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Custom Webhooks FAQ

Frequently asked questions about Custom Webhooks

What chains does Alchemy host Custom Webhooks for?

Custom Webhooks are live for Alchemy's entire EVM network suite. This includes main-net and testnets across Ethereum, Polygon, Arbitrum, Optimism, and Base.

Why do I receive a webhook for every new block?

Don't be alarmed if you're seeing blank data like the following!

sample-empty-graphQL-webhook {"webhookId": "wh_yg0kkvlsnksbzwvz", "id": "whevt_3iho0jld9zsmfgkk", "createdAt": "2023-02-02T23:11:24.585Z", "type": "GRAPHQL", "event": {"data": {"block": {"logs": []}}, "sequenceNumber": "10000000000579857000"} } We send you notifications every time we run your GraphQL queries regardless of whether the filter results are null. This holds us accountable and serves as a receipt that we ran the query on each new canonical block!

NOTE:

If you want to turn this off and only receive webhooks for non-empty queries, check out instructions in the [next FAQ question](#)!

How do I receive webhooks for only non-empty results (i.e. turn off the heartbeat mechanism described above/don't receive a webhook for every block)?

To turn off the "heartbeat" mechanism for your webhook query (aka. only receive a webhook if the query on a block is not empty), you can change the graphql_query from a string to { query: string, skip_empty_messages: boolean } and set the skip_empty_messages param to True. For example:

```
curl --request POST \ --url https://dashboard.alchemy.com/api/create-webhook \ --header 'X-Alchemy-Token: ZEul86oVdYIkJ8wvTfOPJoZQZX7OJ6Op' \ --header 'accept: application/json' \ --header 'content-type: application/json' \ --data '{ "network": "ETH_MAINNET", "webhook_type": "GRAPHQL", "webhook_url": "https://oh5zluwgge.execute-api.us-east-1.amazonaws.com/Test2/", "graphql_query": { "skip_empty_messages": true, "query": "query (var: [Address!], logTopic1: [Bytes32!]) { block { hash number transactions(filter: { addresses: [{ to: var }] }) { hash from { address } to { address } value gas status logs { data topics } } callTracerTraces(filter: { addresses: [{ to: var }] }) { from { address } to { address } value input output gas error subtraceCount traceAddressPath } logs(filter: { addresses: [], topics: [], logTopic1, [] }) { topics transaction { hash from { address } to { address } value gas status } } } } }' With this bool set to true, you will no longer receive webhooks
```

for every new block, but instead only receive webhooks for non-empty block queries. This can be useful to reduce noise, however, you lose the receipt of receiving a webhook for every block.

How do I use GraphQL to construct a query?

If you're new to GraphQL, the in-browser editor on the [Alchemy Notify Dashboard](#) has autocomplete enabled and will magically suggest fields as you start typing. If you get lost, you can always search for available queries in the docs tab on the pop-up to the right of the webpage!

And, if you need a little inspiration, feel free to use the Alchemy Notify template carousel. Depending on your blockchain/network selection, you'll have a variety of different options to quickly build on top of!

Can I add more expressive GraphQL filters?

100% We're hard at work creating new expressions to allow developers to make more complex queries. Keep your eyes peeled for updates and feel free to reach out to cpe@alchemy.com with any suggestions!

How many Custom Webhooks can I add?

There is currently a limit of 100 GraphQL queries within each team account. Feel free to reach out to tope@alchemy.com to have these limits removed if your application has any particular needs beyond this limit!

Why am I running into errors when creating a webhook?

Our Custom Webhooks product is still in early access and we have lots of users! We're working on ensuring that the webhook creation and sending process is scalable. If you're seeing 500 error codes when creating webhooks, please ensure that you do not have `transactions.inputData` included as a parameter in your GraphQL query. We are heads-down working on ensuring reliable access across our entire API surface area!

Are there any constraints to the GraphQL interface in Custom Webhooks?

While logs and transactions can be self-referential entities, we only allow for a single-layer nested data structure to bound GraphQL queries. This helps us to maintain a tidy API surface area.

How do I use the topic filter?

- Currently, our log/event filter leverages the same semantics as a traditional topic filter for `aneth_getLogs`
- RPC call. If you're not familiar with how topic filters work for `eth_getLogs`
- , here's [an article](#)
- to get you up to speed.

A note on specifying topic filters within Custom Webhooks:

A transaction with topics `pic fi` will be matched by the following topic filters:

- `[]`
- `"anything"`
- `[A]`
- `"A in first position (and anything after)"`
- `[[], [B]]`
- `"anything in first position AND B in second position (and anything after)"`
- `[A, B]`
- `"A in first position AND B in second position (and anything after)"`
- `[[A, B], [A, B]]`
- `"(A OR B) in first position AND (A OR B) in second position (and anything after)"`
- Feel free to peek
- at our example [GraphQL repository](#)
- as well to get inspiration for the different queries you can make.

How much do Custom Webhooks cost?

Custom Webhooks fall under the Alchemy Notify suite and are priced based on bandwidth: the amount of data delivered as part of the subscription. Each byte of data delivered costs 0.04 CUs. Since you only pay for what you use, feel free to tune

each GraphQL to only deliver the information you want!

Once we move past our early access period, we will also include a fixed CU cost for hosting each GraphQL query on Alchemy.

How are reorgs handled?

Custom Webhooks is built on top of Alchemy's Supernode product which powers our RPC service. This ensures that we have a consistent and accurate view of the blockchain. However, it is still possible for re-orgs to take place on the blockchain. If a chain re-org occurs, Alchemy will re-run your GraphQL filters on the latest canonical block and send you a new webhook notification. To de-dup and handle re-orgs client side, Custom Webhook response fields include the `propertysequenceNumber`. `sequenceNumber` is an incremented integer associated with each webhook notification and can be used by developers to understand if a "new, more correct" block of data has taken place to ensure that developers are always in parity with the current blockchain state.

What does the capacity limit error mean?

The capacity limit error means you've exceeded your total monthly compute units. To upgrade your capacity limits go to your [Alchemy dashboard](#). Below is an example capacity limit error.

```
Capacity limit error {"webhookId": "wh_127lzhz0dfwwimwe", "id": "whevt_55i2al4sc2ivp1m8", "createdAt": "2022-12-05T23:43:16.379Z", "type": "GRAPHQL", "event": {"error": "Monthly capacity limit exceeded. Visit https://dashboard.alchemy.com/settings/billing to upgrade your scaling policy for continued service."}}
```

What is the x-alchemy-signature?

The x-alchemy-signature is an Alchemy authentication token used to verify the source of your webhook requests and responses. The x-alchemy-signature ensures you're getting responses from Alchemy and no other malicious source.

Where do I find my Alchemy auth token?

Find your Alchemy auth token in the upper-right corner of your Notify dashboard by clicking the AUTH TOKEN button.

Alchemy dashboard showing where to copy the Auth Token for the Notify API.

What does the 'paused' state for a webhook mean?

The 'paused' state indicates that a webhook is temporarily non-operational. This can happen either because you've manually set it to the 'paused' state or because you've hit your CU limit without autoscaling turned on. To make it operational again, you'll need to manually unpause it.

How responsive is Custom Webhooks?

Custom Webhooks is [Alchemy's fastest way to ingest re-org protected blockchain data](#) and increases block freshness. We define block freshness (or lag) as the difference between the time the webhook was fired from Alchemy and the time the block itself was mined/confirmed.

Why are my webhooks paused?

Your webhooks can be automatically paused if you reach your CU limit and don't have autoscaling activated. In this case, all your active webhooks will transition to the 'paused' state.

If my webhooks are paused because I hit my CU limit, will they automatically become active when I upgrade or get more CUs?

No. Even if you upgrade or acquire more CUs, you'll still need to manually unpause your webhooks. This approach is in place mainly because many of our users quickly use up all their CUs at the beginning of the month. We'd prefer these webhooks to stay paused until you see value in them and decide to unpause.

Updated 2 months ago

[Custom Webhooks Quickstart](#) [Custom Webhooks GraphQL Examples](#) Did this page help you? Yes No