

### Mutations: OnChangeResponse

```
{
  " id": " Que ry",
  " dat a": {
    " gen era lQu ery Nam e": [... UPDATED DATA ...], // For queries without pagina tio n/f filters
    " -an oth erQ uer yNa me%": For all queries with pagination and/or filter
  }
}
```

- QueryName there is top level properties on your Query type.

- You should list all top level QueryNames that may be affected (data could be changed) after applying mutation

### Entity / ID's

id: <b>ID!</b>	Main Entity id
userId: <b>ID!</b>	Foreign Entity id
deletedByAdminId: <b>ID</b>	Foreign Entity id with modifier
deletedByAdminName: <b>String</b>	Foreign Entity field with modifier

- deletedBy - is modifier/action
- Admin - is Foreign Type/Entity name
- Id/Name - is Foreign Entity field

### Filters: Date / Time

```
startTime: DateTime
endTime: DateTime
startDate: Date
endDate: Date
createdTimeFrom: DateTime
createdTimeTo: DateTime
```

### Know how to deprecate

```
type MyType {
  id: ID!
  old Field: String @depre cat ed( reason: " -
old Field is deprec ated. Use newField instea d.")
  new Field: String
  ano the rField: String @depre cated
}
```

For example `userId` in the `User` Type could be deprecated, because there is `id` have been added

<https://spec.graphql.org/June2018/#sec--deprecated>

### Non Nullable

Ensure that all fields that always should have a value is marked as Non Nullable (!) in response

For example Nullable Boolean have a three state which makes a confusion.

Only really optional fields, may be Nullable

### Group Fields

```
type GeoPoint {
  lat: Float!
  lon: Float!
}
type Address {
  street: String
  city: String
  cou ntry: String!
  geo: GeoPoint
}
type User {
  add ress: Address
}
```

Do not shy to group related fields.

That simplify reading/understanding of API, reusing the same Fragments, and write common utilities to work with that



### Filters: Nullability

isActive: **Boolean**

startTime: **DateTime**

siteId: **ID!**                      **Required filter field is Not Nullable**

limitNames: [**LimitName!**]    No Nullable Entities inside array

- Fields is **Nullable**, because `null` means that we *opt-out* filter

- Empty array is also means that we *opt-out* filter

### Pagination

totalPages: **NonNegativeInt!**    0 – ∞

totalElements: **NonNegativeInt!**    0 – ∞

page: **PositiveInt!**                    1 – ∞

size: **PositiveInt!**                    1 – ∞

isFirst: **Boolean!**

isLast: **Boolean!**

content: [**SomeEntity!**]!            If there is no entities -  
Empty Array is pretty  
good!

### Translations

period: " P1Y "

period Name: "One Year"    Translation for period values

type: **TypeEnum**                    "TEMPORATY" | "PERMANENT"

typeName: " Tem por -            Tranlation for **TypeEnum** values  
aty "

### Boolean Fields

isActive: **Boolean!**

isDeleted: **Boolean!**

hasContent: **Boolean!**

- Always start boolean fields with `is / has` prefix. *(That's just a good practice)*

- Do not forget that Nullable Boolean have a three state: `true`, `false` and "I'm not sure", don't do that!

### Use specific Scalar types

Bad	Good
country: <b>String!</b>	country: <b>Country!</b>
pageContent: <b>String!</b>	pageContent: <b>HTML!</b>
currency: <b>String!</b>	currency: <b>Currency!</b>
metadata: <b>String!</b>	metadata: <b>JSON!</b>
value: <b>String!</b>	value: <b>Duration!</b>
addressType: <b>Int!</b>	addressType: <b>AddressTypeEnum!</b>

- That allow you to implement validation for corresponding type once, and reuse it everywhere.

- For FE that also allows to validate the types, and improving readability and understanding of API



By **Demetrio**  
[cheatography.com/demetrio/](https://cheatography.com/demetrio/)

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