

# CodeIgniter v4 Model

## codeigniter

- conexión automática a BDD
- métodos CRUD básicos
- permite extender de otros modelos

## instanciar

```
// Create a new class manually.
$userModel = new \App\Models\UserModel();

// Create a shared instance of the model.
$userModel = model('UserModel');
// or
$userModel = model('App\Models\UserModel');
// or
$userModel = model(\App\Models\UserModel::class);

// Create a new class with the model() function.
$userModel = model('UserModel', false);

// Create shared instance with a supplied database connection.
$db = db_connect('custom');
$userModel = model('UserModel', true, $db);
```

## propiedades built-in

- \$DBGROUP: conexión alternativa a la BDD en lugar de la establecida por defecto. [connecting](#)
- \$table: tabla primaria, solo aplica en los métodos básicos de CRUD
- \$primaryKey
- \$useAutoIncrement = true: poner a **false** si se ha delegado en la BDD
- \$returnType = 'array': retorno de find(), array o object
- \$useSoftDeletes = true;: si cierto, actualiza el campo **deleted\_at**
  - withDeleted()
- \$allowedFields: campos permitidos en los métodos básicos CRUD
  - save(), insert(), update()
  - la \$primaryKey no ha de estar en esta lista
- \$allowEmptyInserts: Si **true** lanzará excepción en caso de insert vacío
- \$updateOnlyChanged: Si **true** lanzará excepción en caso de que no haya nada que actualizar
- \$casts: forzar un cast de variables después de recuperar de la BDD
  - [https://codeigniter.com/user\\_guide/models/model.html#model-field-casting](https://codeigniter.com/user_guide/models/model.html#model-field-casting)
  - no usar en conjunto con [CodeIgniter v4 Entity](#)
- Dates:
  - \$useTimestamps = false;
  - \$dateFormat = 'datetime';: valores permitidos: **datetime**, **date**, **int**
  - \$createdField = 'created\_at';
  - \$updatedField = 'updated\_at';
  - \$deletedField = 'deleted\_at';
- Validations:
  - \$validationRules = [];

- [https://codeigniter.com/user\\_guide/libraries/validation.html#validation-array](https://codeigniter.com/user_guide/libraries/validation.html#validation-array)
  - [https://codeigniter.com/user\\_guide/models/model.html#model-setting-validation-rules](https://codeigniter.com/user_guide/models/model.html#model-setting-validation-rules)
- `$validationMessages = [];`
  - [https://codeigniter.com/user\\_guide/libraries/validation.html#validation-custom-errors](https://codeigniter.com/user_guide/libraries/validation.html#validation-custom-errors)
- `$skipValidation = false;`
- `$cleanValidationRules = true;`
  - `cleanRules()`
  - ???
- Callbacks
  - `$allowCallbacks = true;`
  - `$beforeInsert = [];`
  - `$afterInsert = [];`
  - `$beforeInsertBatch = [];`
  - `$afterInsertBatch = [];`
  - `$beforeUpdate = [];`
  - `$afterUpdate = [];`
  - `$beforeUpdateBatch = [];`
  - `$afterUpdateBatch = [];`
  - `$beforeFind = [];`
  - `$afterFind = [];`
  - `$beforeDelete = [];`
  - `$afterDelete = [];`

## casts

```

• protected array $casts = [
    'id'           => 'int',
    'birthdate'    => '?datetime',
    'hobbies'      => 'json-array',
    'active'       => 'int-bool',
];

```

- Data Types: [https://codeigniter.com/user\\_guide/models/model.html#data-types](https://codeigniter.com/user_guide/models/model.html#data-types)
  - **csv** usa `implode()` y `explode()`
  - **datetime**: formato configurado en el campo **dateFormat** de [https://codeigniter.com/user\\_guide/database/configuration.html#database-config-explanation-of-values](https://codeigniter.com/user_guide/database/configuration.html#database-config-explanation-of-values)
- Un **?** delante del campo indica que puede ser **NULL**
- [https://codeigniter.com/user\\_guide/models/model.html#custom-casting](https://codeigniter.com/user_guide/models/model.html#custom-casting)

## métodos built-in

- `initialize()`: se ejecuta después del constructor para personalizar. [initialize](#)
- `find($primaryKey | [$primaryKey, $primaryKey, ...])`:
  - retorna la fila (o filas) de las `primaryKey` indicadas (array si más de una)
  - si no se especifica valor, retorna todas las filas.
  - `findColumn()`: retorna los valores de una columna
  - `findAll()`: retorna todos los valores (si hay criterios restrictivos, los aplica)
    - `findAll($limit, $offset)`
  - `first()`: solo retorna el primer registro
  - `withDeleted()`
  - `asArray()` `asObject()` ← Entity
- `insert($data[, $bool])`

- `$data`: array de valores de campos
- `$bool`: si **false**, retorna un bool con el resultado de la operación
- `getInsertID()`
- `allowEmptyInserts()` [https://codeigniter.com/user\\_guide/models/model.html#model-allow-empty-inserts](https://codeigniter.com/user_guide/models/model.html#model-allow-empty-inserts)
- `insertBatch()`
  - `$useAutoIncrement = false`
- `update($primaryKey, $data)`
  - permite actualizar varias filas a la vez [https://codeigniter.com/user\\_guide/models/model.html#update](https://codeigniter.com/user_guide/models/model.html#update)
- `save($data)`: decide si hacer `insert()` o `update()` en función de si el array contiene un campo equivalente a la de la `$primaryKey`
  - instancias de `Time` se convierten en cadenas con el formato definido en `dateFormat['datetime'], dateFormat['date']` dentro de [https://codeigniter.com/user\\_guide/database/configuration.html#database-config-explanation-of-values](https://codeigniter.com/user_guide/database/configuration.html#database-config-explanation-of-values)
- los métodos `save` comprueban la validez de la `$primaryKey`
  - [https://codeigniter.com/user\\_guide/models/model.html#primary-key-validation](https://codeigniter.com/user_guide/models/model.html#primary-key-validation)
  - `validateID()`
- `delete($primaryKey, [$primaryKey, $primaryKey, ...])`
  - con `$useSoftDeletes=true`, se actualiza la columna indicada en `$deletedField`
  - `purgeDeleted()`
- `chunk()`: para procesar un gran volumen de datos de manera fraccionada

## in-Model Validation

- verificar antes de guardar que cumple los requisitos indicados
- usa la propiedad `$validationRules` (y complementa con `$validationMessages`):

```
protected $validationRules = [
    'username' =>
    'required|max_length[30]|alpha_numeric_space|min_length[3]',
    'email' =>
    'required|max_length[254]|valid_email|is_unique[users.email]',
    'password' => 'required|max_length[255]|min_length[8]',
    'pass_confirm' =>
    'required_with[password]|max_length[255]|matches[password]',
];
protected $validationMessages = [
    'email' => [
        'is_unique' => 'Sorry. That email has already been taken. Please
choose another.',
    ],
];
```

- `setValidationRule($campo, $reglas)` y su complemento `setValidationMessage($campo, $array)`
- `setValidationRules([$campo=>$reglas, $campo=>$reglas])` y su complemento `setValidationMessages([$campo=>$array])`
- si no valida, el Modelo retorna **false**. Se pueden recuperar los errores con el método `errors()`
- `getValidationRules($options)`
  - `$options`: array con 2 claves, **except** o **only** para recoger las reglas de validación indicadas
- también se puede indicar un grupo de reglas de validaciones [https://codeigniter.com/user\\_guide/libraries/validation.html#saving-validation-rules-to-config-file](https://codeigniter.com/user_guide/libraries/validation.html#saving-validation-rules-to-config-file)

## placeholders

- [https://codeigniter.com/user\\_guide/libraries/validation.html#rules-for-general-use](https://codeigniter.com/user_guide/libraries/validation.html#rules-for-general-use)
- [https://codeigniter.com/user\\_guide/libraries/validation.html#validation-available-rules](https://codeigniter.com/user_guide/libraries/validation.html#validation-available-rules)
- `is_unique`
  - `is_unique[tabla.campo,id,{id}]` único campo para el id={id} (si es el campo \$primaryKey)
- `alpha*`, `string`
- `field_exists`
- `in_list`, `not_in_list`
- `max_length`, `min_length`, `exact_length`
- `permit_empty`
- `required`, `required_with`, `required_without`
- `valid_email`, `valid_emails`
- `valid_date`
- `valid_json`

## protecting Fields

- `$allowedFields`
  - `protect(true|false)`

## Callbacks

- [https://codeigniter.com/user\\_guide/models/model.html#defining-callbacks](https://codeigniter.com/user_guide/models/model.html#defining-callbacks)
- `allowCallbacks(false)`

## crear

```
namespace App\Models;

use CodeIgniter\Model;

class UserModel extends Model
{
    // ...
}
```

From:

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