markhuot / **craftql** Public

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markhuot Merge pull request #344 from redboer/patch-1 · d01af3b · 5 years ago

Name	Last commit message	Last commit date
assets	adding scopes docs	9 years ago
src	Merge pull request #344 from redboer/patc…	5 years ago
tests	Remove unused imports	7 years ago
.gitignore	tests working	9 years ago
.travis.yml	updated env	9 years ago
CHANGELOG.md	Craft 3.6 compatibility	5 years ago
CODE_OF_CONDUCT.md	Create CODE_OF_CONDUCT.md	9 years ago
LICENSE.md	© Mark Huot	9 years ago
README.md	Craft 3.6 compatibility	5 years ago
composer.json	Craft 3.6 compatibility	5 years ago
composer.lock	reving graphql-php for better error reporting	9 years ago

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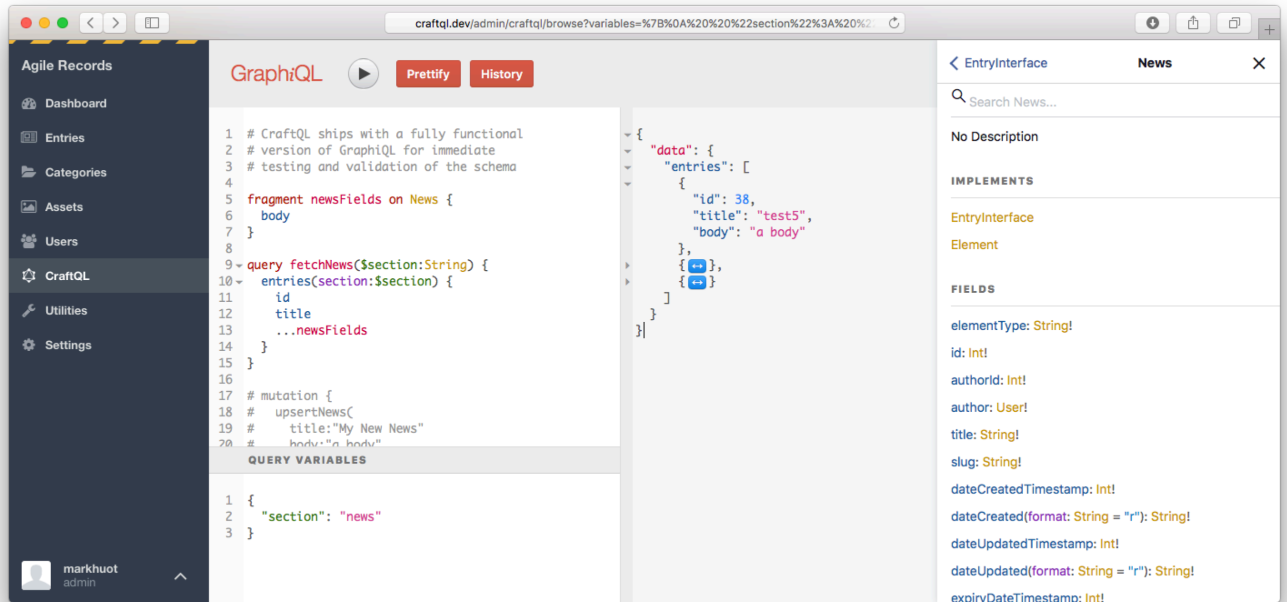


build unknown

A drop-in [GraphQL](#) server for your [Craft CMS](#) implementation. With zero configuration, *CraftQL* allows you to access all of Craft's features through a familiar GraphQL interface.

Examples

Once installed, you can test your installation with a simple Hello World,

```
{
  helloWorld
}
```

If that worked, you can now query Craft CMS using almost the exact same syntax as your Twig templates.

```
{
  entries(section:[news], limit:5, search:"body:salty") {
    ...on News {
      title
      url
      body
    }
  }
}
```

CraftQL provides a top level `entries` field that takes the same arguments as `craft.entries` does in your template. This is the most commonly used field/access point. E.g.,

```
query fetchNews {             # The query, `query fetchNews` is completely optional
  entries(section:[news]) {   # Arguments match `craft.entries`
    ...on News {              # GraphQL is strongly typed, so you must specify each Entry Type you want data from
      id                      # A field to return
      title                   # A field to return
      body                    # A field to return
    }
  }
}
```

Types are automatically created for every Entry Type in your install. If you have a section named `news` and an entry type named `news` the GraphQL type will be named `News`. If you have a section named `news` and an entry type named `pressRelease` the GraphQL type will be named `NewsPressRelease`. The convention is to mash the section handle and the entry type handle together, unless they are the same, in which case the section handle will be used.

```
query fetchNews {
  entries(section:[news]) {
    ...on News {              # Any fields on the News entry type
      id
      title
      body
    }
    ...on NewsPressRelease {  # Any fields on the Press Release entry type
      id
      title
      body
      source
      contactInfo
      downloads {
        title
        url
      }
    }
  }
}
```

To modify content make sure your token has write access and then use the top level `upsert{EntryType}` `Mutation`. `upsert{EntryType}` takes arguments for each field defined in Craft.

```
mutation createNewEntry($title:String, $body:String) {
  upsertNews(
```

```
    title:$title,
    body:$body,
  ) {
    id
    url
  }
}
```

The above would be passed with variables such as,

```
{
  "title": "My first mutation!",
  "body": "<p>Here's the body of my first mutation</p>",
}
```

Matrix Fields

Working with Matrix Fields are similar to working with Entry Types: if you have a Matrix Field with a handle of `body`, the containing Block Types are named `Body` + the block handle. For instance `BodyText` or `BodyImage`. You can use the key `__typename` from the resulting response to map over the blocks and display the appropriate component.

```
{
  entries(section: [news]) {
    ... on News {
      id
      title
      body {                    # Your Matrix Field
        ... on BodyText {       # Block Type
          __typename            # Ensures the response has a field describing the type of block
          blockHeading          # Fields on Block Type, uses field handle
          blockContent          # Fields on Block Type, uses field handle
        }
        ... on BodyImage {      # Block Type
          __typename            # Ensures the response has a field describing the type of block
          blockDescription      # Fields on Block Type, uses field handle
          image {               # Fields on Block Type, uses field handle
            id                  # Fields on image field on Block Type, uses field handles
          }
        }
      }
    }
  }
}
```

Dates

All Dates in *CraftQL* are output as `Timestamp` scalars, which represent a unix timestamp. E.g.,

```
{
  entries {
    dateCreated  # outputs 1503368510
  }
}
```

Dates can be converted to a human friendly format with the `@date` directive,

```
{
  entries {
    dateCreated @date(as:"F j, Y") # outputs August 21, 2017
  }
}
```

Relationships

Related entries can be fetched in several ways, depending on your needs.

Similar to `craft.entries.relatedTo(entry)` you can use the `relatedTo` argument on the `entries` top level query field. For example, if you have a `Post` with an ID of `63` that is related to comments you could use the following.

```
{
  entries(relatedTo:[{element:63}], section:comments) {
    ...on Comments {
      id
      author {
        name
      }
      commentText
    }
  }
}
```

Note, the `relatedTo:` argument accepts an array of relations. By default `relatedTo:` looks for elements matching *all* relations. If you would like to switch to elements relating to *any* relation you can use `orRelatedTo:`.

The above approach, typically, requires separate requests for the source content and the related content. That equates to extra HTTP requests and added latency. If you're using the "connection" approach to CraftQL you can fetch relationships in a single request using the `relatedEntries` field of the `EntryEdge` type. The same request could be rewritten as follows to grab both the post and the comments in a single request.

```
{
  entriesConnection(id:63) {
    edges {
      node {
        ...on Post {
          title
          body
        }
      }
      relatedEntries(section:comments) {
        edges {
          node {
            ...on Comment {
              author {
                name
              }
              commentText
            }
          }
        }
      }
    }
  }
}
```

Transforms

You can ask CraftQL for image transforms by specifying an argument to any asset field. Note: for this to work the volume storing the image must have "public URLs" enabled in the volume settings otherwise CraftQL will return `null` values.

If you have defined named transforms within the Craft UI you can reference the transform by its handle,

```
{
  entries {
    ...on Post {
      imageFieldHandle {
        thumbnail: url(transform: thumb)
      }
    }
```

```
    }
  }
```

You can also specify the exact crop by using the `crop`, `fit`, or `stretch` arguments as specified in the [Craft docs](#).

```
{
  entries {
    ...on Post {
      imageFieldHandle {
        poster: url(crop: {width: 1280, height: 720, position: topLeft, quality: 50, format: jpg})
      }
    }
  }
}
```

Drafts

Drafts are best fetched through an edge node on the `entriesConnection` query. You can get all drafts for an entry with the following query,

```
{
  entriesConnection(id:63) {
    edges {
      node { # the published node, as `craft.entries` would return
        id
        title
      }
      drafts { # an array of drafts
        edges {
          node { # the draft content
            id
            title
            ...on Post { # draft fields are still referenced by entry type, as usual
              body
            }
          }
          draftInfo { # the `draftInfo` field returns the meta data about the draft
            draftId
            name
            notes
          }
        }
      }
    }
  }
}
```

Categories and Tags

Taxonomy can be queried through the top level `categories` or `tags` field. Both work identically to their [`craft.entries`](#) and [`craft.tags`](#) counterparts.

```
{
  categories { # lists all categories, or use `tags` to get all tags
    id
    title
  }
}
```

For added functionality query categories and tags through their related `Connection` fields. This provides a spot in the return to get related entries too,

```
{
  categoriesConnection {
    totalCount
```

```
    edges {
      node {
        title   # the category title
      }
      relatedEntries {
        entries {
          title # an entry title, that's related to this category
        }
      }
    }
  }
}
```

Users

Users can be queried via a top-level `users` field,

```
{
  users {
    id
    name
    email
  }
}
```

You can also mutate users via the `upsertUser` field. When passed an `id:` it will update the user. If the `id:` attribute is missing it will create a new user,

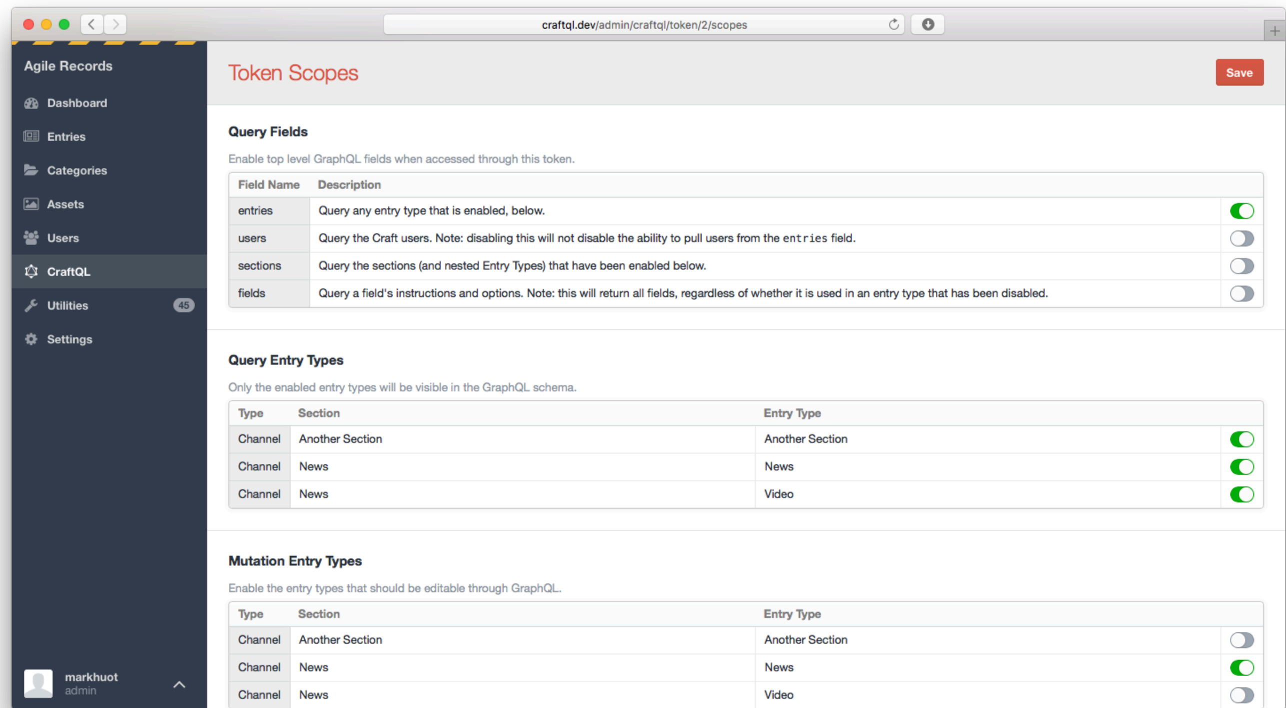
```
mutation {
  upsertUser(id:1, firstName:"Mark", lastName:"Huot") {
    id
    name # returns `Mark Huot` after the mutation
  }
}
```

Permissions can be set as well, but you must *always* pass the full list of permissions for the user. E.g.,

```
mutation {
  upsertUser(id:1, permissions:["accessCp","editEntries:17","createEntries:17","deleteEntries:17"]) {
    id
    name # returns `Mark Huot` after the mutation
  }
}
```

Security

CraftQL supports GraphQl field level permissions. By default a token will have no rights. You must click into the "Scopes" section to adjust wha each token can do.



Scopes allow you to configure which GraphQL fields and entry types are included in the schema.

Third-party Field Support

To add CraftQL support to your third-party field plugin you will need to listen to the `craftQlGetFieldSchema` event. This event, triggered on your custom field, will pass a "schema builder" into the event handler, allowing you to specify the field schema your custom field provides. For example, in your plugin's `::init` method you could specify,

```
Event::on(\my\custom\Field::class, 'craftQlGetFieldSchema', function (\markhuot\CraftQL\Events\GetFieldSchema $event)
  // the custom field is passed as the event sender
  $field = $event->sender;

  // the schema exists on a public property of the event
  $event->schema

    // you can add as many fields as you need to for your field. Typically you'll
    // pass your field in, which will automatically set the name and description
    // based on the Craft config.
    ->addStringField($field);

  // the schema is a fluent builder and can be chained to set multiple properties
  // of the custom field
  $event->schema->addEnumField('customField')
    ->lists()
    ->description('This is a custom description for the field')
    ->values(['KEY' => 'Label', 'KEY2' => 'Another label']);
});
```

The above, when called for a Post entry type on the `excerpt` field would generate a schema approximately equlilivant to,

```
type CustomFieldEnum {
  # Label
  KEY

  # Another label
  KEY2
}
```

```
type Post {
  # The field instructions are automatically included
  excerpt: String

  # This is a custom description for the field
  customField: [CustomFieldEnum]
}
```

If your custom field resolves an object you can expose that to CraftQL as well. For example, if you are implementing a custom field that exposes a map, with a latitude, longitute, and a zoom level, it may look like,

```
Event::on(\craft\base\Field::class, 'craftQlGetFieldSchema', function ($event) {
  $field = $event->sender;

  $object = $event->schema->createObjectType('MapPoint')
        ->addStringField('lat')
        ->addStringField('lng')
        ->addStringField('zoom');

  $event->schema->addField($field)->type($object);
});
```

Roadmap

No software is ever done. There's a lot still to do in order to make *CraftQL* feature complete. Some of the outstanding items include,

- [x] Matrix fields are not included in the schema yet
- [x] Table fields are not included in the schema yet
- [x] Asset mutations (implemented by passing a URL or asset id)
- [ ] File uploads to assets via POST $_FILES during a mutation
- [x] Automated testing is not functional yet
- [x] Automated testing doesn't actually *test* anything yet
- [x] Mutations need a lot more testing
- [x] `relatedEntries:` improvements to take source/target
- [ ] Persisted queries
- [ ] Subclassed enum fields that are able to return the raw field value

Requirements

- Craft 3.6.0+
- PHP 7.0+

Installation

If you don't have Craft 3 installed yet, do that first:

```
$ composer create-project craftcms/craft my-awesome-site -s beta
```

Once you have a running version of Craft 3 you can install *CraftQL* with Composer:

Releases 39

1.3.7 Latest
on Sep 9, 2021

+ 38 releases

Packages

No packages published

Contributors 13

Languages

- JavaScript 86.5%
- PHP 12.2%
- HTML 1.3%