# Conditional Tokens Explorer And Factory

## OVERVIEW

This documentation is a place where you can learn everything you need to know to start using the application.

## PRODUCT DESCRIPTION

The Conditional Tokens Explorer And Factory application (hereinafter **CTE**) allows users to create and resolve (report payouts) conditions, create  simple (with only one condition) or complex (relating to multiple conditions) "positions" to hold condition tokens, merge and redeem positions.

For more information about condition tokens usage please refer [here](here).

## GETTING STARTED

If you just want to familiarise yourself with the [CTE](CTE) you can use it on the Rinkeby Testnet, xDai and the Ethereum Mainnet.

The following Testnets are not supported yet:

- Kovan,
- Ropsten,
- Goerli.

In order to use the app you need to connect with a wallet using Metamask or another app which supports Wallet Connect protocol.

As soon as you are connected with your wallet address, you will have a possibility to choose whether to use your Metamask wallet address or your CPK Address to sign transactions. To do this, open the connection details modal and select a desired option:
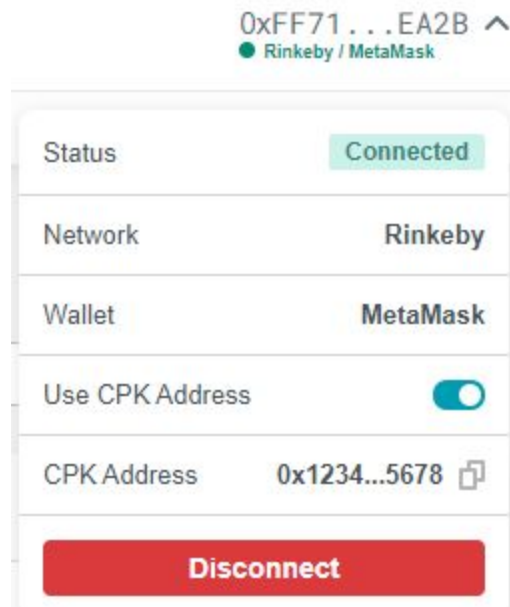


**Notes:**

- You can use the app in the "view" mode with a limited functionality when you are not connected to a wallet. However, any CRUD action will prompt connection modal for you to complete the action.

## PREPARING A CONDITION

Here you can prepare both types of conditions:
- Custom Reporter condition,
- Omen Condition condition.

## CUSTOM REPORTER CONDITION

To create a custom reporter condition, follow the next steps:

1. Connect a wallet and make sure you have enough funds to pay a gas fee.
2. Go to the [Prepare condition](#) page.
3. Do not change the default option = "Custom Reporter" in the "CONDITION TYPE" dropdown.
4. Fill in the "QUESTION ID" field with an identifier for the question to be answered by the oracle.
5. Fill on the "OUTCOMES" field with a required number of outcome slots which should be used for this condition.
6. Fill in the "REPORTING ADDRESS" field with an account assigned to report the result for the prepared condition. It may be the currently connected wallet (use "Use My Wallet" button above the field for auto-population), or any other address.
7. If a combination of the filled in values in the "QUESTION ID" / "OUTCOMES" / "REPORTING ADDRESS" fields is not unique, an existing condition will be shown in the "Duplicated Condition" section, and you will not be able to create a new one with the same parameters:



> ⚠ **Duplicated Condition**
> Condition 0x1881B3F4...3DF86BD5 ⎘ already exists. Please use another question ID or change the number of outcomes.

8. If a combination of the filled in values in the "QUESTION ID" / "OUTCOMES" / "REPORTING ADDRESS" fields is unique, you will see the "Condition Id Preview" section and "Prepare" button enabled:

**CONDITION TYPE**

Custom Reporter

**QUESTION ID**

0x090b50201d2300ed4b828a28a3f35c5ab6b0c04dc785e0bc7e7993c93c3!

**OUTCOMES**

2

**REPORTING ADDRESS**                                    Use My Wallet

0x576b76eebe6b5411c0ef310e65de9bff8a60130f

✓ **Condition Id Preview**
0x03b472a3886bb469e7728993db0ce1bca330ca17b6dc89b856b6094dc
129316d

**Prepare**

9. Press on the "Prepare" button, confirm the transaction and get the confirmation pop-up with the just created Condition ID. Then you will be redirected to the just created [custom reporter condition details](#).

**Notes**:

- "Use My Wallet" button above the "REPORTING ADDRESS" field will fill in the field with whether to use your Metamask wallet address or your CPK Address (according to your [preference](#)).
- "QUESTION ID" / "REPORTING ADDRESS" fields should be correctly formatted. In case if the value in a field does not correspond to the required format, you will not be able to proceed with a condition creation.

- "OUTCOMES" values' range should be in [2-256]. In case if a value in the field is out of range, you will not be able to proceed with a condition creation.
- In case if a field is filled in with an incorrect value, a validation message under a field will provide you information about what is wrong with the input:

**CONDITION TYPE**

Custom Reporter ⌄

**QUESTION ID**

0x090b50201d230ed4b828a28a3f35c5ab6b0c04dc785e0bc7e7993c93c35€

Invalid Question Id

**OUTCOMES**

1

Conditions require between 2 and 256 outcomes

**REPORTING ADDRESS**                                    Use My Wallet

0x576b76eebe6b5411c0ef310e65de9bff8a60130

Please use a valid reporting address

Prepare

For more technical information please refer here.

## OMEN CONDITION

To create an omen condition, follow the next steps:

1. Connect a wallet and make sure you have enough funds to pay a gas fee.
2. Go to the [Prepare condition](#) page.
3. Change the option in the "CONDITION TYPE" dropdown to "Omen Condition".
4. Fill in the "QUESTION" field with a question text to be answered by the oracle.
5. Add "OUTCOMES", which should be text answers for the question. Answers in the "OUTCOMES" section can be edited or removed.
6. Set up a "RESOLUTION DATE" manually or using a calendar.
7. Select a "CATEGORY" from the list to participate in information markets on various topics (arts, politics, sports, etc.).
8. Select  an "ARBITRATOR" from the list.
9. Default "ORACLE" for Omen conditions is Reality.eth and it cannot be changed.

10. If all the values in the fields are correct, you will see the "Condition Id Preview" section and "Prepare" button enabled:

## CONDITION TYPE

Omen Condition ⌄

## QUESTION

Who out of the following will be chosen?

## ADD OUTCOME

New outcome title...   ⊕

## OUTCOMES

| Alice | ✎ 🗑 |
|---|---|
| Bob | ✎ 🗑 |
| Carol | ✎ 🗑 |

*Note: Omen supports min. 2 and max. 256 outcomes.*

## RESOLUTION DATE

12 / 10 / 2020   📅

⚠ **Warning!**
Set the market resolution date at least 6 days after the correct outcome will be known and make sure that this market won't be invalid.

## CATEGORY

General ⌄

## ARBITRATOR

Kleros ⌄

## ORACLE

0x17174dC1b62add32a1DE477A357e75b0dcDEed6E

*Note: Reality.eth is the default oracle for Omen conditions.*

11.  Click on the "Prepare" button, confirm the transaction and get the confirmation pop-up with the just created Condition ID. Then you will be redirected to the just created [Omen condition details](#).
12.  Also, you will be able to find the created question with the answers in the [Reality.eth](#).

**Notes**:

- "OUTCOMES" values' range should be in [2-256]. In case if a value in the field is out of range, you will not be able to proceed with a condition creation.
- "OUTCOMES" values cannot be the same.
- Try to set a market "RESOLUTION DATE" at least 6 days after the correct outcome will be known and make sure that this market won't be invalid.
- "RESOLUTION DATE" values' range should be in [Today-01/01/2030].
- Combination of the "QUESTION" / "OUTCOMES" / "RESOLUTION DATE" / "CATEGORY" fields' values cannot be the same within the last 24 hours, otherwise you will not be able to proceed with a condition creation.
- In case if a field is filled in with an incorrect value, a validation message under a field will provide you information about what is wrong with the input.
- Once you've created an Omen condition in the CTE app, you should be able to import it into Omen Market by copying the Reality.eth link and dropping it into Omen.

For more  information about Omen Markets and conditions please refer here.


## CONDITIONS LIST AND DETAILS

All the created conditions are displayed in the Conditions list.

## CONDITIONS LIST

Conditions appear in the list in the "Creation date desc" order.

For your convenience, a list of search, sort and filter options is available to look for a certain condition.

You can **sort** the list asc-desc by the next columns:

- Question ID,
- Outcomes,
- Creation date,
- Status.

You can **search** for a condition by the next options:

- Condition ID,
- Question ID,
- Oracle Address,
- Creator Address.

You can filter the list by:

1. "REPORTER / ORACLE" with the next options:
   - All,
   - Current Wallet,
   - Custom Reporters,
   - Reality.eth.
2. "STATUS" with the next options:
   - All,
   - Resolved,
   - Open.
3. "CONDITION TYPE" with the next options:
   - All,
   - Custom Reporter,
   - Omen Condition.
4. "OUTCOMES" range.
5. "CREATION DATE" range.

You can drill into a condition detail by clicking on a condition line as well as selecting the "Details" option in a condition's menu in the left corner of the grid line.

Besides the "Details" option, a condition's menu contains "Split Position" and "Report payout" options that will navigate you to the eponymous pages.

**Notes**:

- "REPORTER / ORACLE" column will show a Reality.eth link for an Omen condition that navigates you to the question text. For a Custom Reporter condition will show an address in the column.
- "Split Position" and "Report payout" options in the menu will be disabled when the CTE app is not connected with a wallet.
- "Report payout" option will be disabled when a condition is in the "Resolved" status.
- "Report payout" option will be disabled when a connected wallet address / CPK address does not correspond to a value in the "REPORTING ADDRESS" section.

## CUSTOM REPORTER CONDITION DETAILS

Custom Reporter condition details page contains the next information:
- "CONDITION ID" itself,
- "CONDITION TYPE" = Custom Reporter,
- "STATUS" = Resolved or Open,
- "CREATION DATE" in UTC,

- "CREATOR ADDRESS" - Metamask wallet account created the condition,
- "QUESTION ID",
- "QUESTION" - contains a question text when it exists for the related QUESTION ID
- "REPORTING ADDRESS" -  account assigned to report the result for the prepared condition
- "CONDITION'S SPLIT POSITIONS" section shows a list of positions to hold condition tokens for the related "CONDITION ID". You can navigate to a position's details from this section. Positions are displayed in the "Creation date desc" order.

Condition's menu option is at the top left corner and contains "[Split Position](#)" and "[Report payout](#)" options that will navigate you to the eponymous pages.

**Notes**:
- Position's amount in the "CONDITION'S SPLIT POSITIONS" section will be zero when the CTE app is not connected with a wallet.
- Position's amount in the "CONDITION'S SPLIT POSITIONS" section will be zero when it doesn't belong to a currently connected wallet.
- "Split Position" and "Report payout" options in the menu will be disabled when the CTE app is not connected with a wallet.
- "Report payout" option will be disabled when a condition is in the "Resolved" status.
- "Report payout" option will be disabled when a connected wallet address /  CPK address does not correspond to a value in the "REPORTING ADDRESS" section.

## OMEN CONDITION DETAILS

Omen Condition details with a relevant Omen Market:

## CONDITION ID
0x28D0E6...AC1E84 ⧉

## STATUS
Open

## CREATOR ADDRESS
0x26358E...3A9315 ⧉

## QUESTION ID
0x64A062...717E99 ⧉

## OMEN MARKET
Wait for block to sync? ⧉ ⬈

## CONDITION TYPE
Omen Condition

## CREATION DA~~
2020-12-07 - 12~~

## QUESTION TYPE
Categorical

Split Position

Report Payouts

## OUTCOMES

| |
|---|
| yea |
| noa |

## CATEGORY
business-finance

## ORACLE
Reality.eth ⧉ ⬈

## CONDITION'S SPLIT POSITIONS

| POSITION ID | COLLATERAL | ERC1155 |
|---|---|---|
| 0x0915D027...2E4B1872 ⧉ ⬈ | 🔵 LINK | 4.00 |
| 0x479E0381...A96584D1 ⧉ ⬈ | 🔵 LINK | 4.00 |
| 0x51107610...6C622E1A ⧉ ⬈ | 🟡 DAI | 0.00 |
| 0x570632CF...0FC4D481 ⧉ ⬈ | 🟡 DAI | 0.00 |

Rows per page: 5 ▾     1-4 of 4     |< < > >|

Omen condition details page contains the next information:
- "CONDITION ID" itself,
- "CONDITION TYPE" = Omen Condition,
- "STATUS" = Resolved or Open,
- "CREATION DATE" in UTC,
- "CREATOR ADDRESS" - wallet account created the condition,
- "QUESTION TYPE" = Categorical,
- "QUESTION ID",
- "QUESTION" - contains a question text for the related QUESTION ID. Section is displayed when there is no relevant Omen Market,
- "OMEN MARKET" - contains a question text for the related market with a link to it. There is no "QUESTION" section when an Omen Market exists for the condition ID,
- "OUTCOMES" section with the answers on the "QUESTION" / "OMEN MARKET" question. Resolution details (probabilities) are added to the answers when a condition is in the "Resolved" status,
- "RESOLUTION DATE" in UTC is displayed when a condition is in the "Resolved" status,
- "CATEGORY" in which an information market is created (arts, politics, sports, etc.),
- "ORACLE" = Reality.eth with a link to a Condition/Omen Market question,
- "CONDITION'S SPLIT POSITIONS" section shows a list of positions to hold condition tokens for the related "CONDITION ID". You can navigate to a position's details from this section.

Condition's menu option is at the top left corner and contains "Split Position" and "Report payout" options that will navigate you to the eponymous pages.

**Notes**:
- Position's amount in the "CONDITION'S SPLIT POSITIONS" section will be zero when the CTE app is not connected with a wallet.
- Position's amount in the "CONDITION'S SPLIT POSITIONS" section will be zero when it doesn't belong to a currently connected wallet.
- "Split Position" and "Report payout" options in the menu will be disabled when the CTE app is not connected with a wallet.
- "Report payout" option will be disabled for an Omen condition as only Reality.eth team is able to report such conditions.

## SPLITTING A POSITION

To split a position you need at least one condition with an outcome collection which can be already [created](#) by you or another user. Ideally, a condition should be in an "Open" status, however, the CTE app will allow you to split positions for a "Resolved" condition. Anyway, the CTE app will warn you if a condition is already resolved:

> ⚠️ **Warning!**
> This condition is already resolved.

You can make a here both types of splitting a position:
- Simple
- Complex

Here is an example how different types of splitting positions can look like:

For simplicity, let's assume that we have 3 conditions C1, C2 and C3 with only 2 outcomes.

**Split** the 1st condition C1 into positions with amount of 10DAI   => **10C1P1** + 10C1P2            : simple split
**Split** position **10 C1P1** with condition C2                         => **10C1C2P1** + 10C1C2P2     : complex split
**Split** position **10 C1C2P1** with condition C3                   => **10C1C2C3P1** + 10C1C2C3P1  : complex split

## SIMPLE POSITION (with only one condition)
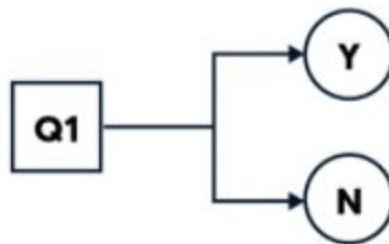


To make a simple split, follow the next steps:
1. Connect a wallet and make sure you have enough funds to pay a gas fee.
2. Go to the [Split position](#) page.
3. Select a Condition to split in the Conditions section:
   - Conditions section contains all the conditions from the [Conditions list](#)
   - For your convenience, a list of search, sort and filter options is available to look for a certain condition.
4. Select a collateral token which will back the position:

- The token must be an ERC20 token which exists on the same chain as the ConditionalTokens instance.
- You can select a token from the existing list.
- OR you can add a [custom collateral token](#).

5. If a selected token is locked to interact with the smart contract, you need to [unlock it](#).

6. Specify a collateral "AMOUNT" you want to back the position:
   - "Use Wallet Balance" action button above the "AMOUNT" field will show a current collateral amount in the connected wallet.
   - You can fill in the "AMOUNT" field using the "Use Wallet Balance" action button or manually.
   - You are not allowed to fill in an amount greater than the selected collateral balance in the connected wallet.
   - If a selected collateral balance in the connected wallet is zero, "Use Wallet Balance" action button will be disabled.

7. [Adjust an Outcomes collection](#) in the "PARTITION" section, if needed.

8. Verify the position"s preview in the "SPLIT POSITION PREVIEW" section:
   - [Collateral (corresponds to the selected in the Collateral field) +
   - C: = condition +
   - ConditionID (cropped in the middle)
   - O = outcome +
   - Outcome"s number]
   - x Amount (corresponds to the value in the "AMOUNT" field).

9. If all the conditions above are met, "Split"" button will become enabled:

## CONDITIONS

Filters    🔍 Search by Condition Id    ✕    | Condition... ⌄

Showing filtered results - Clear Filters

| CONDITION ID | REPORTER / ORACLE | QUESTION ID |
|---|---|---|
| ⦿ 0xED275B...F22172 | 0x3B191A...FA0095 | 0x000000...000004 |
| ○ 0xCA42AA...147D58 | 0x3B191A...FA0095 | 0x000000...000002 |

Rows per page: 5 ▼    1-2 of 2    |< < > >|

## SPLIT FROM

COLLATERAL | POSITION                          Add Custom Collateral

Đ DAI                                                    ⌄

## AMOUNT                                    Use Wallet Balance (10.00)

10.0                                                    DAI

## PARTITION                                    Edit Partition

Outcomes Collections

0

1

## SPLIT POSITION PREVIEW

[DAI C:0xed275b...f22172 O:0] x10.00

[DAI C:0xed275b...f22172 O:1] x10.00

Split

10. Press on the "Split" button, confirm the transaction and get the confirmation pop-up with the list of just created Position IDs. Position"s collateral token amount will be written off from the connected wallet:



11. You can navigate from the pop-up to a positions detail page.


**Notes**:
- In case if any section on the form contains an incorrect/invalid value, a validation or warning message under a section will provide you information about what is wrong with the input.
- Disabled "Not Connected To Wallet" action button will be displayed instead of the "Use Wallet Balance" button when the CTE app is not connected with a wallet.

For more technical information about the simple positions splits please refer here.


## COMPLEX POSITION (relating to multiple conditions)

Make complex markets allow to predict the likelihood of an event is affected by any other event. For example, Will Alice write a paper letter to Bob (Condition 1 with Q1), **if** the Internet is down (Condition 2 with Q2)?
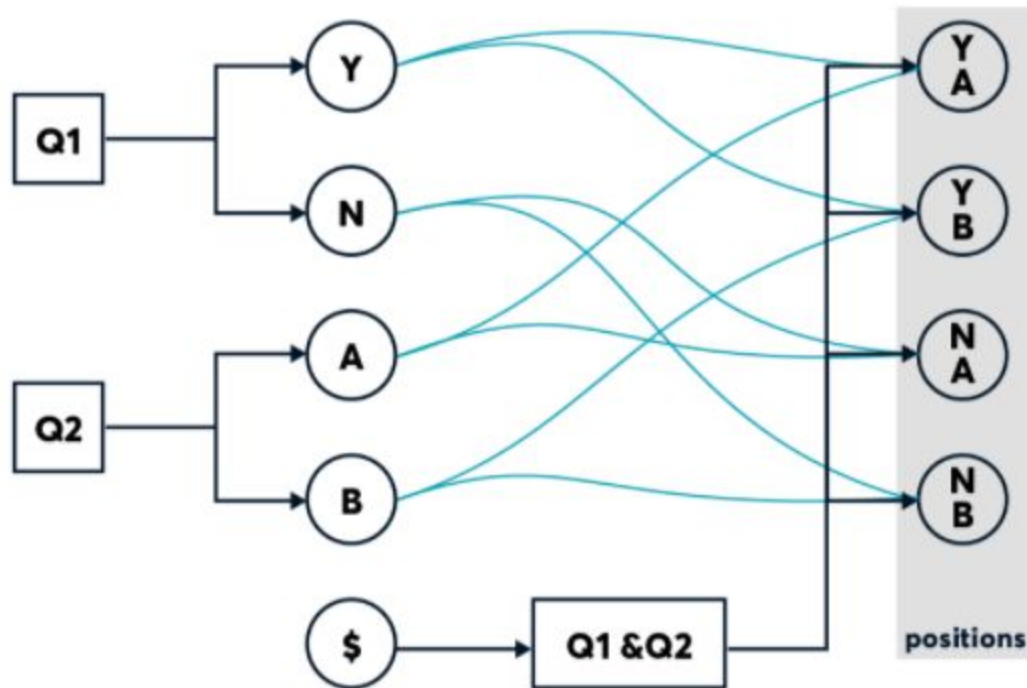


To make a complex split, follow the next steps:
1. Connect a wallet and make sure you have enough funds to pay a gas fee.
2. Make sure that you have at least 2 conditions (let's say, Q1 and Q2), and at least one of the conditions (Q1) has positions created by you (Q1Y and Q1N).
3. Go to the Split position page.
4. Select a Condition to split in the Conditions section (as an example, Q2).
5. Select "POSITION" option in the "SPLIT FROM" section.
6. Select a desired position to split (as an example, Q1Y).
7. Specify an "AMOUNT" you want to back the position:
   ● "Use Wallet Balance" action button above the "AMOUNT" field will show the selected position's balance in ERC1155.
   ● You can fill in the "AMOUNT" field using the "Use Wallet Balance" action button or manually.
   ● You are not allowed to fill in an amount greater than the selected position's balance.
8. Adjust an Outcomes collection in the Partition section, if needed.

9. Verify the position"s preview in the "SPLIT POSITION PREVIEW" section:
   - [Collateral (corresponds to the **selected position"s collateral token**) +
   - C: = condition +
   - ConditionID (Q1) (cropped in the middle) +
   - O = outcome +
   - Outcome"s number (Q1Y)
   - &
   - C: = condition +
   - ConditionID (Q2) (cropped in the middle) +
   - O = outcome +
   - Outcome"s number]
   - X Amount (corresponds to the value in the Amount field).

10. If all the conditions above are met, "Split"" button will become enabled:

## CONDITIONS

⬤ Filters    🔍 Search by Condition Id    ✕    Condition... ⌄

Showing filtered results - Clear Filters

| | CONDITION ID | REPORTER / ORACLE | QUESTION ID |
|---|---|---|---|
| ⬤ | 0xED275B...F22172 | 0x3B191A...FA0095 | 0x000000...000004 |
| ◯ | 0xCA42AA...147D58 | 0x3B191A...FA0095 | 0x000000...000002 |

Rows per page:  5 ▾    1-2 of 2    |<  <  >  >|

## SPLIT FROM
COLLATERAL  |  POSITION

⬤ Filters    🔍 Search by Position Id    ✕    Position... ⌄

| | POSITION ID | COLLATERAL | ERC1155 |
|---|---|---|---|
| ⬤ | 0x1513E9...7A6DA3 | 🔵 USDC | 1.00 |
| ◯ | 0x1F2B0C...C892C6 | 🔵 USDC | 1.00 |

Rows per page:  5 ▾    1-2 of 2    |<  <  >  >|

## AMOUNT                    Use Wallet Balance (1.00)

0.5

11. Press on the "Split" button, confirm the transaction and get the confirmation pop-up with the list of just created Position IDs (Q1Y&Q2-O1 and Q1Y&Q2-O1). You can navigate from the pop-up to a [positions detail page](#).
12. Position's collateral token amount will not be written off from the connected wallet.
13. Collateral token amount will be burned from the "parent" position (Q1Y) on an amount for the "deeper" positions.

**Notes**:

- Conditions section contains all the conditions from the [Conditions list](#).
- Positions section contains all the positions with a positive  balance in ERC1155 (in other words, positions created by the currently connected wallet address / CPK address).
- For your convenience, a list of search, sort and filter options is available to look for a certain condition/position in the Conditions and Positions sections.
- There will be no positions to split in the Positions section when the CTE app is not connected with a wallet. Disabled "Not Connected To Wallet" action button will be displayed instead of the "Use Wallet Balance" button.
- You are able to create complex positions for both Custom Reporter and Omen Conditions. Also, you can mix conditions up.
- You are able to create complex positions for the same condition.
- A complex position will be displayed in a condition details page for both of the conditions (Q1 and Q2).

For more technical information about the complex positions splits please refer [here](#).

## ADD CUSTOM COLLATERAL TOKEN

If there is no the desired collateral token you want to back a position in the list, you can add it by using the "Add Custom Collateral" option above the Collateral field. To do this, follow the next steps:

1. Press on the "Add Custom Collateral" button to call the "Add Custom Token" pop-up
2. Fill in the "TOKEN CONTRACT ADDRESS" field with a desired ERC20 token address and wait till the token details  appear below the field and they are correct.
3. Press on the "Add" button: the selected token will be displayed in the Collateral field:

## Add Custom Token                                          ✕

**TOKEN CONTRACT ADDRESS**

> 0xbf7a7169562078c96f0ec1a8afd6ae50f12e5a99

**TOKEN SYMBOL**                    **DECIMALS OF PRECISION**

BAT                                 18

**Add**

4. Still, if the selected custom token is used for the 1st time in the CTE app for the connected wallet, you need to <u>unlock it</u>.

**Notes**:

- "TOKEN CONTRACT ADDRESS" field should be correctly formatted. In case if a value in the field does not correspond to the required format, you will not be able to add a desired token
- In case if the field is filled in with an incorrect value, a validation message under the field will provide you information about what is wrong with the input:

## Add Custom Token                                          ✕

**TOKEN CONTRACT ADDRESS**

> 0xbf7a7169562078c96f0ec1a8afd6ae50f12e5a99

Error: The given address in not an ERC20 contract

**Add**

# UNLOCK COLLATERAL TOKEN

To start iterating with the smart contract in the CTE app with a desired collateral token, you need to unlock it. This has to be done for each new token only once for a connected wallet address.

An appropriate notification in the "Unlock" section with eponymous button appears each time when you select an unlocked collateral token in the collateral list:



Press on the "Unlock" button and confirm the transaction, wait till a successful message appears in the eponymous  section. Then start interacting with the smart contract:



**Notes**:
- "Unlock" section will be always displayed when the CTE app is not connected with a wallet. Pressing on the "Unlock"  button will call the connection pop-up.
- You need to unlock the collateral only once.
- If something went wrong during the unlocking transaction, "Error!" message will appear in the "Unlock" section. You will have to restart the transaction once again when you select the same token the next time:



# ADJUST OUTCOMES COLLECTION

Let's assume you have a condition with 3 outcomes slots. You can split collateral $ into conditional tokens in positions $:(0), $:(1), and $:(2). However, you consider that positions $:(0) and $:(1) will have the same probability to happen and there is no need to create separate positions for them. For this case you need to adjust a condition"s outcomes collection when split positions get the next outcomes collection: $:(0|1) and $:(2).
To do this, follow the next steps:

1. On the Split position page, after you have selected a condition to split, scroll down to the "PARTITION" section, which indicates an outcomes collection for the selected condition:



2. Press on the "Edit Partition" button to open a modal for adjusting a collection.
3. Adjust an outcomes collection using action buttons or drag-and-drop functionality. You can reset changes at any time while editing:

## Edit Partition                                                    ✕

### NEW COLLECTION
### Outcomes

*Outcomes removed from collections will be available here.*          (↓)

### New Collection Preview

*Add at least one outcome to create a new collection.*          (↑)  (+)

### COLLECTIONS                                                  **Delete All**

*You can drag outcomes across collections. Click on an outcome to remove it.*

| | | |
|---|---|---|
| **0** | 🔵 | 🗑 |
| ⚪ | | 🗑 |
| **2** | | 🗑 |

*A valid partition needs at least two collections. No outcomes can be orphaned.*

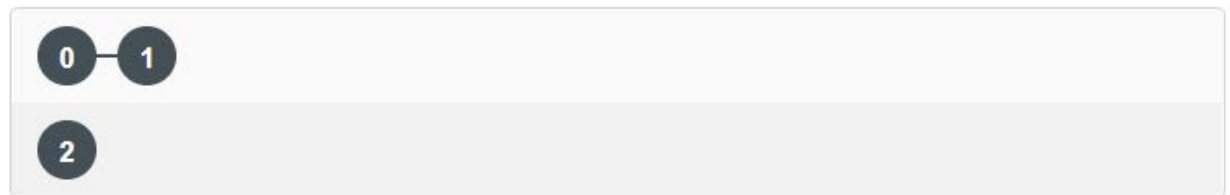**Reset**                                                        **Save**

4.  As soon as you have finished with a collection editing, press on the Save button. The adjusted outcomes collection will be displayed in the "PARTITION" section. For the described above example, outcomes collection $:(0|1) and $:(2) should look like this:

**PARTITION**                                    **Edit Partition**

**Outcomes Collections**

5. The adjusted position's preview should be displayed in the "SPLIT POSITION PREVIEW" section.

**Notes**:

- A valid partition needs at least two collections.
- No outcomes can be orphaned.
- Outcomes collection can be adjusted before positions are created. In case if you want to change positions' structure, you can use the "Merge Positions" option.
- It is impossible to adjust an outcomes collection when the CTE app is not connected with a wallet.

## POSITIONS LIST AND DETAILS

All the created positions are displayed in the Positions list.

## POSITIONS LIST

Positions appear in the list in the "Creation date desc" order.

For your convenience, a list of search, sort and filter options is available to look for a certain position.

You can **sort** the list asc-desc by the next columns:

- Collateral,
- Creation date,
- ERC1155 Amount,
- ERC20 Amount.

You can **search** for a condition by the next options:

- Position ID,
- Condition ID,
- Collateral Symbol,
- Collateral Address,
- Wrapped Collateral Address.

You can filter the list by:

1. "COLLATERAL" with the list of predefined collateral tokens or Custom Token, which is not in the list of the predefined tokens.
2. "WRAPPED COLLATERAL" with the next options:
    - All,
    - Yes (will filter positions which have wrapped collateral),
    - No.
3. "WITH BALANCE" with the nexp options:
    - All,
    - Yes (will filter the list to show positions with a positive balance only),
    - No.
4. "CREATION DATE" range.

You can drill into a position detail by clicking on a position line as well as selecting the "Details" option in the position's menu in the left corner of the grid line.

Besides the "Details" option, a condition's menu contains the next options:

- "Redeem" that will navigate you to the Redeem Positions page,
- "Transfer Outcome Tokens" will send position's tokens to another wallet address,
- "Wrap ERC1155" will convert position's tokens to ERC20,
- "Unwrap ERC20" will convert position's tokens to ERC1155.

**Notes**:

- "Redeem", "Transfer Outcome Tokens", "Wrap ERC1155" and "Unwrap ERC20" options in the menu will be disabled when the CTE app is not connected with a wallet.
- Position's amount will be zero when it doesn't belong to a currently connected wallet.
- "Redeem" option will be disabled when a position's ERC1155 amount is zero
- "Redeem" option will be disabled when a position belongs to a condition in the "Open" status.
- "Transfer Outcome Tokens" and "Wrap ERC1155" options will be disabled when a position's ERC1155 amount is zero.
- "Unwrap ERC20" option will be disabled when a position's ERC20 amount is zero.
- There is no filter option 'With balance' when the CTE app is not connected with a wallet.

## POSITION DETAILS FOR A CUSTOM REPORTER CONDITION

Position details page for a Custom Reporter condition contains the next information:
- "POSITION ID" itself.
- "COLLATERAL TOKEN" which backs the position.
- "COLLATERAL ADDRESS" with a link to it on Etherscan.
- "CREATION DATE" in UTC.
- "QUESTION ID".
- "REPORTING ADDRESS" -  account address (Metamask / CPK . etc.) which is in charge to resolve a condition the position belongs to.
- "CONDITION ID" contains a link to a [condition details page](#) a position belongs to.
- "QUESTION" - contains a question text when it exists for the related QUESTION ID
- "WRAPPED COLLATERAL" section with a position's amounts in the ERC1155 and ERC20 tokens:
    - ERC1155 token contains the "[Wrap](#)" button. It is enabled when the ERC1155 token amount has a positive balance. Otherwise the button is disabled.
    - ERC20 token contains the "[Unwrap](#)" button. It is enabled when the ERC20 token amount has a positive balance. Otherwise the button is disabled.
- "WRAPPED COLLATERAL ADDRESS" will contain a link to Etherscan address of the WMT token if a position has a positive balance of the ERC20 token. Otherwise - none.
- "PARTITION" section shows an appropriate outcome's slot for the selected position.

- "POSITION PREVIEW" section shows a position's details specified during its creation.

Position's menu option is at the top left corner and contains "Redeem" and "Transfer Outcome Tokens" options. "Redeem" that will navigate you to the "Redeem Positions" page, "Transfer Outcome Tokens" will send position's tokens to another wallet address.

**Notes**:
- "Redeem", "Transfer Outcome Tokens" options in the menu, "Wrap" and "Unwrap" buttons will be disabled when the CTE app is not connected with a wallet.
- Position's amount will be zero (both for ERC1155 and ERC20) when it doesn't belong to a currently connected wallet.
- "Redeem" option will be disabled when a position's ERC1155 amount is zero.
- "Redeem" option will be disabled when a position belongs to a condition in the "Open" status.
- "Transfer Outcome Tokens" option will be disabled when a position's ERC1155 amount is zero.
- "QUESTION ID", "REPORTING ADDRESS", "CONDITION ID" sections can contain a list of question ids, reporting addresses, condition ids when a position is a complex one. Expand the section to see all the details:



## POSITION DETAILS FOR AN OMEN CONDITION

Position details page for a Custom Reporter condition contains the next information:
- "POSITION ID" itself.
- "COLLATERAL TOKEN" which backs the position.
- "COLLATERAL ADDRESS" with a link to it on Etherscan.
- "CREATION DATE" in UTC.
- "QUESTION ID".
- "ORACLE" - Reality.eth with a link to a Condition/Omen Market question
- "CONDITION ID" contains a link to a [condition details page](#) a position belongs to.
- "QUESTION" - contains a question text for the related question ID. Section is displayed when there is no relevant Omen Market.
- "OMEN MARKET" - contains a question text for the related market with a link to it. There is no "QUESTION" section when an Omen Market exists for the "CONDITION ID".
- "WRAPPED COLLATERAL" section with a position's amounts in the ERC1155 and ERC20 tokens:
  - ERC1155 token contains the "[Wrap](#)" button. It is enabled when the ERC1155 token amount has a positive balance. Otherwise the button is disabled.
  - ERC20 token contains the "[Unwrap](#)" button. It is enabled when the ERC20 token amount has a positive balance. Otherwise the button is disabled.
- "WRAPPED COLLATERAL ADDRESS" will contain a link to Etherscan address of the WMT token if a position has a positive balance of the ERC20 token. Otherwise - none.
- "PARTITION" section shows an appropriate outcome's slot for the selected position.
- "POSITION PREVIEW" section shows a position's details specified during its creation.

Position's menu option is at the top left corner and contains "Redeem" and "Transfer Outcome Tokens" options. "[Redeem](#)" that will navigate you to the "Redeem Positions" page, "[Transfer Outcome Tokens](#)" will send position's tokens to another wallet address.


**Notes**:
- "Redeem", "Transfer Outcome Tokens" options in the menu, "Wrap" and "Unwrap" buttons will be disabled when the CTE app is not connected with a wallet.
- Position's amount will be zero (both for ERC1155 and ERC20) when it doesn't belong to a currently connected wallet.
- "Redeem" option will be disabled when a position's ERC1155 amount is zero.

- "Redeem" option will be disabled when a position belongs to a condition in the "Open" status.
- "Transfer Outcome Tokens" option will be disabled when a position's ERC1155 amount is zero.
- "QUESTION ID", "OMEN MARKET", "ORACLE", "CONDITION ID" sections can contain a list of question ids, omen markets, oracles, condition ids when a position is a complex one. Expand the section to see all the details:



## TRANSFER OUTCOME TOKENS

You are able to send conditional tokens to another address. To do this, follow the next steps:

1. Connect a wallet and make sure you have enough funds to pay a gas fee.
2. Make sure that you have at least one position with a positive balance of an ERC1155 token.
3. Go to Positions list and search for the required position.
4. Open a position's menu and select the "Transfer Outcome Tokens" option to call the eponymous modal (also, the modal can be called from the menu in a Position details page).
5. Fill in the "SEND TO" field with an address you want to send tokens to.
6. Specify an 'AMOUNT" you want to send from a position:
   - "Use Position Balance" action button above the "AMOUNT" field will show the selected position's balance in ERC1155.

- You can fill in the "AMOUNT" field using the "Use Position Balance" action button or manually.
- You are not allowed to fill in an amount greater than the selected position's balance.

7. Press on the "Transfer" button, confirm the transaction and get the confirmation pop-up. The sent amount of tokens will be written off from the position's balance:

Transfer Outcome Tokens ✕

**SEND TO**

0xff714b8b0e2700303ec912bd40496c3997ceea2b

**AMOUNT**      Use Position Balance ($1.00)

0.5      **USDC**

**Transfer**

**Notes**:

- "SEND TO" field can be filled in with a CPK address / Metamask address, etc.
- "SEND TO" address field should be correctly formatted. In case if a value in the field does not correspond to the required format, you will not be able to proceed with the transfer.

- In case if a field is filled in with an incorrect value, a validation message under a field will provide you information about what is wrong with the input.
- If you fill in the "SEND TO" field with the currently connected wallet, a warning message will appear. However, the CTE app allows you to complete the transaction:



⚠️ **Warning!**
The SEND TO field is the current connected wallet

- "Transfer Outcome Tokens" option will be disabled when the CTE app is not connected with a wallet.
- "Transfer Outcome Tokens" option will be disabled when a position's ERC1155 amount is zero.

## WRAP ERC1155 POSITION'S AMOUNT

You are able to wrap an ERC1155 conditional token to ERC20 token. To do this, follow the next steps:
1. Connect a wallet and make sure you have enough funds to pay a gas fee.
2. Make sure that you have at least one position with a positive balance of an ERC1155 token.
3. Go to Positions list and search for the required position.
4. Open a position's menu and select the "Wrap ERC1155" option to call the eponymous modal (also, the modal can be called by pressing on the "Wrap" button in a Position details page).
5. Specify an "AMOUNT" you want to wrap:
    - "Use Position Balance" action button above the "AMOUNT" field shows the selected position's balance in ERC1155.
    - You can fill in the "AMOUNT" field using the "Use Position Balance" action button or manually.
    - You are not allowed to fill in an amount greater than the selected position's balance.
6. Press on the "Wrap" button, confirm the transaction and get the confirmation pop-up.
7. The sent amount of tokens will be written off from the position's ERC1155 balance and will be added to the ERC20 position's balance in WMT (Wrapped Multi Token).

8. "WRAPPED COLLATERAL ADDRESS" will show a link to Etherscan to a wrapped ERC20 collateral token on a position details page:

**WRAPPED COLLATERAL**

| | |
|---|---|
| **ERC1155:** 0.25 USDC | Wrap |
| **ERC20:** 0.25 WMT ❓ | Unwrap |

**WRAPPED COLLATERAL ADDRESS**

0xF3F6D2...E5E03D 🗗 ↗

**Notes**:

- "Wrap" option will be disabled when the CTE app is not connected with a wallet.
- "Wrap" option will be disabled when a position's ERC1155 amount is zero.


## UNWRAP ERC20 POSITION'S AMOUNT

Once you have a ERC20 token for a position, you are able to unwrap it to an ERC1155 conditional token. To do this, follow the next steps:
1. Connect a wallet and make sure you have enough funds to pay a gas fee.
2. Make sure that you have at least one position with a [positive balance of an ERC20 token.](#)
3. Go to [Positions list](#) and search for the required position.
4. Open a position's menu and select the "Wrap ERC20" option to call the eponymous modal (also, the modal can be called by pressing on the "Unwrap" button in a [Position details](#) page).
5. Specify an "AMOUNT"you want to wrap:
   - "Use Position Balance" action button above the "AMOUNT" field shows the selected position's balance in ERC20.
   - You can fill in the "AMOUNT" field using the "Use Position Balance" action button or manually.
   - You are not allowed to fill in an amount greater than the selected position's balance.
6. Press on the "Unwrap" button, confirm the transaction and get the confirmation pop-up.
7. The sent amount of tokens will be written off from the position's ERC20 balance and will be added to the ERC1155 position's balance.
8. "WRAPPED COLLATERAL ADDRESS" will contain a link to Etherscan address of the WMT token if a position has a positive balance of the ERC20 token. Otherwise - none.

**Notes**:

- "Unwrap" option will be disabled when the CTE app is not connected with a wallet.
- "Unwrap" option will be disabled when a position's ERC20 amount is zero.

## MERGING POSITIONS

Merging positions does precisely the opposite of what splitting a position does. It burns conditional tokens in the deeper positions to either mint conditional tokens in a shallower position or send collateral to the message sender:



Ideally, a condition for positions to merge should be in an "Open" status, however, the CTE app will allow you to merge positions for a "Resolved" condition. Anyway, the CTE app will warn you if a condition is already resolved:



Warning!
This condition is already resolved.

To merge positions, follow the next steps:
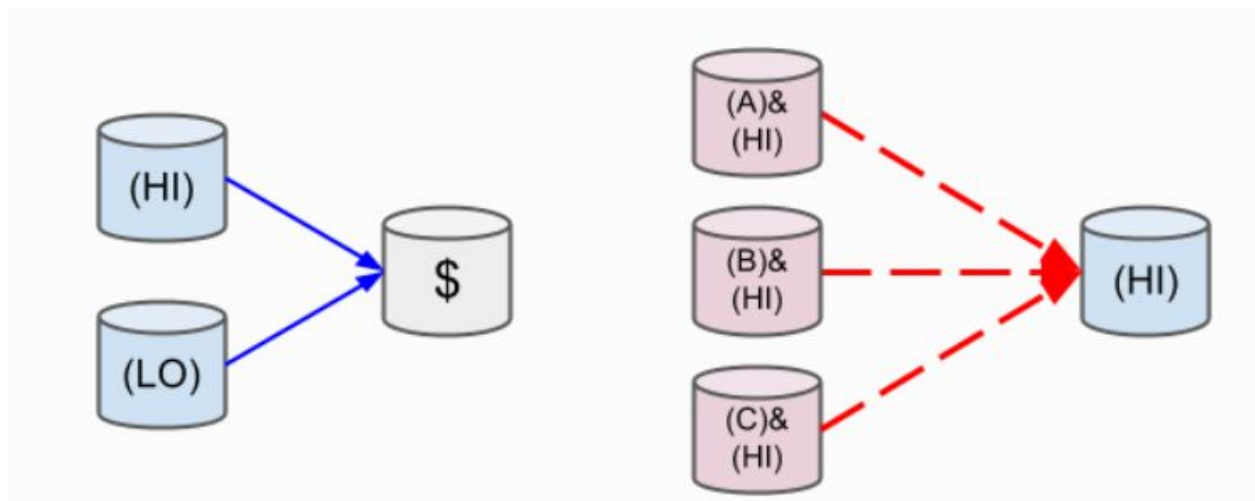1. Connect a wallet and make sure you have enough funds to pay a gas fee.
2. Make sure that you have at least one condition with two positions with a positive balance.
3. Go to the Merge Position page.
4. Select a Position to merge in the Positions section:

- Position section contains all the positions with a positive balance in ERC1155 (in other words, positions created by the currently connected wallet address / CPK address).
- For your convenience, a list of search, sort and filter options is available to look for a certain position.

5. If a selected position has other positions to merge, they will appear in the "MERGE WITH" section.
6. Select a position in the "MERGE WITH" section: "CONDITION" field will be auto-filled with a condition id the positions belong to.
7. Specify an "AMOUNT" you want to back the merged position:
   - "Use Position Balance" action button above the "AMOUNT" field will show the minimum value between the selected positions' balances in ERC1155.
   - You can fill in the "AMOUNT" field using the "Use Wallet Balance" action button or manually.
   - You are not allowed to fill in an amount greater than the value in the "Use Position Balance" action button.
8. "MERGE POSITION PREVIEW" section will show the merged position's preview:
   - [Collateral (corresponds to the merged positions' collateral token) +
   - C: = condition +
   - ConditionID (cropped in the middle)
   - O = outcome +
   - Merged outcomes numbers]
   - x Amount (corresponds to the value in the "AMOUNT" field).
9. If all the conditions above are met, "Merge" button will become enabled:

## POSITIONS

◯ **Filters**   | 🔍 Search by Position Id        ✕ | Position... ⌄ |

| POSITION ID | COLLATERAL | ERC1155 |
|---|---|---|
| ◯ 0x32642B...11AD3F | 🧊 LINK | 6.00 |
| ⦿ 0x4A021A...6F2F16 | 🧊 LINK | 12.00 |
| ◯ 0xCDAA43...3FB30A | 🧊 LINK | 12.00 |
| ◯ 0x520006...2F4279 | ⬤ OWL | 3.00 |
| ◯ 0xD04E45...B5F226 | ⬤ OWL | 3.00 |

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## MERGE WITH

☑ [LINK C:0x42ac66...a49293 O:0|1] x6.00

☐ [LINK C:0x42ac66...a49293 O:2] x12.00

## CONDITION ID

| 0x42ac66ef4236a58bbf5c33b155f71282a5fb36e413198922856cabd1... ⌄ |
|---|

## AMOUNT                                          Use Position Balance ($6.00)

| 5 |
|---|

## MERGED POSITIONS PREVIEW

[LINK C:0x42ac66...a49293 O:0|1|3] x5.00

**Merge**

10. Press on the "Merge" button, confirm the transaction and get the confirmation pop-up with the created merged Position ID. You can navigate from the pop-up to a [positions detail page](#).
11. Position"s collateral token amount will not be written off from the connected wallet.
12. Collateral token amount will be burned from the "parent" positions on an amount for the merged positions.

**Notes**:

- If a selected position has no positions to merge, "No mergeable positions." will be displayed in the "MERGE WITH" section.
- There will be no positions to merge in the Positions section when the CTE app is not connected with a wallet.
- "Use Position Balance" action button remains to be disabled until positions in both "Positions" and "MERGE WITH" sections are selected.
- "MERGE WITH" section shows positions according to the next rules:
  - The positions must be disjoint.
  - The positions must be of the same condition set.
  - The positions must be of the same collateral.
  - The positions must have balance.
- If you merge all the positions for a condition, "MERGE POSITION PREVIEW" section will show the amount of a collateral token to be returned to the currently connected wallet.



After a successful transaction, you will get back these tokens to the wallet.



- If you merge all the positions of a "deeper" level, "MERGE POSITION PREVIEW" section will show a "parent" position's preview with the amount of token to be returned there after a successful merge.

For more technical information about the merge positions please refer here.

## RESOLVING CONDITIONS (REPORTING PAYOUTS)

Here you can report a result for a prepared condition. To do this, follow the next steps:

1. Connect a wallet and make sure you have enough funds to pay a gas fee.
2. Make sure that you have at least one condition with the "Open" status, created by the currently connected wallet.
3. Go to the Report Payouts page.
4. Select a Condition to report in the Conditions section:
   - Conditions section contains the ones, which are in the "Open" status, and are created by the currently connected wallet / CPK address.
   - For your convenience, a list of search, sort and filter options is available to look for a certain condition.
5. Once a condition to report is selected, the "PAYOUTS" section is loaded with a number of outcomes for the Condition ID.
6. Fill in the "PAYOUTS" field(s) with a numeric/decimal value to set a probability of the possible outcomes:
   - You are able to set a probability for the only one outcome (probability = 100%).
   - Probability for each outcome is automatically recalculated according to the total sum of the values in the "PAYOUT" fields.
7. If all the conditions above are met, "Report" button will become enabled:

## CONDITIONS

Filters   🔍 Search by Condition Id   ✕   Condition... ⌄

| | CONDITION ID | REPORTER / ORACLE | QUESTION ID |
|---|---|---|---|
| ⚪ | 0x56DBD6...8359F2 | 0xFF714B...CEEA2B | 0x8ACABA...8976B0 |
| 🔵 | 0x1881B3...F86BD5 | 0xFF714B...CEEA2B | 0x9DE806...301457 |
| ⚪ | 0xA8C31F...ED1914 | 0xFF714B...CEEA2B | 0xA870E5...3105CF |
| ⚪ | 0xA870E5...3105CF | 0xFF714B...CEEA2B | 0x600466...C00489 |
| ⚪ | 0x42AC66...A49293 | 0xFF714B...CEEA2B | 0x12E3B0...19F222 |

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## PAYOUTS

| OUTCOME | PROBABILITIES | PAYOUT |
|---|---|---|
| 0 | 40.00% | 2 |
| 1 | 60.00% | 3 |

**Report**

8. Press on the "Report" button, confirm the transaction and get the confirmation pop-up with the reporter array for the Condition ID.

9. The just reported condition ID changes its status from the "Open" to "Resolved" and cannot be reported again.

**Notes**:

- There will be no conditions to resolve in the Conditions section when the CTE app is not connected with a wallet. "User is not connected to wallet." will be displayed there instead.
- You are able to search for a condition in the Conditions section with another status, another creator, etc., but you will not be able to proceed with resolving such a condition.
- In case if a field is filled in with an incorrect value, a validation message under a field will provide you information about what is wrong with the input:



The connected user is a not allowed to report payouts.
At least one payout must be positive.
Condition is already resolved.



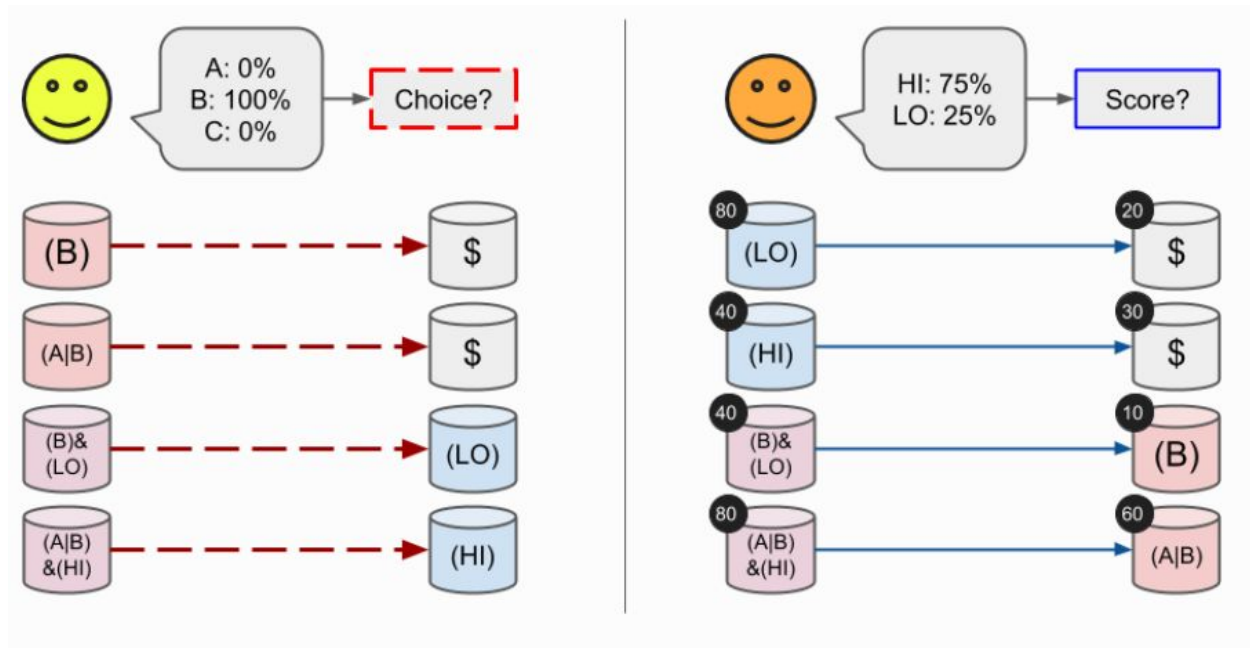- You are not allowed to report payout an Omen condition as only Reality.eth team is able to report such conditions.

## REDEEMING POSITIONS

Here you can redeem positions and get collateral tokens back to the currently connected wallet address.
Redeeming examples:

To redeem a position, follow the next steps:
1. Connect a wallet and make sure you have enough funds to pay a gas fee.
2. Make sure that you have at least one position with a positive balance, which belongs to a resolved condition.
3. Go to the Redeem Positions page.
4. Select a position to redeem in the Positions section:
   - Position section contains all the positions with a positive balance in ERC1155 which belong to resolved conditions.
   - For your convenience, a list of search, sort and filter options is available to look for a certain position.
5. "CONDITION ID" field will be auto-filled:
   - with a resolved condition id when a position belongs to one condition id (simple position).
   - with a list of **resolved** conditions when a position belongs to two or more condition ids (complex position). In this case, you are able to change condition id. If needed.
6. "REDEEMED POSITION PREVIEW" section will show the redeemed amount, calculated based on the formula **AR = PA * P,**
      where
      **AR** - Amount to Redeem
      **PA** - Position Amount
      **P** - defined probability for a condition's outcome on the Report payout page
   For a simple position it will look like a number of collateral tokens to be return to the currently connected wallet:

**REDEEMED POSITION PREVIEW**

0.50 DAI

7. For a complex position, the "REDEEMED POSITION PREVIEW" section will show the redeemed position's preview:
   - [Collateral (corresponds to the merged positions' collateral token) +
   - C: = condition +
   - ConditionID (cropped in the middle)
   - O = outcome +
   - Merged outcomes numbers]
   - x Amount (Amount is calculated in the same way as for redeeming a simple position.)
8. If all the conditions above are met, "Redeem" button will become enabled:

## POSITIONS

| | | |
|---|---|---|
| ⬤ **Filters** | 🔍 Search by Position Id ✕ | Position... ⌄ |

| POSITION ID | COLLATERAL | ERC1155 |
|---|---|---|
| ○ 0xBCAEE8...02548B | 🪙 DAI | 0.50 |
| ○ 0xD7329F...D43336 | 🪙 DAI | 0.50 |
| ○ 0x4B5BDB...AE6082 | 🔵 USDC | 1.00 |
| ⦿ 0xAB0DE3...F3BD96 | 🔵 USDC | 1.00 |
| ○ 0x43EF00...28FE5A | 🪙 DAI | 2.00 |

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**CONDITION ID**

0x6545086a55dd6304f643082538f0df0611aaaaa9cf29d9cd070e9faf4... ⌄

**REDEEMED POSITION PREVIEW**

[USDC C:0x654508...a3081e O:0] x0.40

**Redeem**

9. Press on the "Redeem" button, confirm the transaction and get the confirmation pop-up.
10. Redeemed Position's collateral token balance will become zero.
11. Once a simple position is redeemed, an amount of a collateral token will be returned to the currently connected wallet.
12. Once a complex position is redeemed, it may return an amount to a currently connected wallet OR return a collateral to a "parent" position based on a condition selection in the Condition ID field. Take a look at the example below:

For simplicity, let's assume that we have 3 conditions C1, C2 and C3 with only 2 outcomes.

**Split** the 1st condition C1 into positions with amount of 10DAI    => **10C1P1** + 10C1P2
**Split** position **10 C1P1** with condition C2    => **10C1C2P1** + 10C1C2P2
**Split** position **10 C1C2P1** with condition C3    => **10C1C2C3P1** + 10C1C2C3P1

**Resolve**
         Condition C3 with [1,0] array,
         Condition C2 with [0.5, 0.5] array,
         Condition C1 with [0.1,0.9] array.

**Results of redeeming will be the next:**
Position **10C1C2C3P1** will return tokens based on the set probability to position **10C1C2P1**:    (10C1C2C3P1 * 1) = 10C1C2P1
Position **10C1C2P1** will return tokens based on the set probability to position **C1P1**:    (10C1C2P1 * 0.5) = 5C1P1
Position **C1P1** will return tokens based on the set probability to a currently connected wallet:    (5 C1P1 * 0.1) = 0.5 DAI


**Notes**:

- There are no positions to redeem in the Positions section when the CTE app is not connected with a wallet.

For more technical information about the redeeming positions please refer [here](#).