# C3 AI Suite Tips and Tricks

## Fetch Method

### 'this'

When fetching a Type which has as property another Type, you can use the '`this`' keyword in the '`include`' field of the fetch spec to get the entire subordinate object. For example:

```
entity type TypeA schema name "TypeA" {
name: string
child: TypeB
}
```

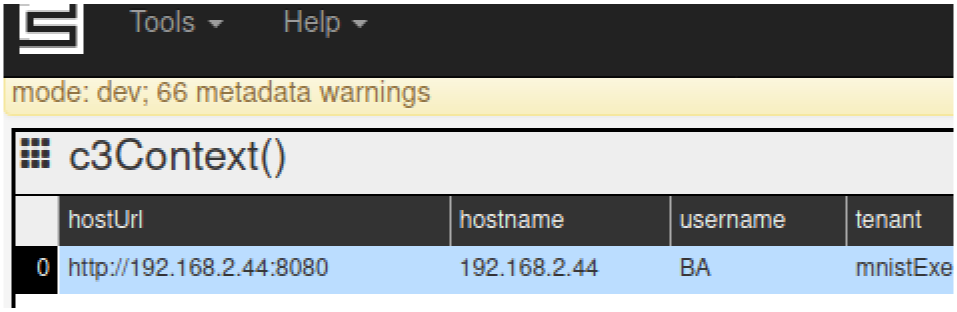
Fetch command:

```
TypeA.fetch({'include': 'child.this'})
```

```
c3.TypeA.fetch({'include': 'child.this'})
```

## Clearing Metadata Errors

Whenever you provision a package to your tag you will get a multitude of metadata warnings, and in some cases errors. This results in the following yellow or red banner at the top of your static console:



mode: dev; 66 metadata warnings

c3Context()

|   | hostUrl | hostname | username | tenant |
|---|---|---|---|---|
| 0 | http://192.168.2.44:8080 | 192.168.2.44 | BA | mnistExe |

To clear these errors, simply issue the following in static console:

```
DbMetadataIssue.removeAll()
```

Or this for a connected python session:

```
c3.DbMetadataIssue.removeAll()
```

## Cleaning Your Tag

When developing a package, you frequently need to provision and re-provision progressively changing versions. This can result in older versions of your data lingering on your tag even though you're no longer using it. Additionally, when using your tag for a different package, you may leave behind old data which is not used.

There are two options for cleaning data.

## Cleaning Type Data

Suppose you want to remove the data associated with the Type '`TypeName`'. All that's needed in this case is the '`removeAll`' command in static console:

```
TypeName.removeAll()
```

Or this for a connected python session:

```
c3.TypeName.removeAll()
```

## Cleaning All Data

You can remove all data from your tag with the `` `removeData` ``. Please be aware that not all users are authorized to do this.

From static console:

```
Tag.removeData()
```

From a connected python session:

```
c3.Tag.removeData()
```

**Warning:** Please be aware that this command will remove **all data** from your tag. Please be sure you are really finished using that data, or back it up if necessary.

# Checking Your Authorization

You may not be authorized to execute some of the above commands. To check this, you can use the `Authorizer` Type. For example, to check whether `Tag.removeData` is allowed, execute the following in static console:

```
Authorizer.isAuthorized("Tag", "removeData")

// or

Authorizer.actionAuthzRoles({typeName: {typeName: 'Tag'}, action: 'removeData'})
```

And the same in Python would be:

```
c3.Authorizer.isAuthorized("Tag", "removeData")

# or

c3.Authorizer.actionAuthzRoles(spec={'typeName': {'typeName': 'Tag'}, 'action': 'removeData'})
```

# Checking C3 Server Version

Sometimes you may need to know the version of the C3 Server you're using. You can do this from the static console with the following:

```
server_version = Cluster.hosts()[0].serverInfo.buildCITag
```

## Checking the Provisioned Package

```
c3Grid(TagProvisionLog.fetch({
    order: "descending(deployDate)",
    limit: 1
}))
```

## Listing all Types in a package

```
c3Grid(TagMetadataStore.typesByPackage("packagename"))
```