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Connecting to Sundaeswap Gateway

1. **Run the Command:** `gateway connect sundaeswap`
2. **Select Blockchain:** Type `cardano`.
3. **Choose Network:**
   - **For mainnet:** `mainnet`
   - **For preview network:** `preview`
4. **Confirm Node URL:** Type `Yes` to use the default node.
5. **Select Wallet Option:** Choose `No` if you do not want to connect using an existing wallet on Gateway.
6. **Enter Private Key:** Provide your Cardano wallet private key (ensure it remains secure).
7. **Success Message:** Upon successful connection, you'll see a confirmation displaying your wallet address and balance.

```
>>>  gateway connect sundaeswap

Which chain do you want sundaeswap to connect to? (cardano) >>> cardano

Which network do you want sundaeswap to connect to? (mainnet, preview) >>> preview

Do you want to continue to use node url 'None' for cardano-preview? (Yes/No) Yes

Do you want to connect to cardano-preview with one of your existing wallets on Gateway? (
Yes/No) >>> No

Enter your cardano-preview wallet private key >>> ************************************
****************************
                                                    Wallet         ADA
addr_test1vz5x8hgp7tunnvm33m9mp4pwdxr3vrd5k03r4dq4yuh3znsyp3sum 9084.316574
The sundaeswap connector now uses wallet addr_test1vz5x8hgp7tunnvm33m9mp4pwdxr3vrd5k03r4d
q4yuh3znsyp3sum on cardano-preview
```

Checking Balance on SundaeSwap Gateway

1. **Run the Command:**

   ```
   gateway balance sundaeswap_cardano_preview
   ```

2. **Wait for the Update:**
   The gateway will fetch your wallet balance.
3. **View Results:**
   - **Wallet Address:** Displays the connected wallet address.
   - **Symbol:** The token (e.g., ADA).
   - **Balance:** Available balance in the wallet.

```
>>>  gateway balance sundaeswap_cardano_preview
Updating gateway balances, please wait...

Connector: sundaeswap_cardano_preview
Wallet_Address: addr_test1vz5x8hgp7tunnvm33m9mp4pwdxr3vrd5k03r4dq4yuh3znsyp3sum
    Symbol   Balance Allowance
       ADA 9084.3166    0.0000
```

Adding a Token to the SundaeSwap Dex on hummingbot gateway

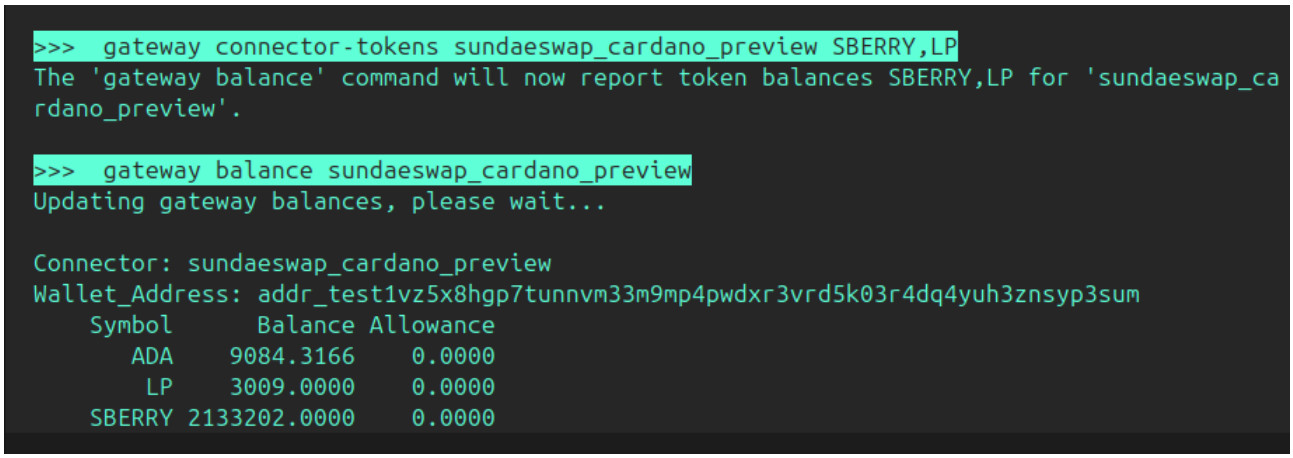
1. **Add a Token:**
   Use the following command to add specific tokens (e.g., SBERRY, LP) to your balance check.

```
gateway connector-tokens sundaeswap_cardano_preview SBERRY,LP
```

2. **Verify the Balance:**
   Run the balance command to view the added token balances.

   ```
   gateway balance sundaeswap_cardano_preview
   ```

3. **Output Details:**
   - **ADA:** Displays the ADA balance.
   - **SBERRY, LP:** Displays the balance of the added tokens (e.g., SBERRY, LP).



Creating a Script to Fetch Price of SBERRY-ADA from Sundaeswap Liquidity Pool

1. **Run the Command:**
   Use the `create` command with the following structure:

   ```
   create --script-config amm_price_sundaeswap
   ```

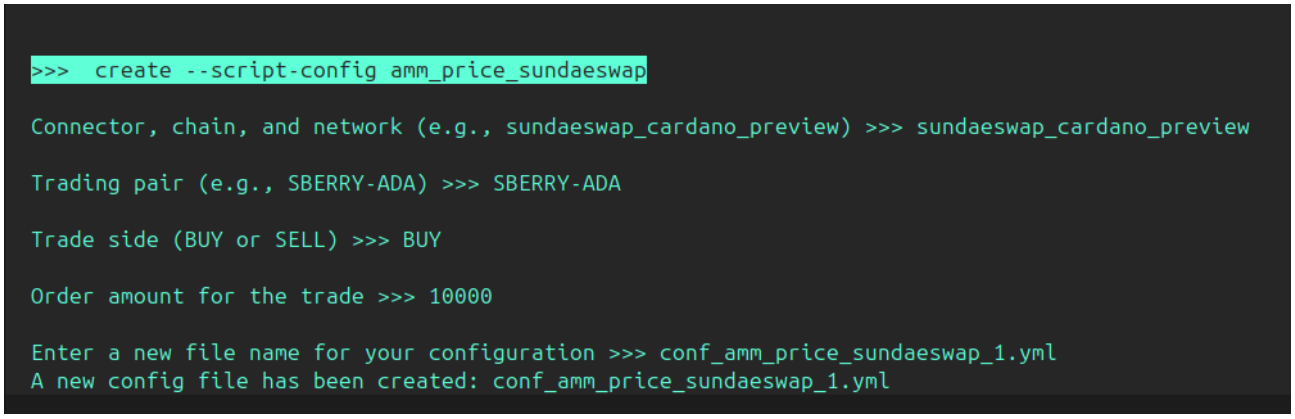
2. **Provide the Required Inputs:**

   - **Connector, Chain, and Network:** Enter the connector (e.g., `sundaeswap_cardano_preview`).
   - **Trading Pair:** Specify the pair (e.g., `SBERRY-ADA`).
   - **Trade Side:** Choose `BUY` or `SELL` (e.g., `BUY`).
   - **Order Amount:** Enter the trade amount (e.g., `10000`).
   - **File Name:** Provide a new file name for the configuration (e.g., `conf_amm_price_sundaeswap_1.yml`).

3. **Result:**
   A new configuration file will be created:

   ```
   A new config file has been created: conf_amm_price_sundaeswap_1.yml
   ```

4. **Next Steps:**
   Use the generated configuration file (`conf_amm_price_sundaeswap_1.yml`) to start the script.



Starting and Fetching Price of SBERRY-ADA from Sundaeswap Liquidity Pool

1. Run the Script

Use the `start` command to begin the script and fetch price data:

```
start --script amm_price_sundaeswap.py --conf conf_amm_price_sundaeswap_1.yml
```

2. Execution Process

- The script will initialize and fetch price information for the specified trading pair (`SBERRY-ADA`).
- Example output:

  ```
  Status check complete. Starting 'amm_price_sundaeswap' strategy...
  'amm_price_sundaeswap' strategy started.
  Run 'status' command to query the progress.
  ```

3. Stop the Script

To terminate the script, use the `stop` command:

```
stop
```

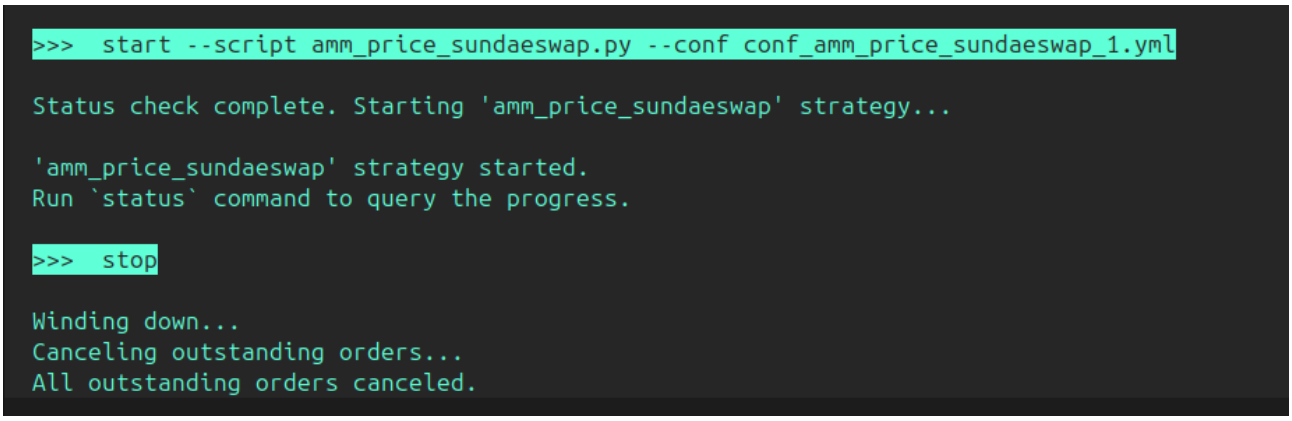
Output:

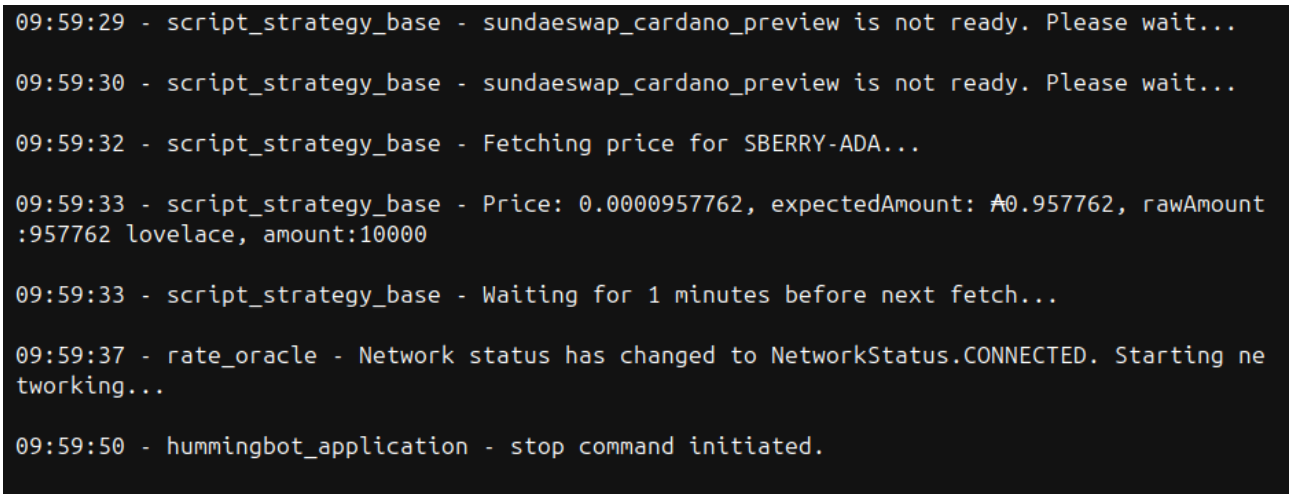
```
Winding down...
Canceling outstanding orders...
All outstanding orders canceled.
```

4. Result

The script fetches the price and balance details for the trading pair. Example log output:

```
09:59:29 - script_strategy_base - sundaeswap_cardano_preview is not ready.
Please wait...
09:59:30 - script_strategy_base - sundaeswap_cardano_preview is not ready.
Please wait...
09:59:32 - script_strategy_base - Fetching price for SBERRY-ADA...
09:59:33 - script_strategy_base - Price: ₳0.0000957762, expectedAmount:
₳0.957762, rawAmount: 957762 lovelace, amount:10000
09:59:33 - script_strategy_base - Waiting for 1 minute before next fetch...
09:59:37 - rate_oracle - Network status has changed to NetworkStatus.CONNECTED.
Starting networking...
09:59:50 - hummingbot_application - stop command initiated.
```





Trading on Sundaeswap Liquidity Pool

Create a Trade Script

To set up a trade on the SundaeSwap liquidity pool:

```
create --script-config amm_trade_sundaeswap
```

1. Provide the Required Inputs:

- **Connector, Chain, and Network:** `sundaeswap_cardano_preview`
- **Trading Pair:** `SBERRY-ADA`
- **Trade Side:**

    - **BUY:** Buy SBERRY using ADA.
    - **SELL:** Sell SBERRY to receive ADA.
- **Order Amount:** Example: `10000`
- **Configuration File:** Example: `conf_amm_trade_sundaeswap_1.yml`

2. Output:

A new configuration file has been created:

```
A new config file has been created: conf_amm_trade_sundaeswap_1.yml
```

```
>>> create --script-config amm_trade_sundaeswap

Connector, chain, and network (e.g., sundaeswap_cardano_preview) >>> sundaeswap_cardano_preview

Trading pair (e.g., ADA-MIN) >>> SBERRY-ADA

Trade side (BUY or SELL) >>> BUY

Order amount for the trade >>> 10000

Enter a new file name for your configuration >>> conf_amm_trade_sundaeswap_1.yml
A new config file has been created: conf_amm_trade_sundaeswap_1.yml
```

Start the Trade Script for SundaeSwap

Start the script to execute the trade:

```
start --script amm_trade_sundaeswap.py --conf conf_amm_trade_sundaeswap_1.yml
```

1. Execution Process:

- The script fetches the price, adjusts it with slippage, and executes the trade.

2. Example Output:

```
Status check complete. Starting 'amm_trade_sundaeswap' strategy...
'amm_trade_sundaeswap' strategy started.
Run 'status' command to query the progress.
```

```
>>> start --script amm_trade_sundaeswap.py --conf conf_amm_trade_sundaeswap_1.yml

Status check complete. Starting 'amm_trade_sundaeswap' strategy...

'amm_trade_sundaeswap' strategy started.
Run `status` command to query the progress.
```

Result of the Trade on SundaeSwap

1. Fetching Price and Adjustments:

- **Current price**: 9.57762e-05

- **Adjusted price (with slippage)**: 9.6733962e-05

2. Balances Before Trade:

- **ADA**: 9084.316574
- **SBERRY**: 2,133,202

3. Executing Trade:

- **Transaction ID**: f38b66be9cb06da5a60a982269dc252daaa6c1750d0623eb7f9f036d1fc326ed
- **Status**: Confirmed
- **Block**: 25e43878bba902f098dc9a381129126f1606e63c2929fc39f7f08f7377ec4720
- **Block Height**: 3,042,894
- **Fees**: 174,081

4. Balances After Trade:

- **ADA**: 9084.316574
- **SBERRY**: 2,143,222

```
10:34:37 - script_strategy_base - Fetching price for SBERRY-ADA...

10:34:37 - rate_oracle - Network status has changed to NetworkStatus.CONNECTED. Starting ne
tworking...

10:34:38 - script_strategy_base - Current Price: 9.57762e-05

10:34:38 - script_strategy_base - Adjusted Price with Slippage: 9.6733962e-05

10:34:38 - script_strategy_base - Fetching balances for addr_test1vz5x8hgp7tunnvm33m9mp4pwd
xr3vrd5k03r4dq4yuh3znsyp3sum...

10:34:39 - script_strategy_base - Balances: {'ADA': '9084.316574', 'SBERRY': '2133202'}

10:34:39 - script_strategy_base - Executing trade...

10:34:45 - script_strategy_base - Polling transaction status for f38b66be9cb06da5a60a982269
dc252daaa6c1750d0623eb7f9f036d1fc326ed...

10:35:16 - script_strategy_base - Transaction f38b66be9cb06da5a60a982269dc252daaa6c1750d062
3eb7f9f036d1fc326ed confirmed successfully.

10:35:16 - script_strategy_base - Block: 25e43878bba902f098dc9a381129126f1606e63c2929fc39f7
f08f7377ec4720, Block Height: 3042894, Fees: 174081

10:35:16 - script_strategy_base - Transaction is valid and successfully processed.

10:35:16 - script_strategy_base - Fetching balances for addr_test1vz5x8hgp7tunnvm33m9mp4pwd
xr3vrd5k03r4dq4yuh3znsyp3sum...

10:35:17 - script_strategy_base - Balances: {'ADA': '9084.316574', 'SBERRY': '2143222'}

10:35:17 - script_strategy_base - Trade executed successfully. No further trades will be ma
de.
```

Trading on Sundaeswap Liquidity Pool with User Specified price

Create a Trade Script with user specified price

To set up a trade on the **SundaeSwap** liquidity pool:

```
create --script-config amm_trade_wait_sundaeswap
```

- **Connector, chain, and network**: `sundaeswap_cardano_preview`
- **Trading pair(e.g,** SBERRY-ADA **)**: SBERRY-ADA
- **Trade side**:
  - BUY: Purchase SBERRY using ADA.
  - SELL: Sell SBERRY to receive ADA.
- **Order amount**: Example: `10000`
- **Slippage buffer (e.g., 0.01 for 1%)**: 0.01
- **Price of SBERRY-ADA in which you want to buy:** `0.000094`
- **Configuration file**: `conf_amm_trade_wait_sundaeswap_1.yml`

Output:

```
A new config file has been created:
conf_amm_trade_wait_sundaeswap_1.yml
```

```
>>>  create --script-config amm_trade_wait_sundaeswap

Connector, chain, and network (e.g., sundaeswap_cardano_preview) >>> sundaeswap_cardano_preview

Trading pair (e.g., SBERRY-ADA) >>> SBERRY-ADA

Trade side (BUY or SELL) >>> BUY

Order amount for the trade >>> 10000

Slippage buffer (e.g., 0.01 for 1%) >>> 0.01

Price of SBERRY-ADA in which you want to buy or sell. >>> 0.000094

Enter a new file name for your configuration >>> conf_amm_trade_wait_sundaeswap_1.yml
A new config file has been created: conf_amm_trade_wait_sundaeswap_1.yml
```

Start the Trade Script

Start the script to execute the trade:

start --script `amm_trade_wait_sundaeswap.py` --conf `conf_amm_trade_wait_sundaeswap_1.yml`

- The script fetches the price, adjusts it with slippage, and executes the trade.
- Example output: Status check complete. Starting '`amm_trade_wait_sundaeswap`' strategy… '`amm_trade_wait_sundaeswap`' strategy started. Run 'status' command to query the progress.

```
>>>  start --script amm_trade_wait_sundaeswap.py --conf conf_amm_trade_wait_sundaeswap_1.
yml

Status check complete. Starting 'amm_trade_wait_sundaeswap' strategy...

'amm_trade_wait_sundaeswap' strategy started.
Run `status` command to query the progress.
```

Result of the Trade

1. Fetching Price and Adjustments:

- **Initial Attempt (09:37:37):**
  - Current Price: 9.45243999999999e-05
  - Adjusted Price (with Slippage): 0.000095469643999999992292453121 49
  - User Specified Price: 0.000094
  - Trade Status: Conditions not met. Trade skipped.
- **Subsequent Attempt (09:38:39):**
  - Current Price: 9.2484e-05
  - Adjusted Price (with Slippage): 0.000093408840000000004289608737 66
  - User Specified Price: 0.000094
  - Trade Status: Conditions met. Executing trade...

2. Balances Before Trade:

- ADA: 9079.404413
- SBERRY: 2163262

3. Executing Trade:

- Transaction ID: 813249460771badb5a4d340917d5bfabc29c299d2c9100329cf2f048d96d8cbb
- Status: Confirmed
- Block: Not Specified
- Block Height: Not Specified
- Fees: Not Specified

4. Balances After Trade:

- ADA: 9077.798547
  SBERRY: 2173282

```
09:37:33 - script_strategy_base - sundaeswap_cardano_preview is not ready. Please wait...

09:37:34 - script_strategy_base - sundaeswap_cardano_preview is not ready. Please wait...

09:37:35 - rate_oracle - Network status has changed to NetworkStatus.CONNECTED. Starting ne
tworking...

09:37:36 - script_strategy_base - Fetching balances for addr_test1vz5x8hgp7tunnvm33m9mp4pwd
xr3vrd5k03r4dq4yuh3znsyp3sum...

09:37:37 - script_strategy_base - Updated Balances: {'ADA': '9079.404413', 'SBERRY': '21632
62'}

09:37:37 - script_strategy_base - Fetching price for SBERRY-ADA...

09:37:37 - script_strategy_base - Current Price: 9.452439999999999e-05

09:37:37 - script_strategy_base - Adjusted Price with Slippage: 0.0000954696439999999922924
5312149

09:37:37 - script_strategy_base - User Specified Price: 0.000094

09:37:37 - script_strategy_base - Trade conditions not met. Skipping execution.

09:37:37 - script_strategy_base - Waiting for 1 minutes before next fetch...

09:38:38 - script_strategy_base - Fetching balances for addr_test1vz5x8hgp7tunnvm33m9mp4pwd
xr3vrd5k03r4dq4yuh3znsyp3sum...

09:38:39 - script_strategy_base - Updated Balances: {'ADA': '9079.404413', 'SBERRY': '21632
62'}

09:38:39 - script_strategy_base - Fetching price for SBERRY-ADA...

09:38:39 - script_strategy_base - Current Price: 9.2484e-05

09:38:39 - script_strategy_base - Adjusted Price with Slippage: 0.0000934088400000000042896
0873766

09:38:39 - script_strategy_base - User Specified Price: 0.000094

09:38:39 - script_strategy_base - Executing trade...

09:38:47 - script_strategy_base - Polling transaction status for 813249460771badb5a4d340917
d5bfabc29c299d2c9100329cf2f048d96d8cbb...

09:39:17 - script_strategy_base - Fetching transaction, please wait...

09:39:17 - script_strategy_base - Transaction 813249460771badb5a4d340917d5bfabc29c299d2c910
0329cf2f048d96d8cbb confirmed successfully.

09:39:17 - script_strategy_base - Fetching balances for addr_test1vz5x8hgp7tunnvm33m9mp4pwd
xr3vrd5k03r4dq4yuh3znsyp3sum...

09:39:18 - script_strategy_base - Updated Balances: {'ADA': '9077.798547', 'SBERRY': '21732
82'}

09:39:18 - script_strategy_base - Trade executed successfully. No further trades will be ma
de.
```

Add Liquidity on SundaeSwap

Create an Add Liquidity Script with user-specified amount

Command:

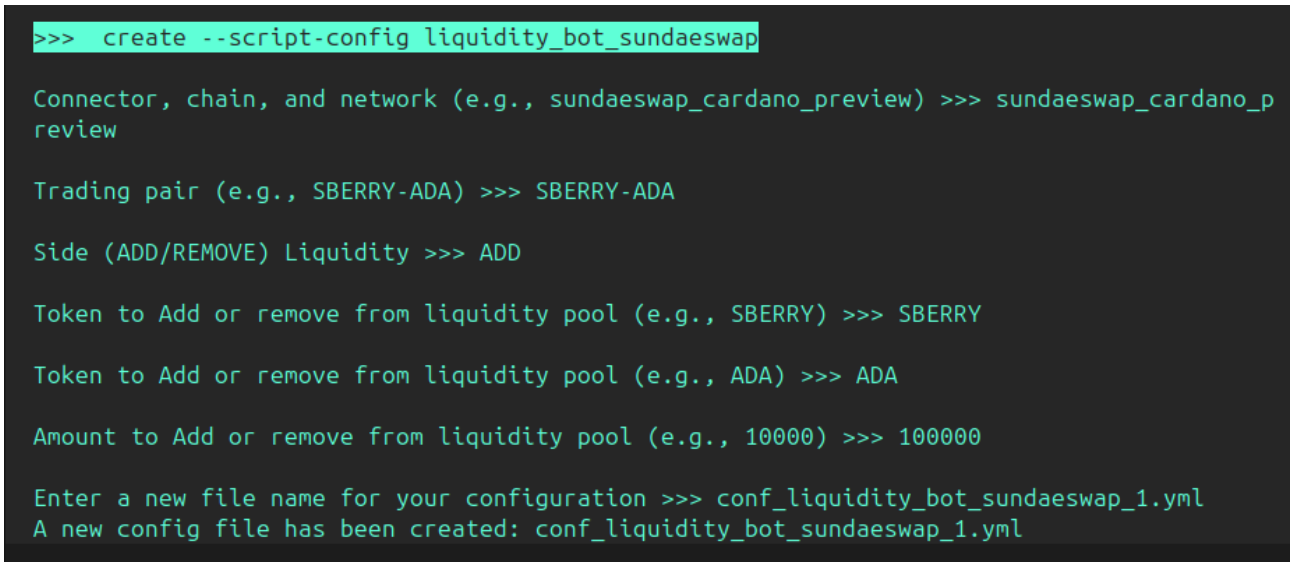
```
create --script-config liquidity_bot_sundaeswap
```

Configuration:

- **Connector, chain, and network:** sundaeswap_cardano_preview
- **Trading pair:** SBERRY-ADA
- **Side (ADD/REMOVE) Liquidity:**
    - ADD: Add liquidity to SundaeSwap liquidity pool
    - REMOVE: Remove liquidity from SundaeSwap liquidity pool
- **Token to Add or remove from liquidity pool:**
    - SBERRY
    - ADA
- **Amount to Add or remove from liquidity pool:** 100000
- **Configuration file:** conf_liquidity_bot_sundaeswap_1.yml

Output:

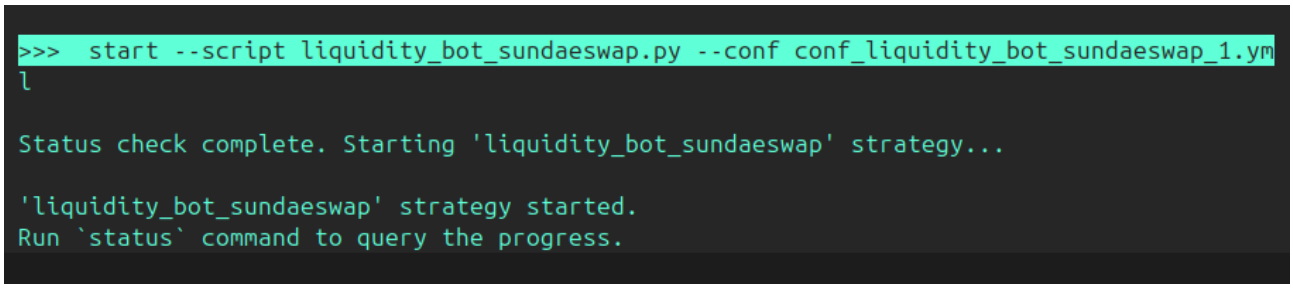
```
A new config file has been created: conf_liquidity_bot_sundaeswap_1.yml
```



Start the Liquidity Script

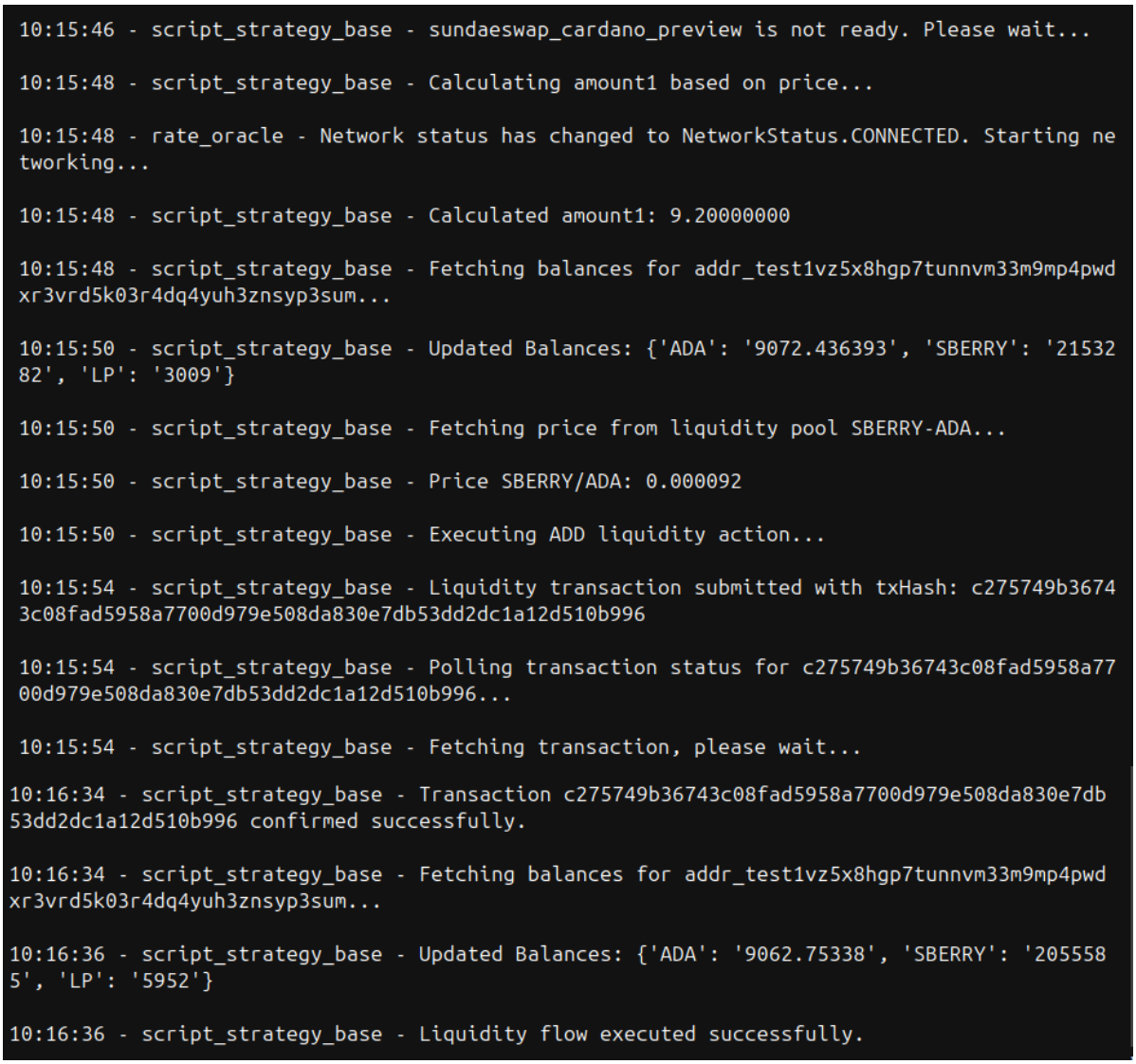
```
start --script liquidity_bot_sundaeswap.py --conf
conf_liquidity_bot_sundaeswap_1.yml
```

- The script calculates the required amount for the trade, fetches the wallet balance, and if the wallet has sufficient balance, it executes the trade.
- **Example output:**
    - Status check complete. Starting 'liquidity_bot_sundaeswap' strategy...
    - 'liquidity_bot_sundaeswap' strategy started.
    - Run `status` command to query the progress.



Result of the Add Liquidity Action

1. **Fetching Price and Calculations:**
    - Network Status: Connected.
    - Price SBERRY/ADA: 0.000092.
    - Calculated Amount1 (SBERRY): 9.20000000.
2. **Balances Before Liquidity Addition:**
    - ADA: 9,072.436393
    - SBERRY: 21,532,82
    - Liquidity Pool Tokens (LP): 3,009
3. **Executing Add Liquidity Action:**
    - Liquidity Transaction Submitted Successfully:
        - Transaction ID: c275749b36743c08fad5958a7700d979e508da830e7db53dd2dc1a12d510b996
4. **Balances After Liquidity Addition:**
    - ADA: 9,062.75338
    - SBERRY: 205,5585
    - Liquidity Pool Tokens (LP): 5,952



Remove Liquidity on SundaeSwap

Create a Remove Liquidity Script with User-Specified Percentage

`create --script-config liquidity_bot_sundaeswap`

- **Connector, chain, and network:** sundaeswap_cardano_preview
- **Trading pair:** SBERY-ADA
- **Side (ADD/REMOVE) Liquidity:**

    - ADD: Add liquidity to SundaeSwap liquidity pool.
    - REMOVE: Remove liquidity from SundaeSwap liquidity pool.
- **Decrease percentage for REMOVE liquidity:** 50%
- **Enter a new file name for your configuration:** conf_liquidity_bot_sundaeswap_2.yml

Output:

- A new config file has been created: `conf_liquidity_bot_sundaeswap_2.yml`

```
>>>  create --script-config liquidity_bot_sundaeswap

Connector, chain, and network (e.g., sundaeswap_cardano_preview) >>> sundaeswap_cardano_p
review

Trading pair (e.g., SBERRY-ADA) >>> SBERRY-ADA

Side (ADD/REMOVE) Liquidity >>> REMOVE

Decrease percentage for REMOVE liquidity (e.g., 50 for 50%) >>> 50

Enter a new file name for your configuration >>> conf_liquidity_bot_sundaeswap_2.yml
A new config file has been created: conf_liquidity_bot_sundaeswap_2.yml
```

Start the Script to Remove Liquidity on SundaeSwap

```
start --script liquidity_bot_sundaeswap.py --conf
conf_liquidity_bot_sundaeswap_2.yml
```

- The script takes the L.P token from the user wallet, calculates how much ADA and SBERRY the user will receive, and executes the trade.

Example Output:

- Status check complete. Starting 'liquidity_bot_sundaeswap' strategy...
- 'liquidity_bot_sundaeswap' strategy started.
- Run `status` command to query the progress.

```
>>>  start --script liquidity_bot_sundaeswap.py --conf conf_liquidity_bot_sundaeswap_2.ym
l

Status check complete. Starting 'liquidity_bot_sundaeswap' strategy...

'liquidity_bot_sundaeswap' strategy started.
Run `status` command to query the progress.
```

Result of the Liquidity Removal Trade

1. **Fetching Price and Adjustments:**
    - Current Price (Sberry/ADA): 0.000092
2. **Balances Before Trade:**
    - ADA: 9062.75338
    - Sberry: 2055585
    - LP Tokens: 5952
3. **Executing Liquidity Removal:**
    - Transaction ID: 6417fbe37ef3eaa799495b50d4d9bb46b24906d94a44afdf5ffad806cab17660
    - Status: Confirmed
    - Transaction Hash: 6417fbe37ef3eaa799495b50d4d9bb46b24906d94a44afdf5ffad806cab17660
4. **Balances After Trade:**
    - ADA: 9062.75338
    - Sberry: 2154369
    - LP Tokens: 2976

```
10:27:28 - script_strategy_base - sundaeswap_cardano_preview is not ready. Please wait...

10:27:29 - rate_oracle - Network status has changed to NetworkStatus.CONNECTED. Starting ne
tworking...

10:27:30 - script_strategy_base - Fetching balances for addr_test1vz5x8hgp7tunnvm33m9mp4pwd
xr3vrd5k03r4dq4yuh3znsyp3sum...

10:27:32 - script_strategy_base - Updated Balances: {'ADA': '9062.75338', 'SBERRY': '205558
5', 'LP': '5952'}

10:27:32 - script_strategy_base - Fetching price from liquidity pool SBERRY-ADA...

10:27:32 - script_strategy_base - Price SBERRY/ADA: 0.000092

10:27:32 - script_strategy_base - Executing REMOVE liquidity action...

10:27:39 - script_strategy_base - Liquidity transaction submitted with txHash: 6417fbe37ef3
eaa799495b50d4d9bb46b24906d94a44afdf5ffad806cab17660

10:27:39 - script_strategy_base - Polling transaction status for 6417fbe37ef3eaa799495b50d4
d9bb46b24906d94a44afdf5ffad806cab17660...

10:27:39 - script_strategy_base - Fetching transaction, please wait...

10:28:19 - script_strategy_base - Transaction 6417fbe37ef3eaa799495b50d4d9bb46b24906d94a44a
fdf5ffad806cab17660 confirmed successfully.

10:28:19 - script_strategy_base - Fetching balances for addr_test1vz5x8hgp7tunnvm33m9mp4pwd
xr3vrd5k03r4dq4yuh3znsyp3sum...

10:28:21 - script_strategy_base - Updated Balances: {'ADA': '9062.75338', 'SBERRY': '215436
9', 'LP': '2976'}

10:28:21 - script_strategy_base - Liquidity flow executed successfully.
```