASH F7XB	no tags	balances	1.152M DEV	transactions 0 type sr25519	send	⚙
☆	CHARLIE	no tags	balances		transactions 0	send	⚙

Dismiss all notifications

balances.transfer finalized

balances.Transfer BOB transfer received

balances.Transfer extrinsic event

system.ExtrinsicSuccess extrinsic event

Development  
version 1  
#112

Explorer

Accounts

Address book

Transfer

Chain state

Extrinsics

Sudo

Settings

Toolbox

Javascript

GitHub

Wiki

substrate-node v2.0.0  
api v0.100.0-beta.2

Chain info

Block details

Node info

block hash or number to query

108 0x4b1c89c7b6806896a52949cfc6a9978eea669acbae8a855636f193644fe1307b

parentHash 0x6a77951b03ad90a05a5df8b85166f0a3bc09e3c27c8bd5cc36491bb88d793f

extrinsicsRoot 0x723c1258201549c9eeafb8f46a41e6f91480d322b3741e780224e9e35af82cea

stateRoot 0x947a01072b19209704180f5e3f76140bed7681f23c401164fda57acb9f938437

extrinsics

timestamp.set (#0)  
► Set the current time. This call should be invoked exactly on...

balances.transfer (#1)  
► Transfer some liquid free balance to another account. `tran...`

logs

PreRuntime  
► Details

Seal

events

system.ExtrinsicSuccess (#0)  
► An extrinsic completed successfully.

balances.Transfer (#1)  
► Transfer succeeded (from, to, value, fees).

system.ExtrinsicSuccess (#1)  
► An extrinsic completed successfully.