Pengembangan Aplikasi Berbasis Yii

Chapter II

Agenda

- Mempersiapkan Struktur Database
- Menggunakan Code Generator
- Modifikasi Hasil Code Generator
- Form Validasi
- Upload File
- Menggunakan Extension

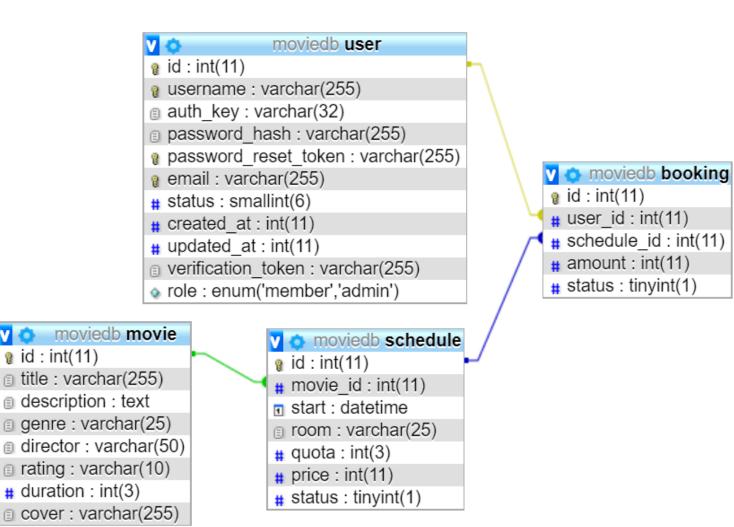
https://github.com/hscstudio/workshop-yii-palembang

Mempersiapkan Struktur Database

Nama database: go-cinemadb

Tabel Pada Database go-cinemadb

- Tabel movie
- Tabel schedule
- Tabel booking
- Tabel user



Struktur Tabel Movie

| # | Name | Туре | Collation | Attributes | Null | Default | Comments | Extra |
|---|-------------|--------------|-------------------|------------|------|---------|----------|----------------|
| 1 | id 🔑 | int(11) | | | No | None | | AUTO_INCREMENT |
| 2 | title | varchar(255) | latin1_swedish_ci | | No | None | | |
| 3 | description | text | latin1_swedish_ci | | Yes | NULL | | |
| 4 | genre | varchar(25) | latin1_swedish_ci | | Yes | NULL | | |
| 5 | director | varchar(50) | latin1_swedish_ci | | Yes | NULL | | |
| 6 | rating | varchar(10) | latin1_swedish_ci | | Yes | NULL | | |
| 7 | duration | int(3) | | | Yes | NULL | | |
| 8 | cover | varchar(255) | latin1_swedish_ci | | Yes | NULL | | |

Struktur Tabel Schedule

| # | Name | Туре | Collation | Attributes | Null | Default | Comments | Extra |
|---|----------|-------------|-------------------|------------|------|---------|----------|----------------|
| 1 | id 🔑 | int(11) | | | No | None | | AUTO_INCREMENT |
| 2 | movie_id | int(11) | | | No | None | | |
| 3 | start | datetime | | | No | None | | |
| 4 | room | varchar(25) | latin1_swedish_ci | | No | None | | |
| 5 | quota | int(3) | | | No | None | | |
| 6 | price | int(11) | | | No | None | | |
| 7 | status | tinyint(1) | | | No | None | | |

Struktur Tabel Booking

| # | Name | Туре | Collation | Attributes | Null | Default | Comments | Extra |
|---|---------------|------------|-----------|------------|------|---------|----------|----------------|
| 1 | id 🔑 | int(11) | | | No | None | | AUTO_INCREMENT |
| 2 | user_id 🔊 | int(11) | | | No | None | | |
| 3 | schedule_id 🔎 | int(11) | | | No | None | | |
| 4 | amount | int(11) | | | No | None | | |
| 5 | status | tinyint(1) | | | No | 0 | | |

Struktur Tabel User

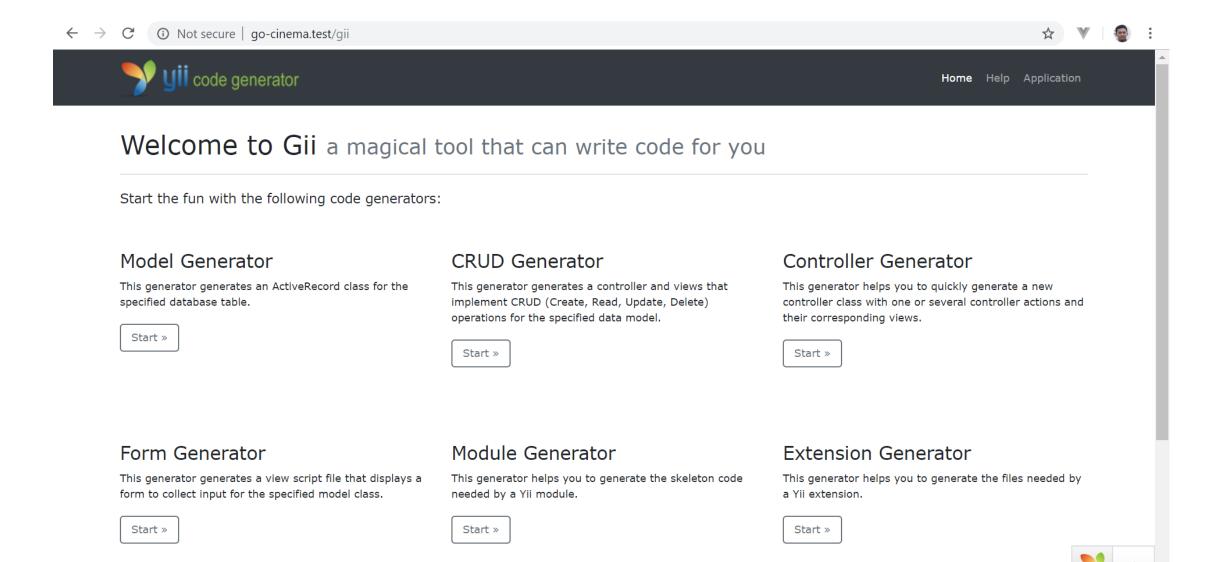
| # | Name | Туре | Collation | Attributes | Null | Default | Comments | Extra |
|----|------------------------|-------------------------|-----------------|------------|------|---------|----------|----------------|
| 1 | id 🔑 | int(11) | | | No | None | | AUTO_INCREMENT |
| 2 | username 🔎 | varchar(255) | utf8_unicode_ci | | No | None | | |
| 3 | auth_key | varchar(32) | utf8_unicode_ci | | No | None | | |
| 4 | password_hash | varchar(255) | utf8_unicode_ci | | No | None | | |
| 5 | password_reset_token 🔎 | varchar(255) | utf8_unicode_ci | | Yes | NULL | | |
| 6 | email 🔎 | varchar(255) | utf8_unicode_ci | | No | None | | |
| 7 | status | smallint(6) | | | No | 10 | | |
| 8 | created_at | int(11) | | | No | None | | |
| 9 | updated_at | int(11) | | | No | None | | |
| 10 | verification_token | varchar(255) | utf8_unicode_ci | | Yes | NULL | | |
| 11 | role | enum('member', 'admin') | utf8_unicode_ci | | No | member | | |

Menggunakan Code Generator

Gii: Code Generator Yii

- Gii = tools official Yii dalam bentuk module untuk menggenerate kode program seperti model, view, controller, dsb.
- Gii bisa diakses melalui http://go-cinema.test/gii

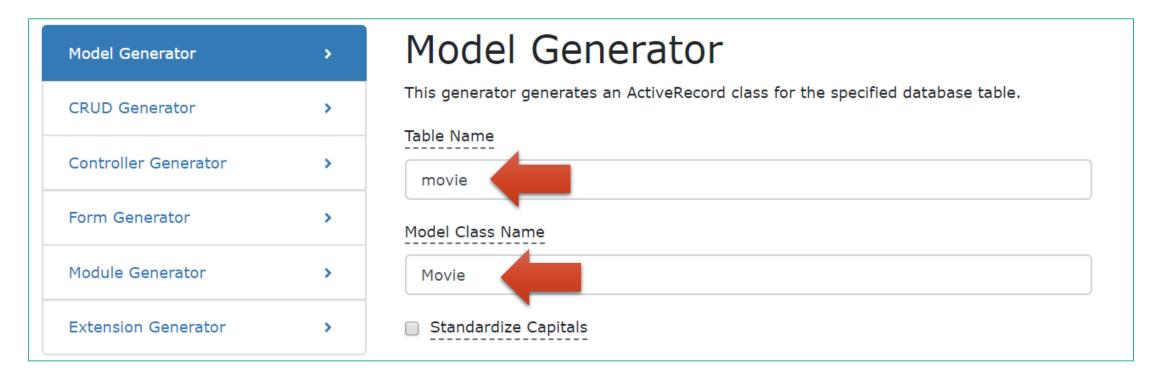
http://go-cinema.test/gii

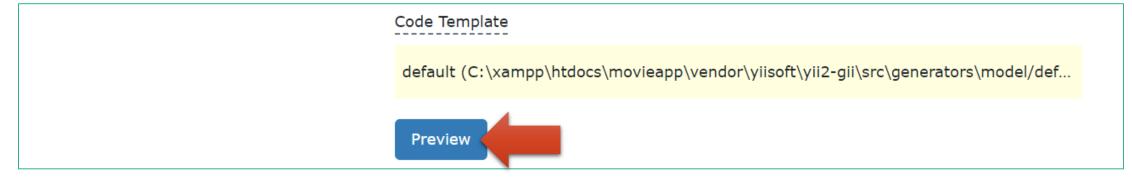


6 Generator Gii

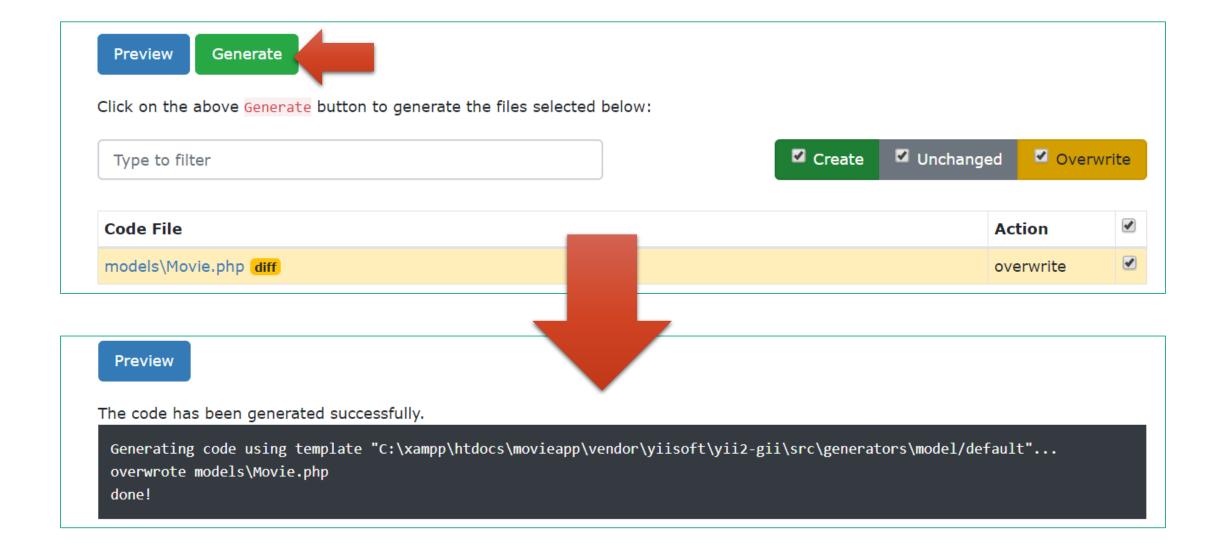
| | Model Generator |
|------|--|
| Untu | uk menggenerate class ActiveRecord (model) untuk tabel tertentu pada basis data. |
| | CRUD Generator |
| Untu | ık menggenerate operasi CRUD berdasarkan class model tertentu |
| | Controller Generator |
| Untu | uk menggenerate class Controller |
| | Form Generator |
| Untu | ık menggenerate tampilan formulir berdasarkan class model tertentu |
| | Module Generator |
| Untu | ık menggenerate template dari module di Yii, jika kita ingin membuat sub aplikasi. |
| | Extension Generator |
| Untu | uk menggenerate template dari extension Yii, untuk membuat extension sendiri. |

Model Generator





Model Generator

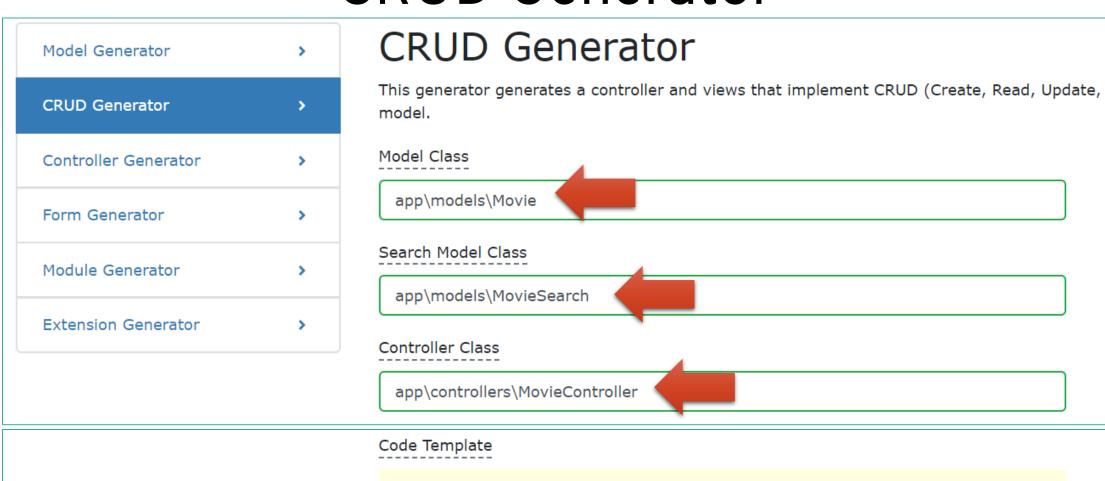


Cek Hasilnya di models/Movie.php

```
<?php
namespace app\models;
use Yii;
 * This is the model class for table "movie".
 * @property int $id
 * @property string $title
 * @property string $description
 * @property string $genre
 * @property string $director
 * @property string $rating
 * @property int $duration
 * @property string $cover
 * @property Schedule[] $schedules
class Movie extends \vii\db\ActiveRecord
     * {@inheritdoc}
    public static function tableName()
        return 'movie';
     * {@inheritdoc}
    public function rules()
        return [
            [['title'], 'required'],
```

```
[['description'], 'string'],
        [['duration'], 'integer'],
        [['title', 'cover'], 'string', 'max' => 255],
        [['genre'], 'string', 'max' => 25],
       [['director'], 'string', 'max' => 50],
        [['rating'], 'string', 'max' => 10],
   ];
* {@inheritdoc}
public function attributeLabels()
   return [
        'id' => 'ID',
        'title' => 'Title',
        'description' => 'Description',
        'genre' => 'Genre',
        'director' => 'Director',
        'rating' => 'Rating',
        'duration' => 'Duration',
        'cover' => 'Cover',
* @return \yii\db\ActiveQuery
public function getSchedules()
   return $this->hasMany(Schedule::className(), ['movie_id' => 'id']);
```

CRUD Generator



default (C:\xampp\htdocs\movieapp\vendor\yiisoft\yii2-gii\src\generators\crud/defa...

Preview

CRUD Generator



Click on the above Generate button to generate the files selected below:

Type to filter Unchanged Overwrite

| Code File | Action | • |
|---------------------------------|-----------|---|
| controllers\MovieController.php | unchanged | |
| models\MovieSearch.php | create | • |
| views\movie_form.php | create | • |
| views\movie_search.php | create | • |
| views\movie\create.php | create | • |
| views\movie\index.php | unchanged | |
| views\movie\update.php | create | • |
| views\movie\view.php | unchanged | |

CRUD Generator

Preview

The code has been generated successfully.

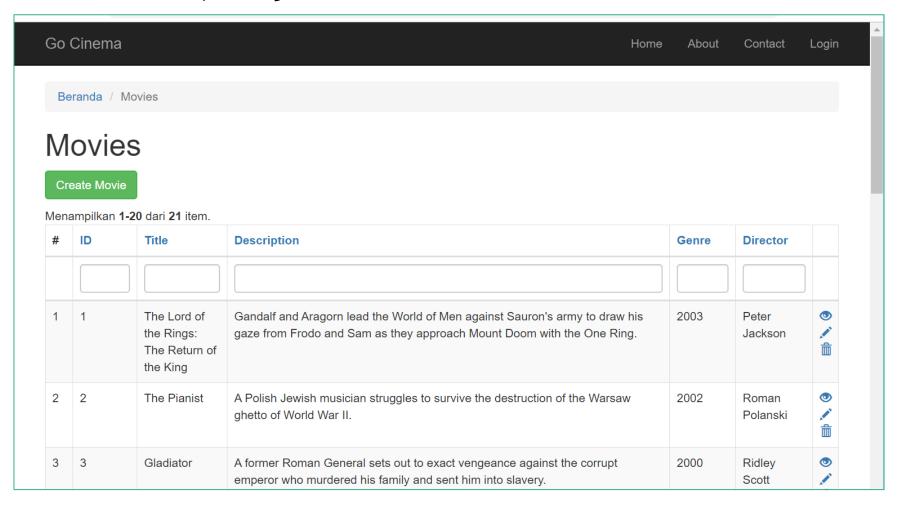
```
Generating code using template "C:\xampp\htdocs\movieapp\vendor\yiisoft\yii2-gii\src\generators\crud/default"...
skipped controllers\MovieController.php
generated models\MovieSearch.php
generated views\movie\_form.php
generated views\movie\_search.php
generated views\movie\create.php
skipped views\movie\index.php
generated views\movie\index.php
generated views\movie\update.php
skipped views\movie\update.php
skipped views\movie\view.php
done!
```

Cek Hasilnya

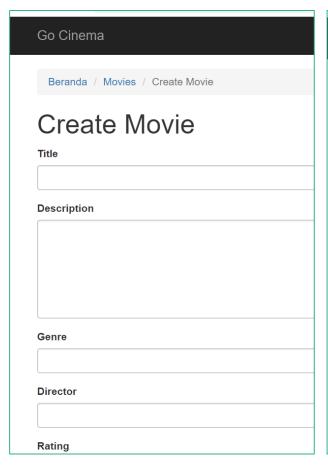
- @app/models/MovieSearch.php
- @app/views/movie/index.php
- @app/views/movie/view.php
- @app/views/movie/create.php
- @app/views/movie/update.php
- @app/views/movie/_form.php
- @app/views/movie/_search.php
- @app/controllers/MovieController.php

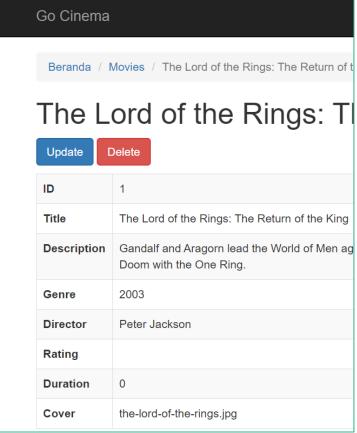
Ujicoba Hasil CRUD Generator

http://go-cinema.test/movie/index



Ujicoba Hasil CRUD Generator





| Go Cinema | Movies / The Lord of the Rings: The Retur |
|--------------------------|---|
| | e Movie: The Lor |
| | he Rings: The Return of the King |
| Description | |
| Gandalf and One Ring. | Aragorn lead the World of Men against Sau |
| Genre | |
| 2003 | |
| Director | |
| Peter Jackso | n |

Generate Tabel Lainnya

- Schedule
- Booking
- User
 - Khusus tabel user, nama modelnya diganti dengan customer

Model Generator

This generator generates an ActiveRecord class for the specified database table.

Table Name user Model Class Name Customer

Modifikasi Code Hasil Generator

Contact

About

Manage ▼

Home

Customer

Modifikasi View: Menambahkan Menu

@app\view\layouts\main.php

File @app\views\movie_form.php

```
    textInput

<?= $form->field($model, 'username')->textInput([
'autofocus' => true
]) ?>

    passwordInput

<?= $form->field($model, 'password')->passwordInput() ?>

    textarea

<?= $form->field($model, 'body')->textarea([
'rows' => 3
1) ?>

    dropDownList

<?= $form->field($model, 'gender')->dropDownList([
     '1' => 'Pria', '0' => 'Wanita',
], ['prompt' => '- Pilih Gender']) ?>
```



| Gender | Gender | | | |
|----------------|--------|--|--|--|
| - Pilih Gender | • | | | |
| Gender | | | | |
| - Pilih Gender | • | | | |
| - Pilih Gender | | | | |
| Pria | | | | |
| Wanita | | | | |

radioList

```
<?= $form->field($model, 'gender')->radioList([
    '1' => 'Pria', '0' => 'Wanita',
]) ?>
```

• listBox -> multiple

```
<?= $form->field($model, 'hoby')->listBox([
    1=>'Jalan2', 2 => 'Makan2', 3=>'Joging'
],['multiple'=>true]) ?>
```

checkBoxList -> multiple

```
<?= $form->field($model, 'hoby')->checkBoxList([
    1=>'Jalan2', 2 => 'Makan2', 3=>'Joging'
],['multiple'=>true]) ?>
```

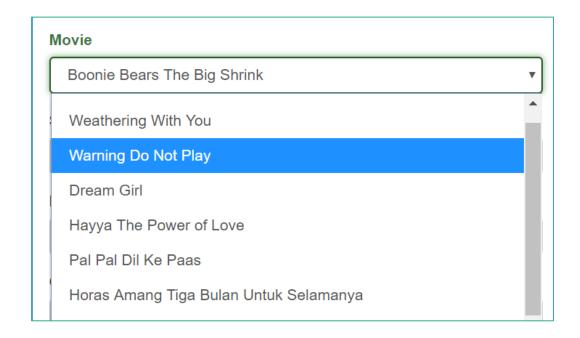






dropDownList dari Tabel

```
<?php
use \yii\helpers\ArrayHelper;
use \app\models\Movie;
//...
$movies = ArrayHelper::map(
    Movie::find()->all(),"id","title");
echo $form->field($model, 'movie_id')
    ->dropDownList($movies);
?>
```



Masking input via widget

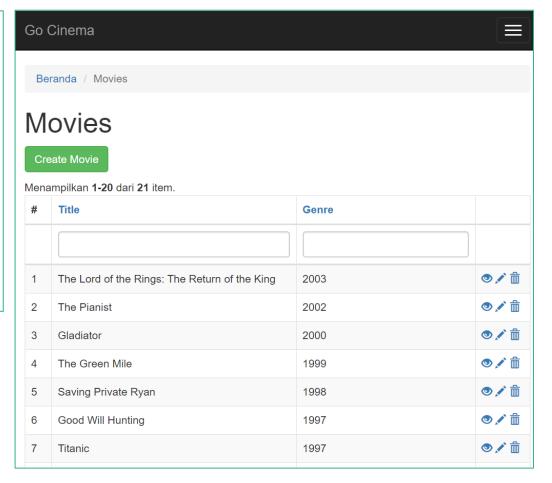


- *: karakter alphanumeric (A-Z, a-z, 0-9)
- https://github.com/RobinHerbots/jquery.inputmask

 Mengatur posisi field Name <div class="row"> <div class="col-md-3"> Birth Day Born <?= \$form->field(\$model, 'born')->textInput(); </div> Gender <div class="col-md-3"> <?php use \yii\widgets\MaskedInput; echo \$form->field(\$model, 'birth_day')->widget(MaskedInput::classname(),['mask'=>'9999-99-99'] ;> </div> </div>

File @app\views\movie\index.php

```
<?= GridView::widget([
    'dataProvider' => $dataProvider,
    'filterModel' => $searchModel,
    'columns' => [
        ['class' => 'yii\grid\SerialColumn'],
        'title',
        'genre',
        ['class' => 'yii\grid\ActionColumn'],
],
]); ?>
```



Menampilkan format tanggal

```
[
'attribute'=>'birth_day',
'format'=>['date','php:d F Y'],
// http://php.net/manual/en/function.date.php
],
```

• Menampilkan data menggunakan closure

```
'attribute'=>'gender',
'value'=>function($data){
    return $data->gender==1?"Pria":"Wanita";
}
```



• Menampilkan data berelasi menggunakan closure

```
'attribute'=>'unit_id',
'header'=>'Unit',
'value'=>function($data){
    $unit = \app\models\Unit::findOne(['id'=>$data->unit_id]);
    return $unit->name;
}
],
```

Menampilkan link download menggunakan \yii\helpers\Html

```
"attribute" => "certificate",
"format" => "html",
"value" => function($data){
    return Html::a("Unduh","uploads/".$data->certificate);
}
]
```

Modifikasi Action Column

```
"class" => "\yii\grid\ActionColumn",
"header" => "Aksi", // set judul kolom
"template" => "{view} {update} {delete}", // set tombol yang muncul
"options" => [
    "width" => "80px", // set lebar kolom
]
]
```

Modifikasi filter menjadi dropdown

```
[
"attribute" => "gender",
"filter" => [1=>"Pria", 0=>"Wanita"],
]
```



Menonaktifkan filter

```
[
  "attribute" => "birth_day",
  "filter" => false,
]
```

Modifikasi View: DetailView

• Hampir sama dengan Gridview

Modifikasi Controller: Flash Message

- Tambahkan set flash message pada pemrosesan data
 - Yii::\$app->session->setFlash('success', 'pesan berhasil disimpan');
 - Yii::\$app->session->setFlash('error', 'pesan gagal disimpan');

```
if($model->save()) { // jika berhasil disimpan
    // set flash success
}
else{
    // set flash error
}
```

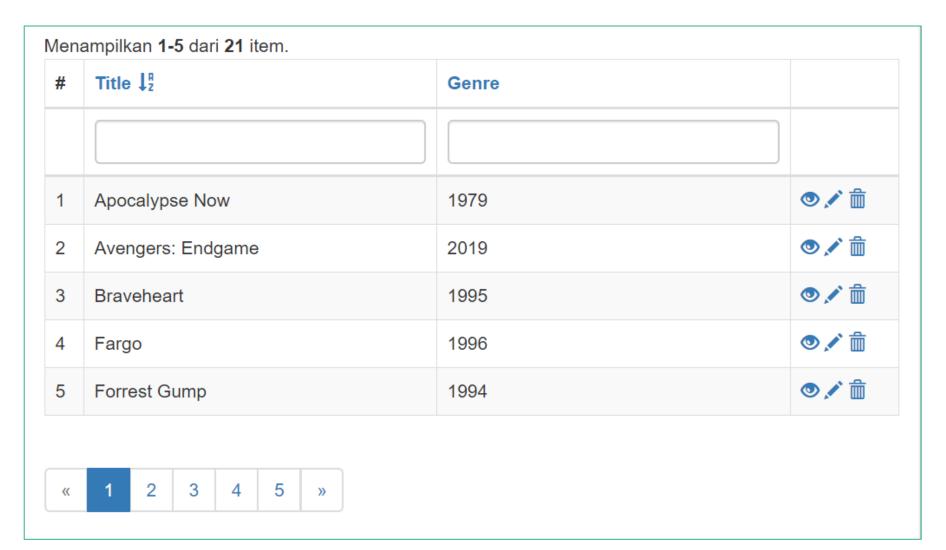
Modifikasi Controller: Flash Message

```
/*
  ($model->load(Yii::$app->request->post()) && $model->save()) {
   return $this->redirect(['view', 'id' => $model->id]);
*/
  ($model->load(Yii::$app->request->post())) {
    if ($model->save()){
       Yii::$app->session->setFlash('success', 'berhasil disimpan!');
       return $this->redirect(['view', 'id' => $model->id]);
   else{
       Yii::$app->session->setFlash('error', 'gagal disimpan!');
```

Modifikasi Controller: Change Initial Sort & Perpage Gridview

```
public function actionIndex()
       $searchModel = new MovieSearch();
       $dataProvider = $searchModel->search(Yii::$app->request->queryParams);
       /* change default sort */
       $dataProvider->sort->defaultOrder = [
           'title' => SORT ASC
       // change perpage
       $dataProvider->pagination->pageSize = 10;
       return $this->render('index', [
           'searchModel' => $searchModel,
           'dataProvider' => $dataProvider,
       ]);
```

Modifikasi Controller: Change Initial Sort & Perpage Gridview



Modifikasi Model: Behavior

- Timestamp = otomatis menginput waktu insert dan update data. field: created_at dan updated_at (timestamp / int)
- Blameable = otomatis menginput user id yang menginsert dan mengupdate data. field: created_by dan updated_by (int)

```
public function behaviors()
{
   return [
     \yii\behaviors\TimestampBehavior::className(),
     \yii\behaviors\BlameableBehavior::className()
   ];
}
```

Form Validasi

Jenis Validasi Yang Disupport Yii

- boolean: yii\validators\BooleanValidator
- captcha: yii\captcha\CaptchaValidator
- compare: yii\validators\CompareValidator
- date: yii\validators\DateValidator
- datetime: yii\validators\DateValidator
- time: yii\validators\DateValidator
- default: yii\validators\DefaultValueValidator
- double: yii\validators\NumberValidator
- each: yii\validators\EachValidator
- email: yii\validators\EmailValidator
- exist: yii\validators\ExistValidator
- file: yii\validators\FileValidator
- filter: yii\validators\FilterValidator

- image: yii\validators\ImageValidator
- in: yii\validators\RangeValidator
- integer: yii\validators\NumberValidator
- match: yii\validators\RegularExpressionValidator
- required: yii\validators\RequiredValidator
- safe: yii\validators\SafeValidator
- string: yii\validators\StringValidator
- trim: yii\validators\FilterValidator
- unique: yii\validators\Unique\Validator
- url: yii\validators\UrlValidator
- ip: yii\validators\Ip\Validator

https://www.yiiframework.com/doc/guide/2.0/en/tutorial-core-validators

Validasi input melalui method rule di Model

Validasi Required & Safe

```
required: field tidak boleh kosong[['title'], 'required'],
```

• safe: field tidak divalidasi

```
[['genre'], 'safe'],
```

Validasi String

```
    field harus teks

[['title'], 'string'],

    field maximal 50 char

[['director'], 'string', 'max' => 50],

    field min 5 char

[['director'], 'string', 'min' => 5],

    field min 5 char & max 50 char

[['director'], 'string', 'length' => [5,50]],
```

Validasi Integer & Double

```
// check field integer
[['quota'], 'integer'],
// check age = 17+
[['age'], 'integer', 'min' => 17],
// checks field = double (desimal)
[['salary', 'price'], 'double'],
```

Validasi Boolean & Unik

Boolean: field harus diantara 1 atau 0 (true atau false)
 [['status', 'gender'], 'boolean'],

Unique: field harus unik[['username'], 'unique'],

Validasi Compare

```
// validasi "password" sama dengan "password_repeat"
['password', 'compare'],

// sama dengan sebelumnya
['password', 'compare', 'compareAttribute' => 'password_repeat'],

// validasi umur harus 17+
['age', 'compare', 'compareValue' => 17, 'operator' => '>=', 'type' => 'number'],
```

Validasi Date, Time, DateTime

```
[['birthday'], 'date'],
[['start_film'], 'datetime'],
[['work_start'], 'time'],
```

Validasi Email, URL & IP

• email: field harus berformat email abc@def.ghi

```
[['email_address'], 'email'],
```

• URL: field harus berformat URL valid http://example.com

```
[['homepage'], 'url'],
```

• ip: field harus berformat IP 127.0.0.1

```
[['ip address'], 'ip'],
```

Validasi IN (Range)

```
// checks if "level" is 1, 2 or 3
['level', 'in', 'range' => [1, 2, 3]],

['user_level', 'in', 'range' => ['mimin', 'momod']],
```

Validasi File & Image

```
// checks if "primaryImage" is an uploaded image file in PNG, JPG or GIF format.
// the file size must be less than 1MB
['cover', 'file', 'extensions' => ['png', 'jpg', 'gif'], 'maxSize' => 1024*1024],
// checks if "primaryImage" is a valid image with proper size
['primaryImage', 'image', 'extensions' => 'png, jpg',
'minWidth' => 100, 'maxWidth' => 1000,
'minHeight' => 100, 'maxHeight' => 1000,
],
```

Kustomisasi Validasi

```
// Kustomisasi pesan error
[["username"], "unique", "message"=>"Pilih username lain gan!",
// Kustomisasi validasi
[["nip"],function($attribute, $params){
    $length = strlen($this->$attribute);
    if(!in_array($length,[9,18])){
        $this->addError($attribute,"NIP tidak valid");
        return false;
```

https://pavithratech.wordpress.com/2018/02/21/yii2-custom-validation/

Upload File

Modifikasi View: Form

```
fileInput

<?= $form->field($model, 'cover')->fileInput() ?>

Pada form, tambahkan opsi enctype multipart/form-data

<?php $form = ActiveForm::begin([
         'options' => ['enctype'=>'multipart/form-data']

]); ?>
```

Modifikasi Controller: File Upload

```
<?php
use \yii\web\UploadedFile;
$file = UploadedFile::getInstance($model, "cover");
if($file){
    $file->saveAs("uploads/" . $file->baseName . "." . $file->extension);
}
// https://github.com/yiisoft/yii2/blob/master/docs/guide/input-file-upload.md
```

Modifikasi Controller: File Upload

```
$old_cover = $model->cover; // simpan old cover
if ($model->load(Yii::$app->request->post())) {
    $model->cover = $old cover; // pertahankan old cover
    if($model->save()) {
        $file = \yii\web\UploadedFile::getInstance($model, "cover");
        if($file){
            $filename = "/movies/" . $file->baseName . "." . $file->extension;
            $file->saveAs(Yii::getAlias("@webroot").$filename);
            $model->cover = $filename;
            $model->save();
        Yii::$app->session->setFlash('success', 'berhasil disimpan');
    else{
        Yii::$app->session->setFlash('error', 'gagal disimpan');
    return $this->redirect(['view', 'id' => $model->id]);
```

Contoh Menampilkan Image Pada DetailView

```
<?= DetailView::widget([</pre>
    'model' => $model,
    'attributes' => [
        // attribute lain
            'attribute' => 'cover',
            'format' => 'html',
            'value' => function($data){
                return Html::img(\yii\helpers\Url::base(true).$data->cover, [
                     'width' => '200',
                     'class' => "img-thumbnail"
                ]);
```

Menggunakan Extension

Apa itu Extension?

- Extension = Library tambahan diluar core Yii, bentuknya bisa widgets, helpers, module, maupun library PHP biasa
- Contoh: Yii2 Widget buatan Krajee

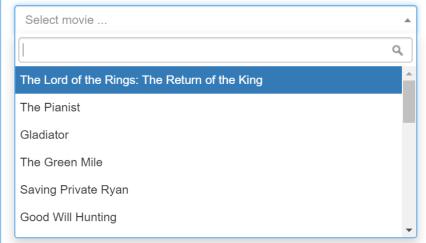
Yii2 Widget (Krajee Extension)

- Definisi: Kumpulan widget-widget penting untuk mempercantik user interface, yaitu: datepicker, timepicker, select2, depdrop, dll
- URL: https://github.com/kartik-v/yii2-widgets
- Instalasi (via CMD)

composer require kartik-v/yii2-widgets "*"

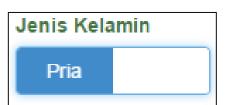
Yii2 Widget: Select2

```
<?php
use yii\helpers\ArrayHelper;
use app\models\Movie;
use kartik\widgets\Select2;
// ...
$movies = ArrayHelper::map(Movie::find()->all(),"id","title");
echo $form->field($model, 'movie_id')->widget(Select2::classname(), [
    'data' => $movies,
    'options' => ['placeholder' => 'Select a movie ...'],
    'pluginOptions' => [
        'allowClear' => true,
    ],
]);
?>
```



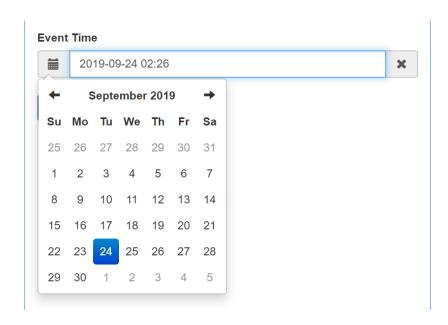
Yii2 Widget: SwitchInput

```
<?php
echo $form->field($model, 'gender')->widget(
SwitchInput::classname(), [
    'type' => SwitchInput::CHECKBOX,
    'pluginOptions'=>[
        'handleWidth'=>60,
        'onText'=>'Pria',
        'offText'=>'Wanita'
    ]
]);
?>
```



Yii2 Widget: DateTimePicker

```
<?php
use \kartik\widgets\DatePicker;
// ...
echo $form->field($model, 'start')->widget(
    DateTimePicker::classname(), [
    'options' => [
         'placeholder' => 'Enter start time ...'
    'language' => 'id',
    'pluginOptions' => [
        'autoclose' => true,
        'format' => 'yyyy-mm-dd hh:ii:ss',
        'todayHighlight'=>true,
        'todayBtn'=>true,
]);
?>
```



Setting Default Time Zone

```
// config/web.php
$config = [
    'id' => 'basic',
    'basePath' => dirname(__DIR__),
    'bootstrap' => ['log'],
    'language' => 'id',
    'timeZone' => 'Asia/Jakarta',
```

Setting Default Value Pada Form

```
// controllers/ScheduleCotroller.php
public function actionCreate()
{
    $model = new Schedule();
    // default value
    $model->start = date('Y-m-d H:i:s');
    $model->quota = 30;
    $model->price = 75000;
    $model->status = true;
```

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