

# Refection in C#

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# Where to use Reflection

- Normally compiler decision of types  
(**strongly typed language**)
- Sometimes we need the type information at runtime => reflection
- An examples Generic framework to do something
  - Json convert (e.g. Newtonsoft)
  - Entity framework

# What is Reflection

## Metatype

- `Type t = obj.GetType();`

## Kind of information

- `t.IsXXX` (class, interface, abstract)
- `t.GetProperties()` => `PropertyInfo` (name, type etc)
- `t.GetMethods()` => `MethodInfo`  
(name, parameters , return types etc.) => invoke methods
- `t.BaseType`

# Call methods in Reflection

Example:

```
Type t = o.GetType();
```

```
// find  
MethodInfo setIdMethod =  
    t.GetMethods().First(m => m.Name == "set_Id");
```

```
// make call  
setIdMethod.Invoke(o, new object[] { 12 });
```

```
// parameters is an array of values (though here only one)
```

# Small Demo

Exercise MyJsonConverter .