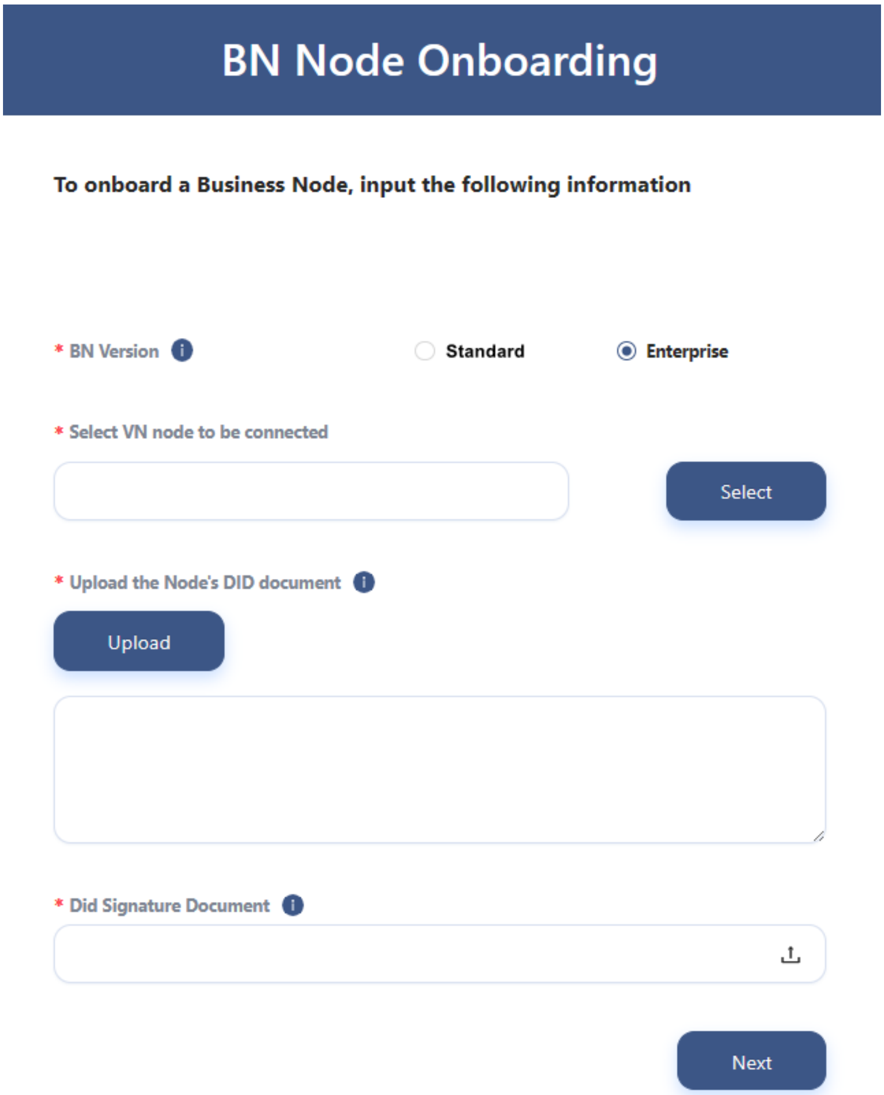
BN Back-end Management System Operation Manual

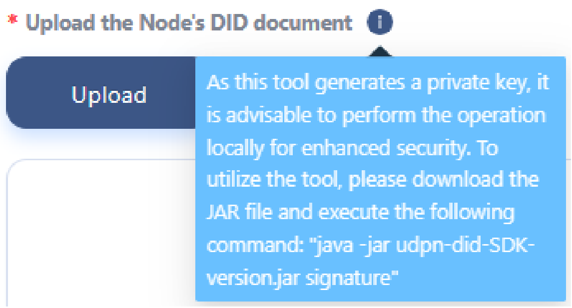
1. BN Node Onboarding

After installing the BN node, users should open the local link (http://localhost:8080/) and fill out the BN network access information:

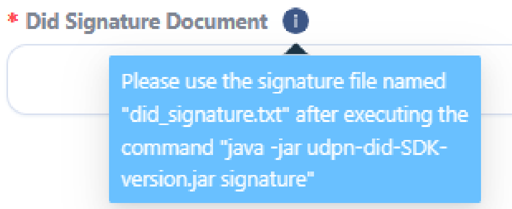


Users should select the BN version and VN to connect to, upload the DID and DID signature document, and click "Next";

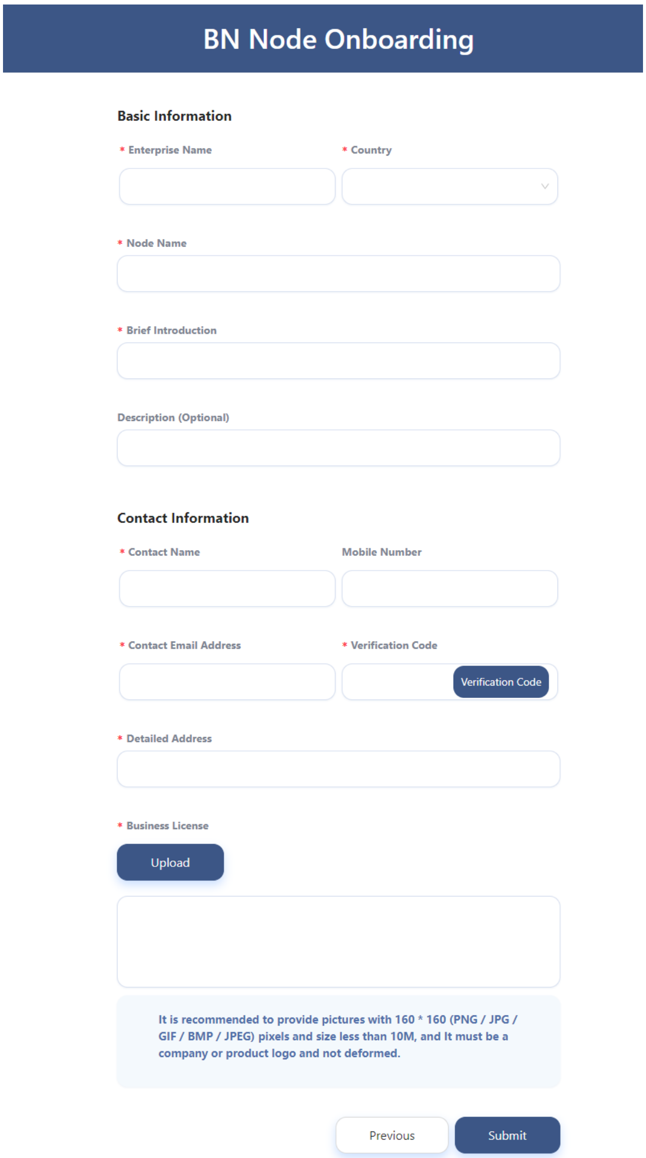
- For information on how to generate the DID document, please refer to:



- For information on how to generate the DID Signature Document, please refer to::



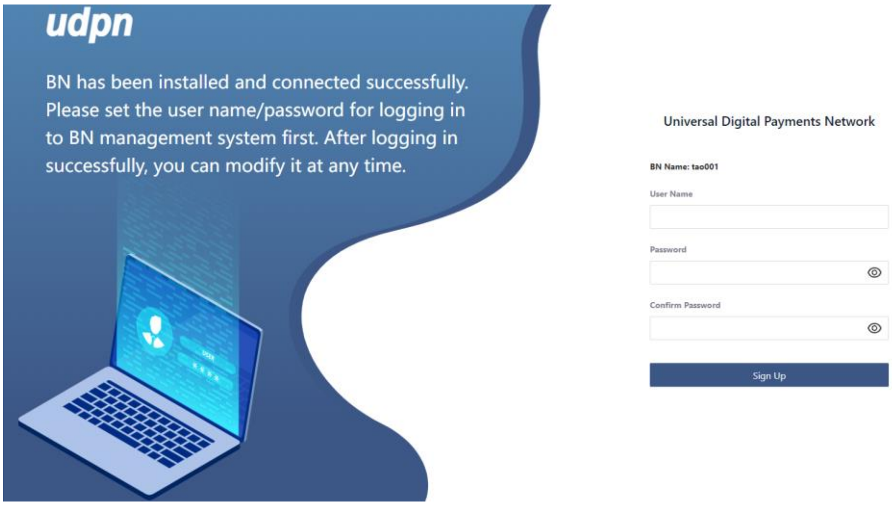
Users should enter their basic information, including Enterprise Name, Country, Node Name, Brief Introduction, and Description, as well as their contact information, including Contact Name, Mobile Number, Contact Email Address, Verification Code, and Detailed Address. After uploading their Business License, they should submit their application for network access and wait for the VN governance system to vote.



2. Creating a Login Account and Logging In

2.1 Creating a Login Account

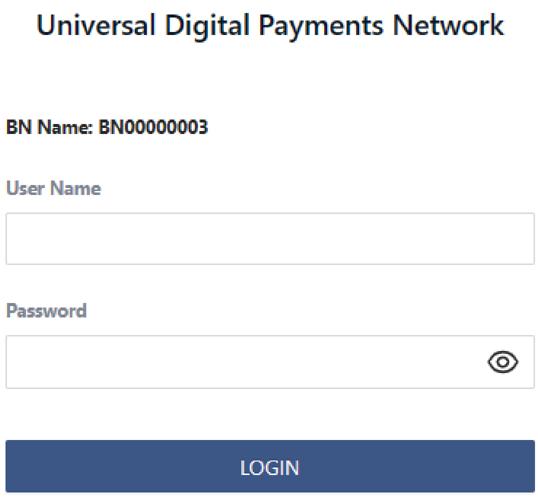
After the BN node's network access application is approved, users can proceed to create a login account:



Users can create an account by entering their User Name, Password, and Confirm Password.

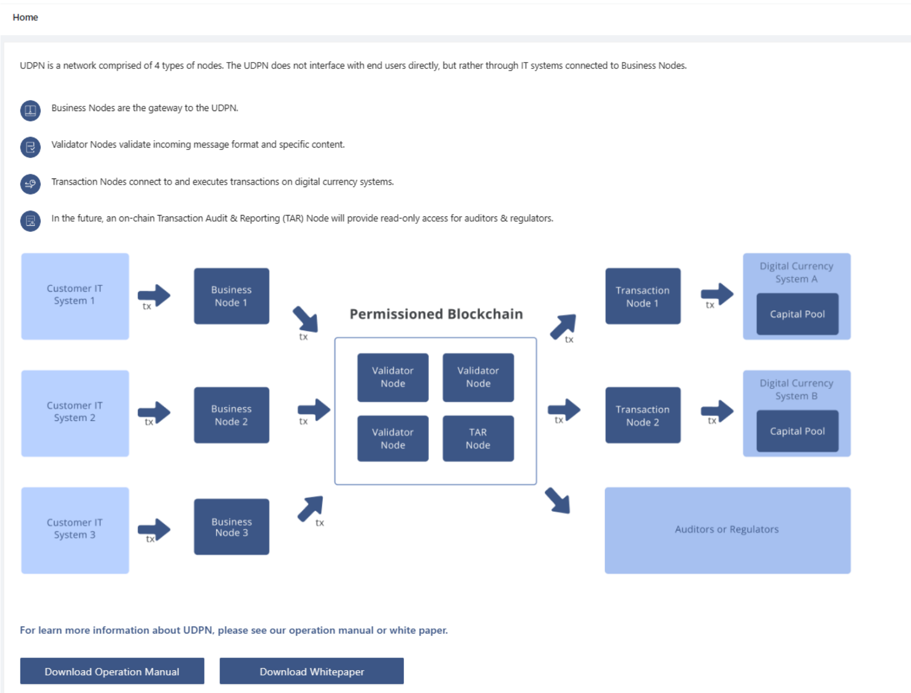
2.2 Logging In

Users can log in to the BN back-end management system by entering their User Name and Password.



3. Home

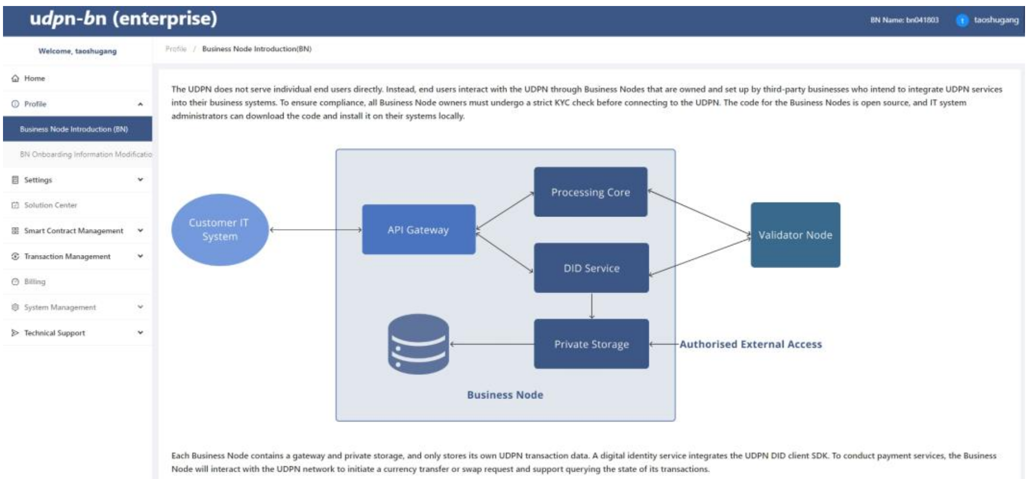
Here, users can learn about the overall overview and technical architecture of UDPN. Users can also download user manuals and white papers to learn more about UDPN.



4. Settings

4.1 Business Node Introduction (BN)

Go to the "Home-> Business Node Introduction" page, where you can view the information of Business Node Introduction (BN).



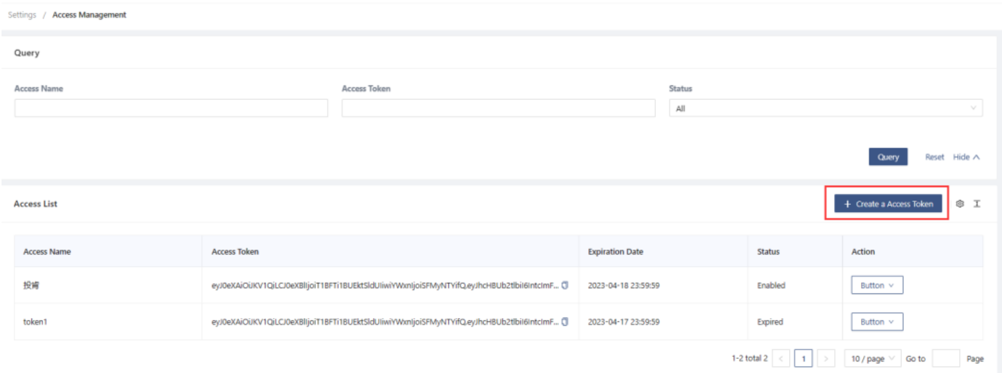
5. Settings

5.1 Access Management

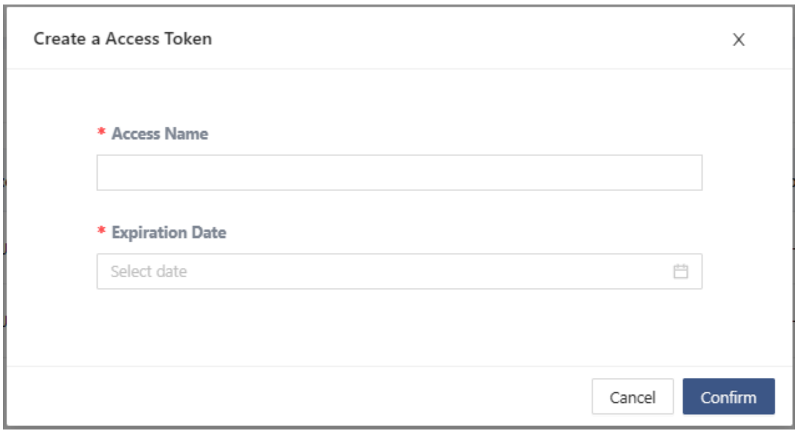
When an IT business system accesses BN through an interface, BN must assign an Access Token to the business system before it can access the system. Access Tokens have three states: Enabled, Disabled, and Expired. When in the Enabled state, Access Tokens can be refreshed, disabled, or deleted. When in the Disabled state, Access Tokens can be enabled or deleted. When in the Expired state, Access Tokens can be deleted.

5.1.1 Create an Access Token

On the "Access Management" page, click the "Create an Access Token" button:

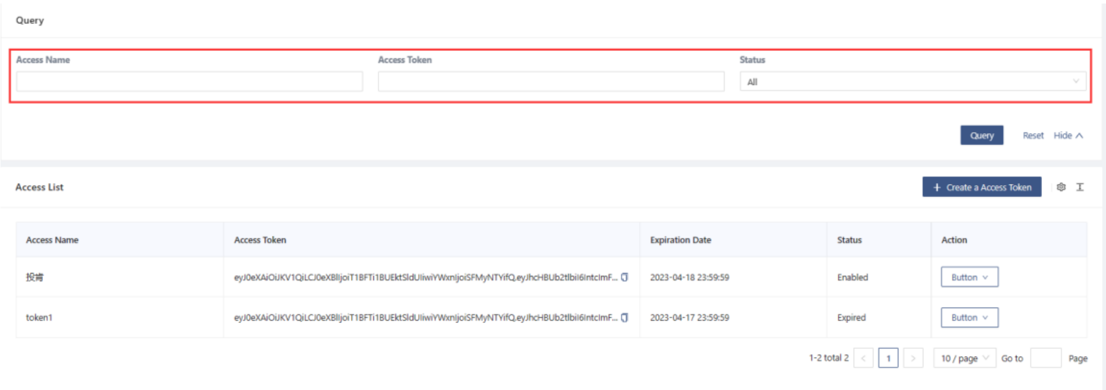


In the "Create an Access Token" dialog box, enter the Access Name and Expiration Date to create the Access Token.



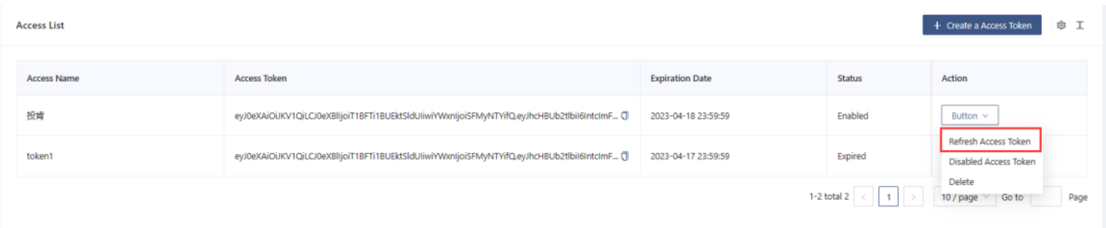
5.1.2 Query

Users can query Access Token information by entering Access Name, Access Token, and Status (All, Enabled, Disabled, Expired).

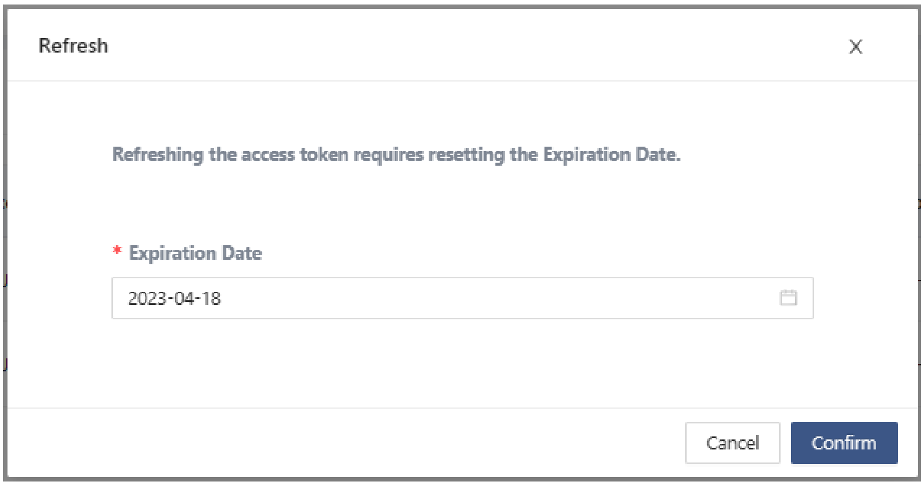


5.1.3 Refresh Access Token

Users can refresh an Access Token by clicking the "Refresh Access Token" button in the Action column:

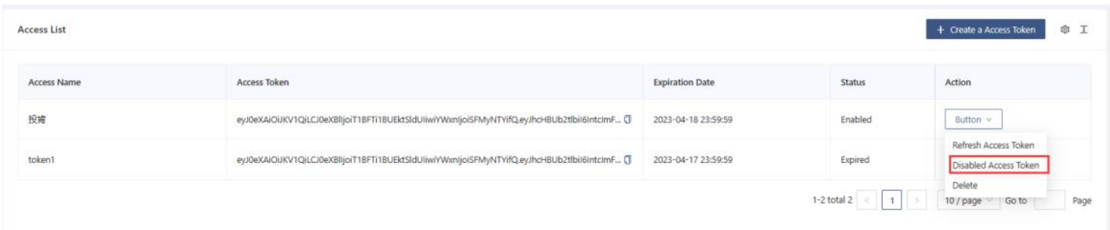


When refreshing, users can set a new expiration date for the Access Token.



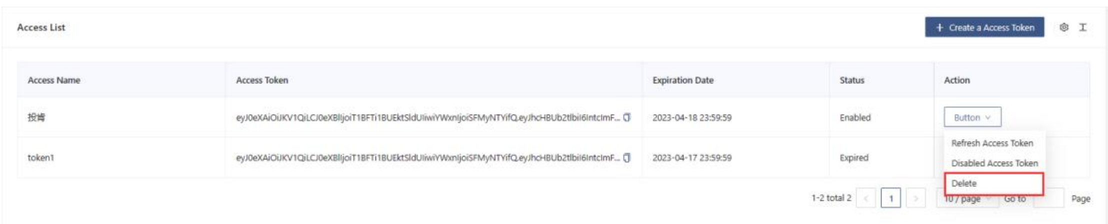
5.1.4 Disabled Access Token

Users can disable an Access Token by clicking the "Disable Access Token" button in the Action column. Disabled Access Tokens cannot access BN.



5.1.5 Delete Access Token

Users can delete an Access Token by clicking the "Delete Access Token" button in the Action column:



6. Smart Contract Management

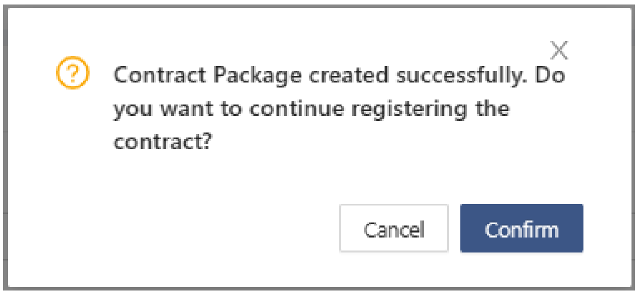
6.1 My Contract Packages

6.1.1 Create Contract Package

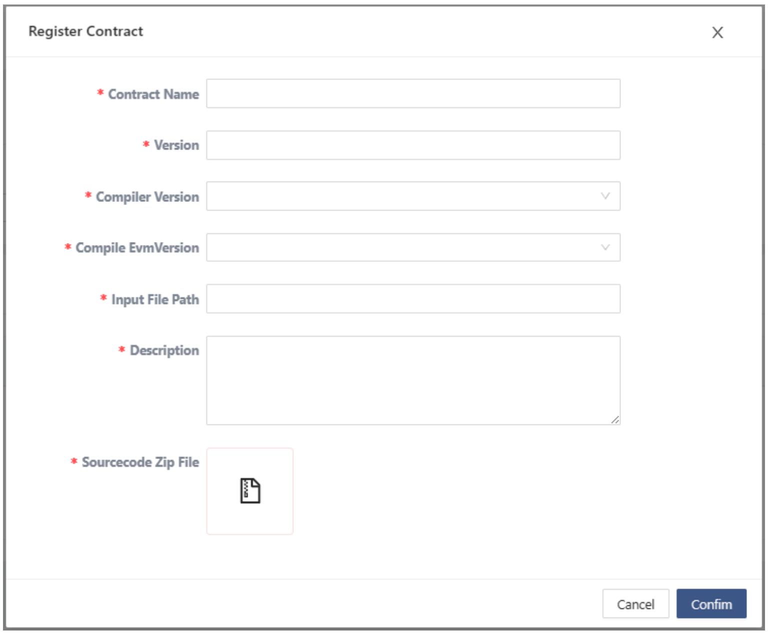
Enter the "My Contract Packages" page and click the "Create Contract Package" button:

In the popped up "Create Contract Packages" dialog box, enter the "Contract Package Name" and "Description", and click the "confirm" button to create the contract package successfully.

After the contract package is created successfully, the user will be prompted whether to continue registering the contracts under the contract package:



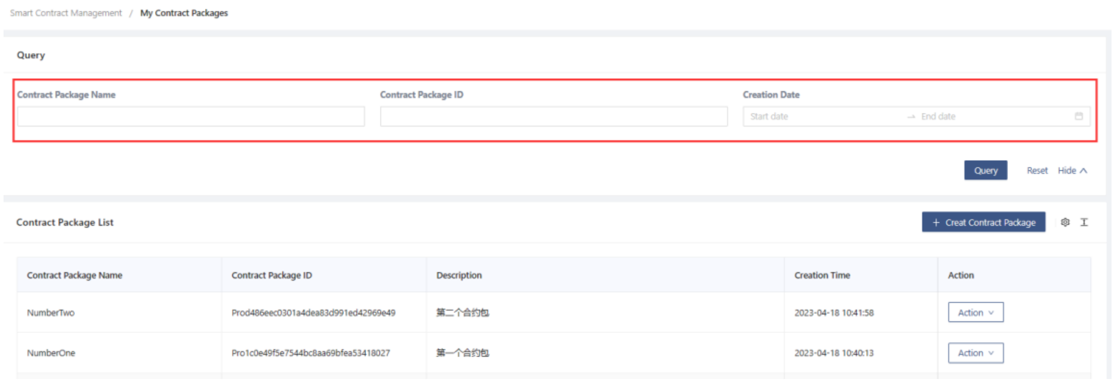
Click the ″confirm″ button to pop up the ″Register Contract″ dialog box:



Enter the Contract Name, Version, choose Compiler Version, Compile EvmVersion, Input File Path, Description, and upload the contract source code package. After that, click the ″Confirm″ button to register the contract successfully.

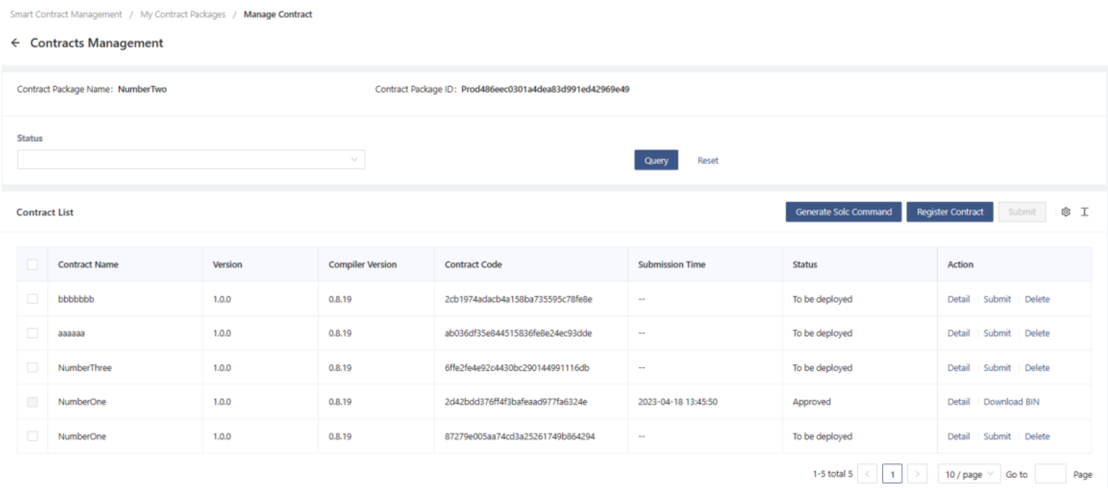
6.1.2 Query

Users can query contract package information according to the Contract Package Name, Contract Package ID, and Creation Date.



6.1.3 Contract Management

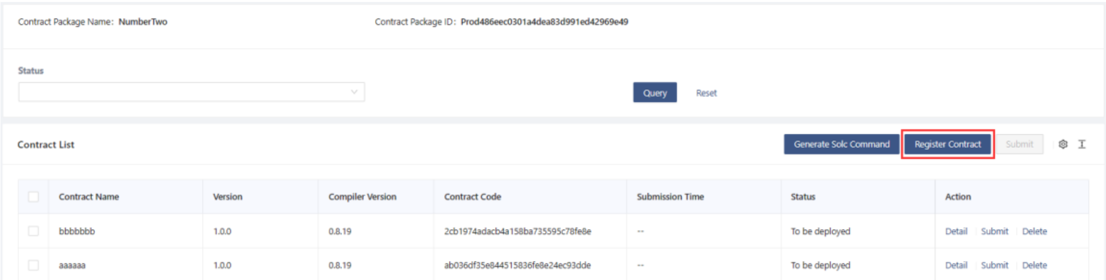
Users can click on "Contract Management" in the operation column to navigate to the "Contract Management" page, where they can manage all contracts under that contract.



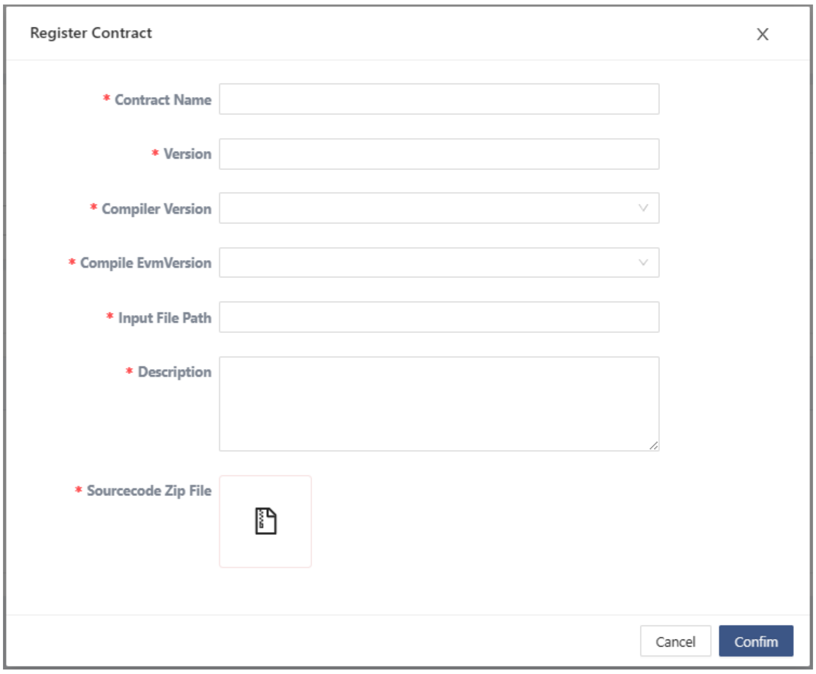
Contract management includes registering contracts, querying contracts, submitting contracts to the VN system for voting, viewing contract details, deleting pending contracts, downloading approved contracts, and deploying and calling contracts through API interfaces.

6.1.3.1 Register Contract

Multiple contracts can be registered in each contract package. Click the "Register Contract" button to register a new contract in the contract package:



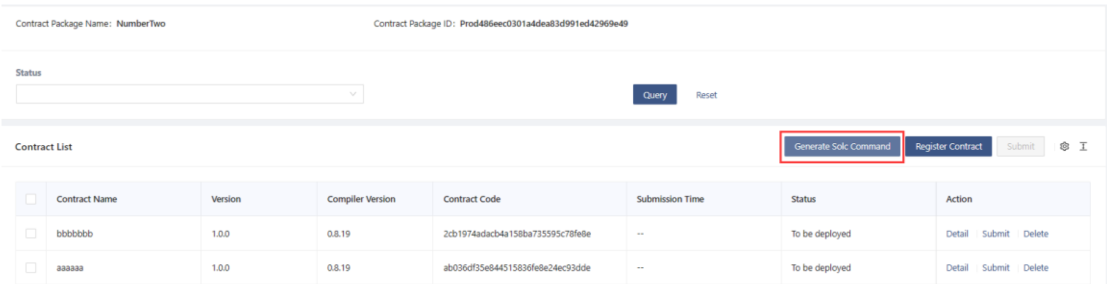
Enter the Contract Name, Version, choose Compiler Version, Compile EvmVersion, Input File Path, Description, and upload the contract source code package in the popped-up "Register Contract" dialog box. After that, click the "Confirm" button to register the contract successfully.

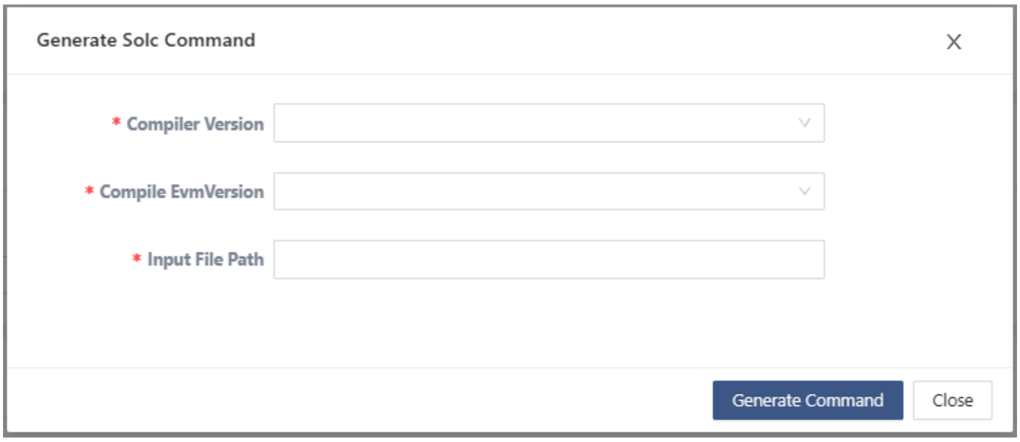


6.1.3.2 Generate Solc Command

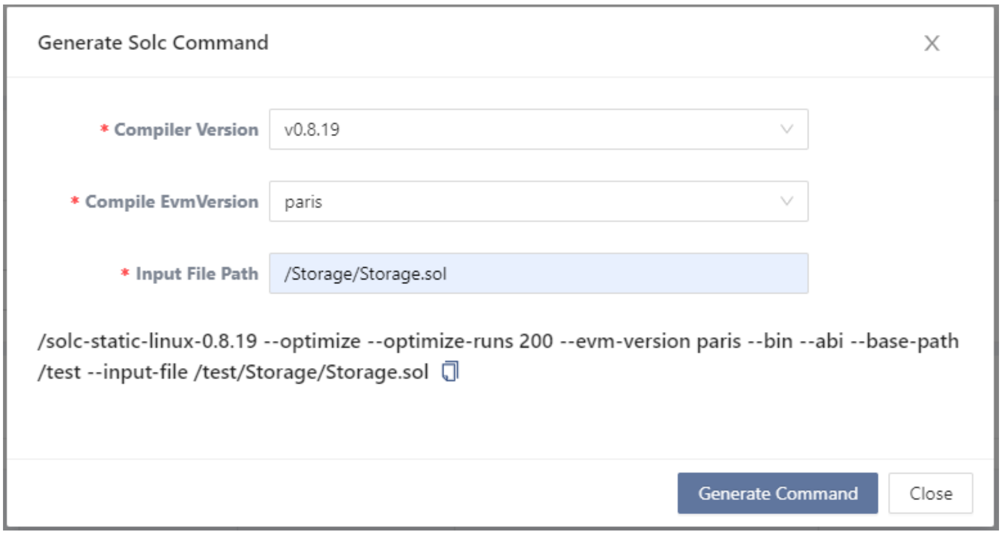
This function prompts users to compile contracts according to the specified command format.

Click the "Generate Solc Command" button to pop up the "Generate Solc Command" dialog box:



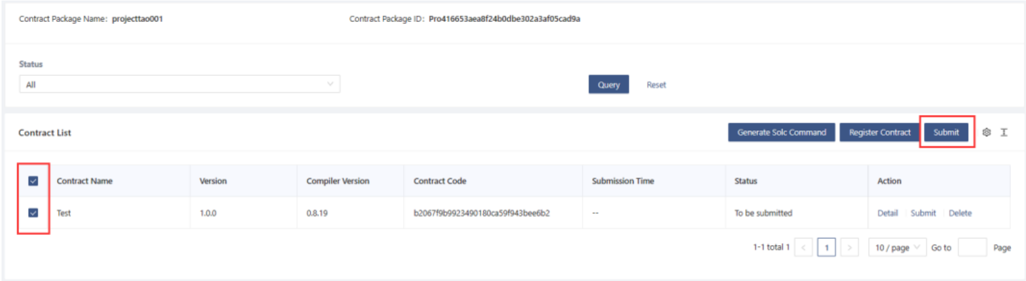


Select Compiler Version, Compile EvmVersion, enter Input File Path, and then click the "Generate Command" button to generate a compilation command for users. Users need to compile the contract according to this command format.



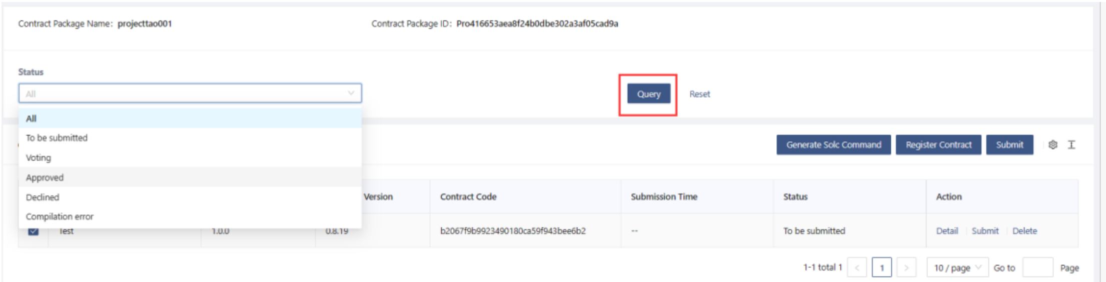
6.1.3.3 Submit

In the contract list of the contract package, select one or more contracts in the "To be Submitted" status, and click the "Submit" button to submit to the VN system for voting.



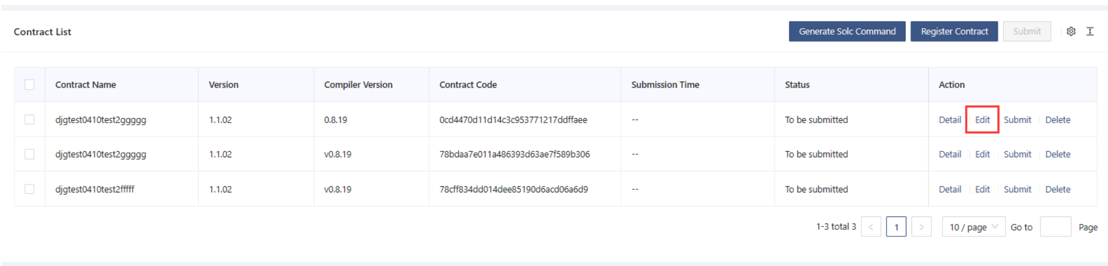
6.1.3.4 Query

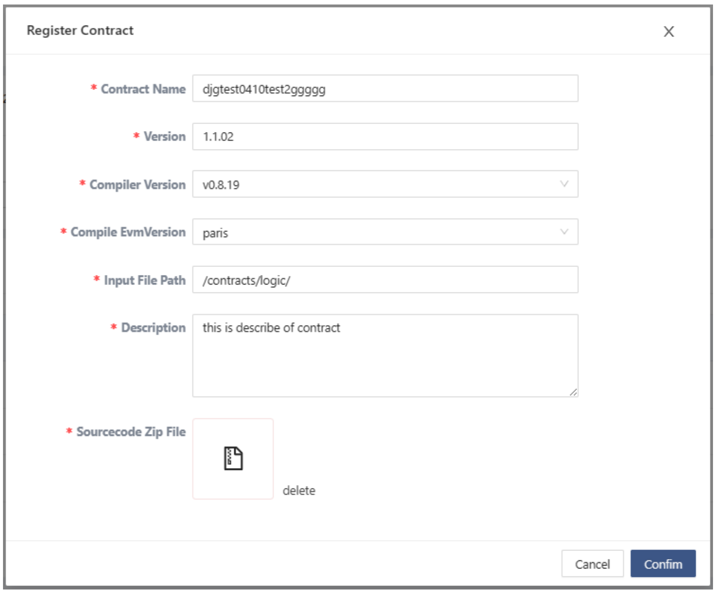
Users can query contract information based on different contract statuses.



6.1.3.5 Edit

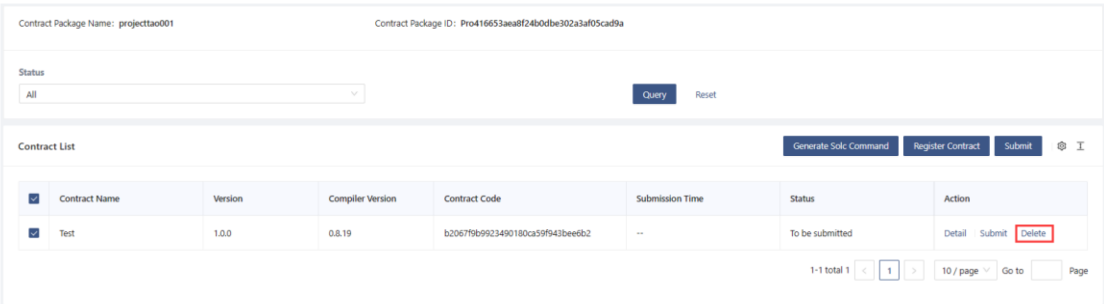
Select a contract in the "To be submitted" status in the contract list and click the "Edit" button to modify contract information.





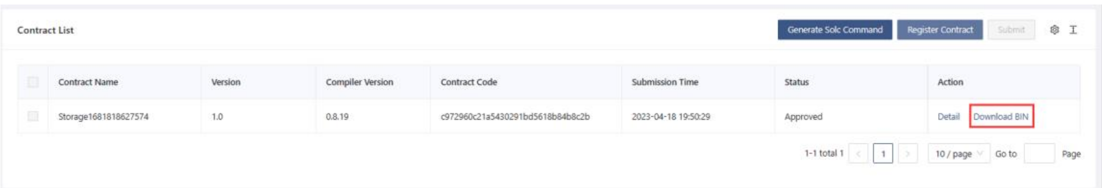
6.1.3.6 Delete

Select a contract in the "To be submitted" or "Declined" status in the contract list and click the "Delete" button to delete the contract information in the contract package.



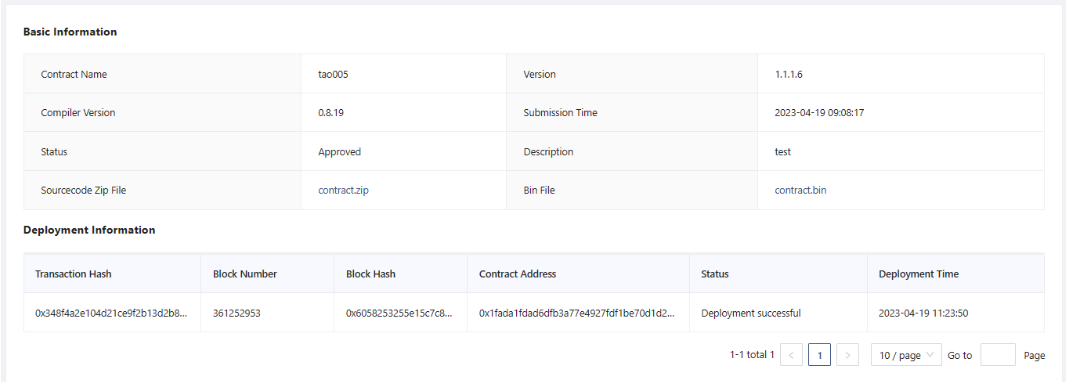
6.1.3.7 Download Bin

Select a contract in the "Approved" status in the contract list and click the "Download Bin" button to download the Bin file of the contract.



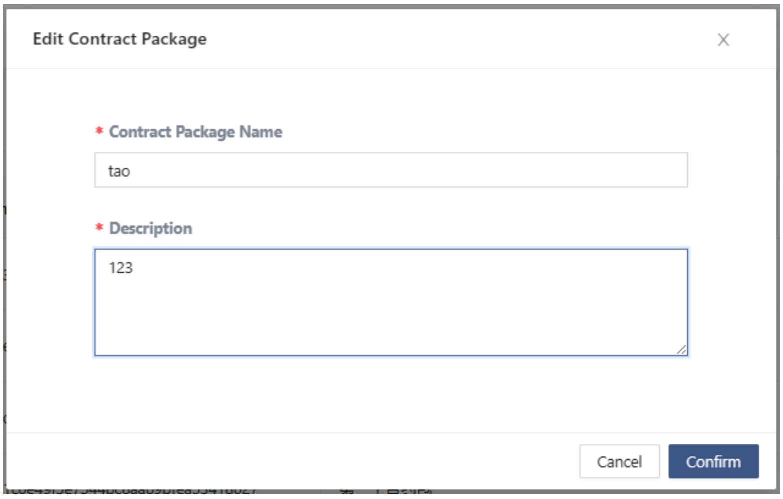
6.1.3.8 Detail

Select any contract in the contract list and click the "Detail" button to enter the "Detail" page, where users can view the basic information and deployment information of the contract.



6.1.4 Edit

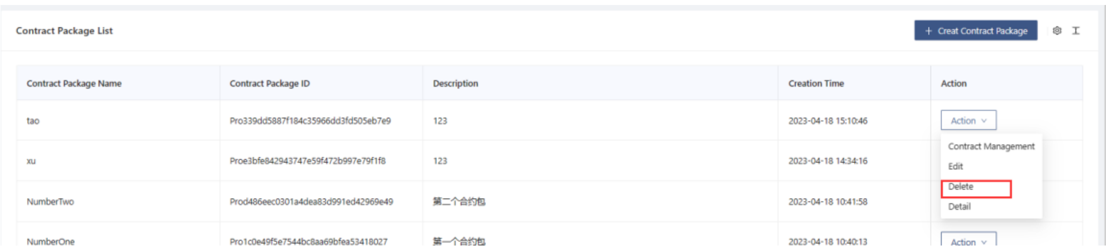
Click the "Edit" button in the operation column of the "My Contract Packages" page to edit the contract package information:



In the "Edit Contract Package" pop-up box, users can modify the Contract Package Name and Description.

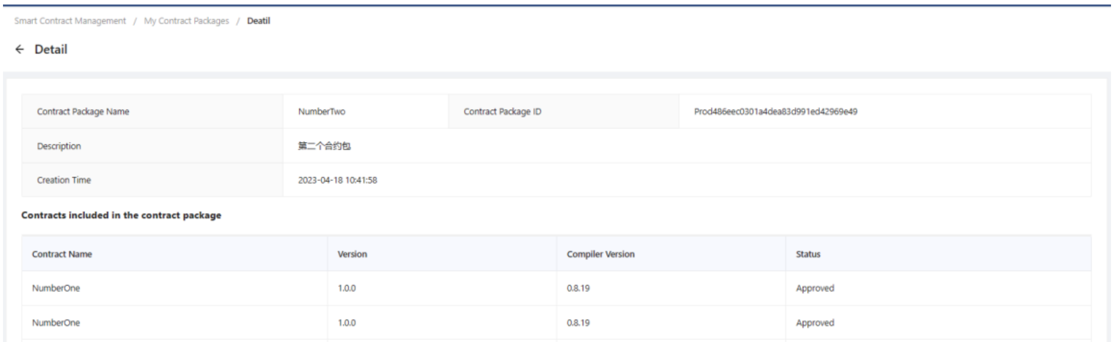
6.1.5 Delete

Users can click the "Delete" button in the Action column to delete a contract package. If the package contains deployed contracts and Set Code operation has been completed, the package cannot be deleted.



6.1.6 Detail

Users can click the "Detail" button in the Action column to view the details of a contract package:



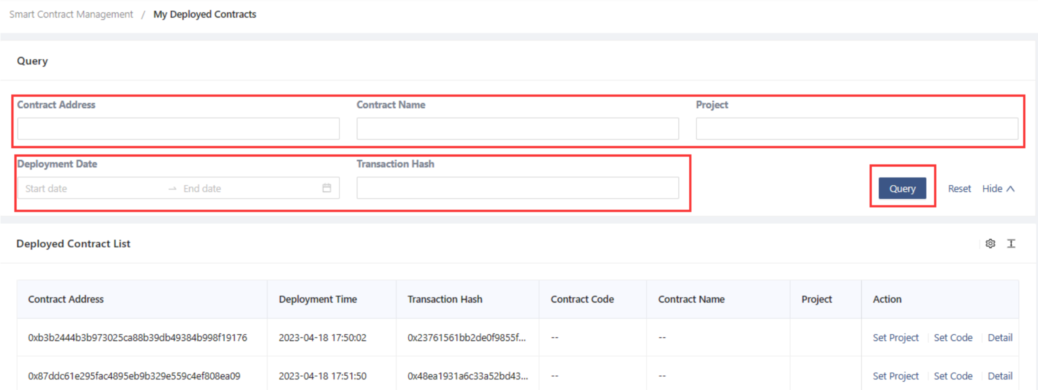
On the contract package details page, users can view the basic information of the package and the contracts it contains.

6.2 My Deployed Packages

On the "My Deployed Packages" page, users can query and view all successfully deployed contracts associated with their account. They can also use the Set Code and Smart Contract Management modules to associate contracts within a package or group contracts by project.

6.2.1 Query

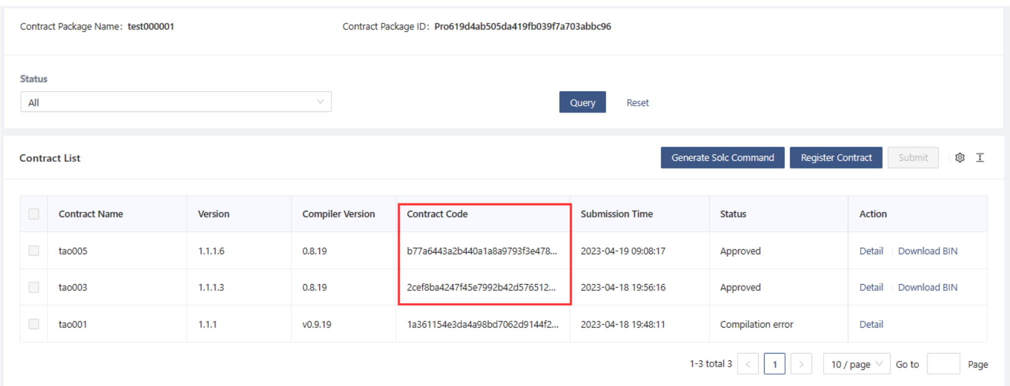
Users can input the Contract Address, Contract Name, Project, Deployment Date, and Transaction Hash, and click the "Query" button to view information about their deployed contracts.



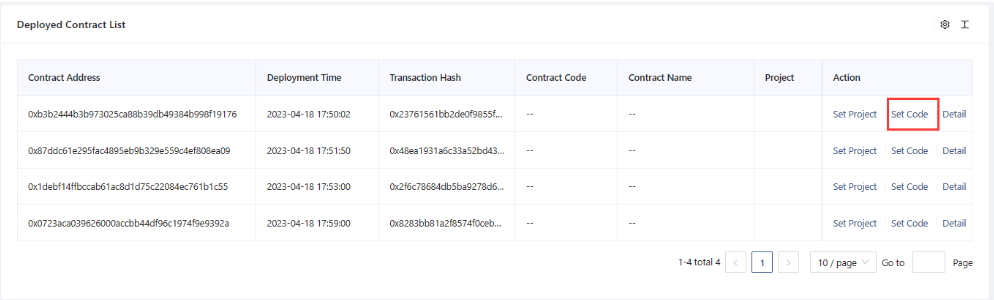
6.2.2 Set Code

Used to link a deployed contract package to the uploaded contract source code package.

On the "Smart Contract Management" -> "My Contract Packages" -> "Contract Management" page, users can copy the "Contract Code" from the list.

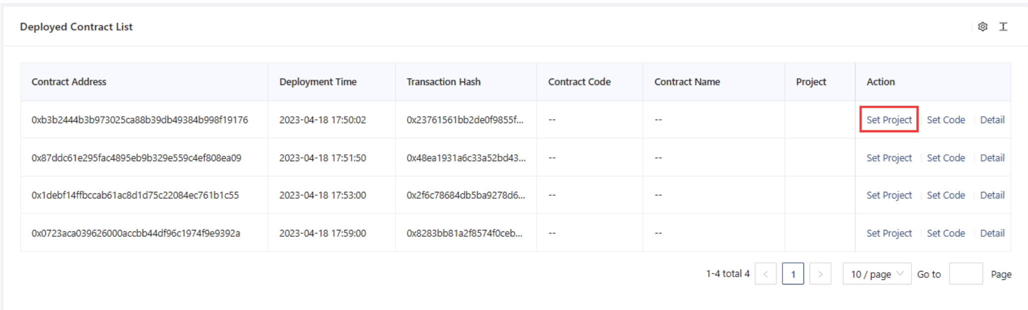


On the "My Deployed Packages" page, users can find the deployed contract corresponding to the original contract and click the "Set Code" button. They can then paste the "Contract Code" copied from the "Contract Management" page to establish the association.

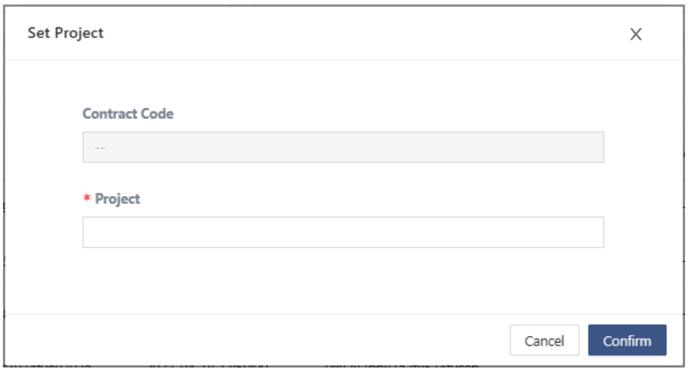


6.2.3 Set Project

On the "My Deployed Packages" page, users can select a contract from the "Deployed Contract List" and click the "Set Project" button:

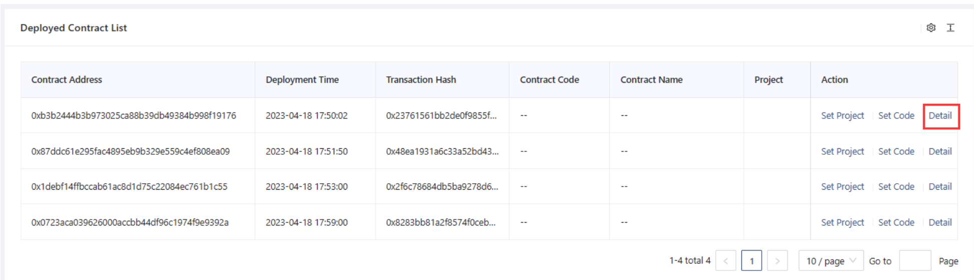


In the "Set Project" dialog box, users can enter the project name and click "Confirm" to successfully set the project.

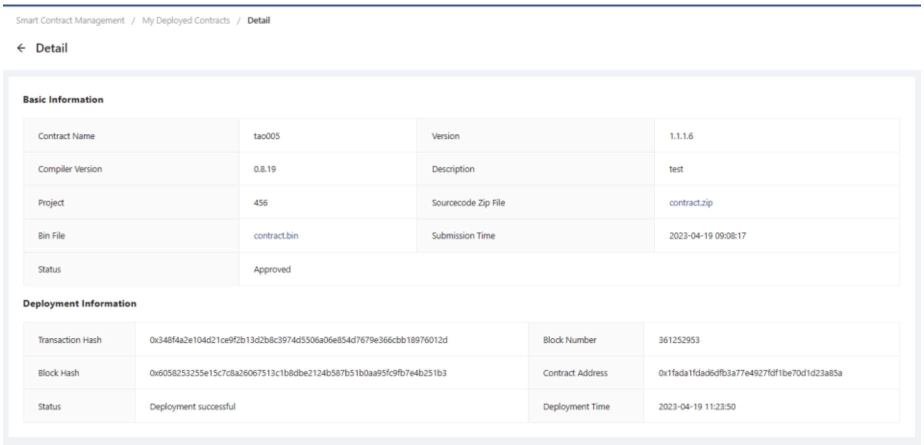


6.2.4 Detail

On the "My Deployed Packages" page, users can select a contract from the "Deployed Contract List" and click the "Detail" button:



On the "Detail" page, users can view detailed information about the deployed contract, including basic information and deployment details.



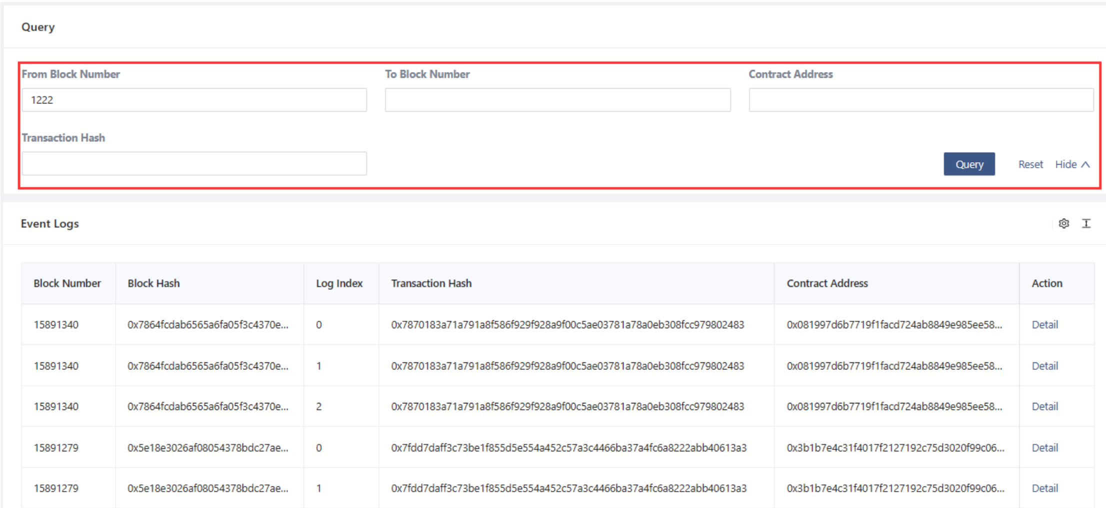
7. Transaction Management

Users can query transaction information submitted from the BN node here.

7.1 Event logs

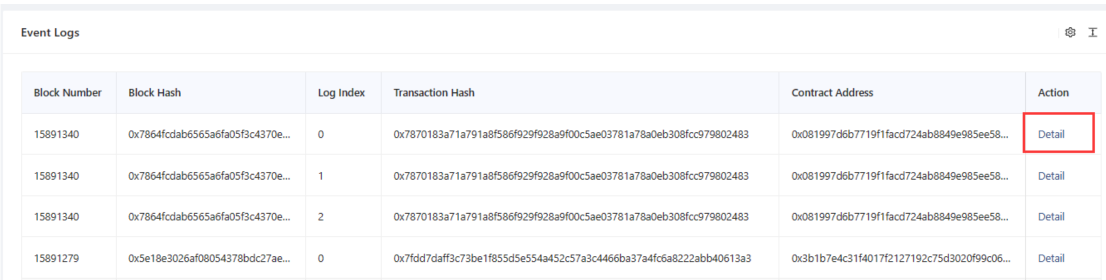
7.1.1 Query

On the "Event Logs" page, users can enter one or more search criteria, including From Block Number, To Block Number, Contract Address, and Transaction Hash. Clicking the "Query" button will return matching event logs.

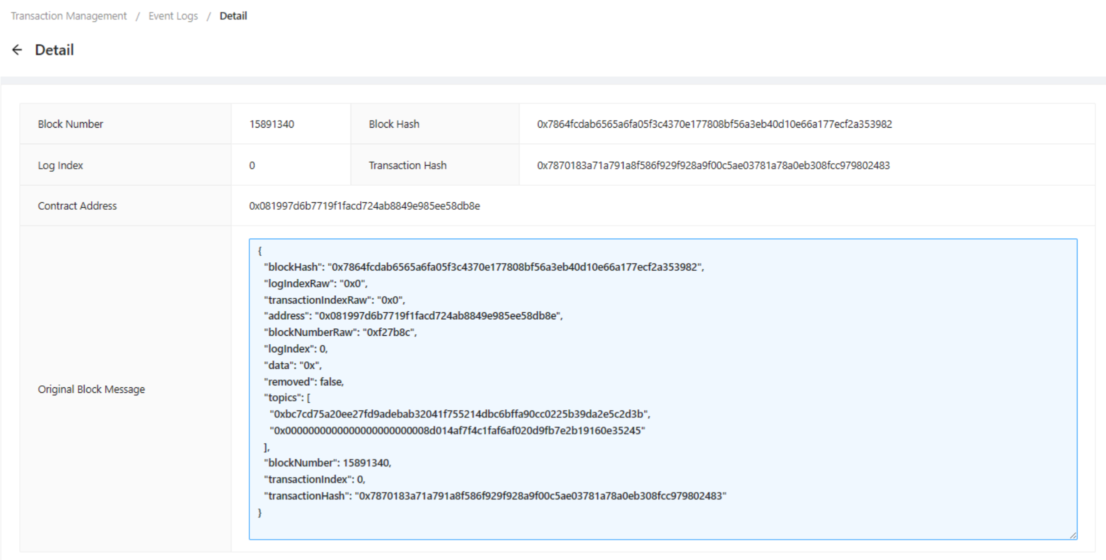


7.1.2 Detail

In the "Event Logs" list, users can select a data record and click the "Detail" button in the action column:



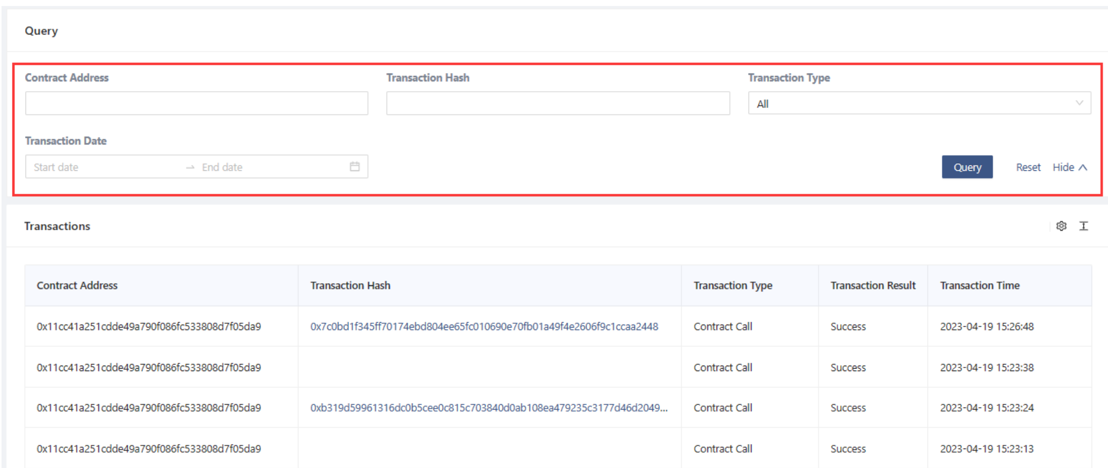
On the "Detail" page, users can view detailed information about the event log.



7.2 Transactions

7.2.1 Query

On the "Transactions" page, users can enter one or more search criteria, including Contract Address, Transaction Hash, Transaction Type, and Transaction Date. Clicking the "Query" button will return matching transactions.



7.2.2 Transaction Receipt

In the "Transactions" list, users can click the "Transaction Hash" to view the transaction receipt associated with that transaction.