



리액트와 함께 장고 시작하기 / 장고 Forms

# built-in CBV를 통한 Form 처리

여러분의 파이썬/장고 페이스메이커가 되겠습니다.

# Built-in CBV API

## Base views

View, TemplateView, Redirect View

## Generic display views

DetailView, ListView

## Generic date views

ArchiveIndexView, YearArchiveView, MonthArchiveView, WeekArchiveView, DayArchiveView, TodayArchiveView, DateDetailView

## Generic editing views

FormView, CreateView, UpdateView, DeleteView

<https://docs.djangoproject.com/en/3.0/ref/class-based-views/>

Built-in CBV API

# Generic editing views

## FormView

TemplateResponseMixin, BaseFormView

## CreateView

SingleObjectTemplateResponseMixin

BaseCreateView ← ModelFormMixin, ProcessFormView

## UpdateView

SingleObjectTemplateResponseMixin

BaseUpdateView ← ModelFormMixin, ProcessFormView

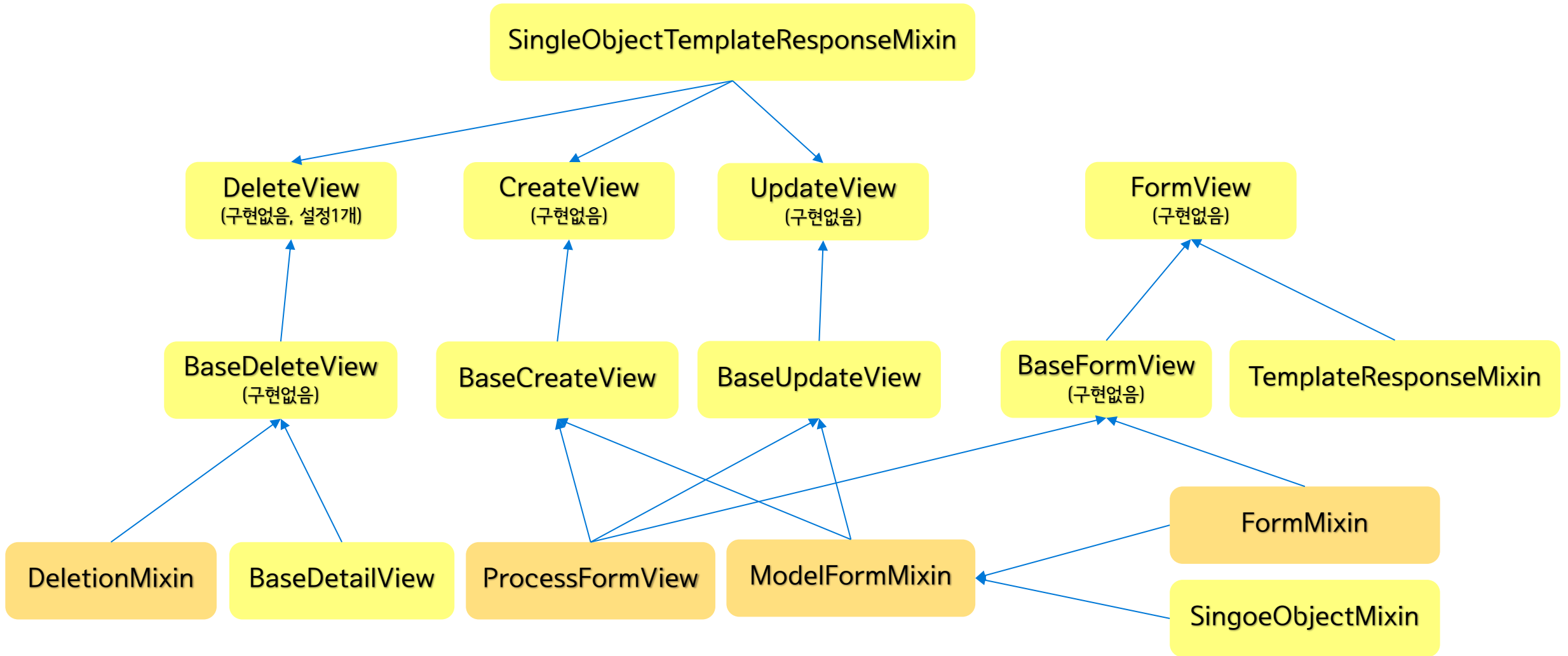
## DeleteView

SingleObjectTemplateResponseMixin

BaseDeleteView ← DeletionMixin, BaseDetailView

<https://docs.djangoproject.com/en/3.0/ref/class-based-views/>

# Form CBV 관계도



# ProcessFormView

```
class ProcessFormView(View):
    """Render a form on GET and processes it on POST."""
    def get(self, request, *args, **kwargs):
        """Handle GET requests: instantiate a blank version of the form."""
        return self.render_to_response(self.get_context_data())

    def post(self, request, *args, **kwargs):
        """
        Handle POST requests: instantiate a form instance with the passed
        POST variables and then check if it's valid.
        """
        form = self.get_form()
        if form.is_valid():
            return self.form_valid(form)
        else:
            return self.form_invalid(form)

    # PUT is a valid HTTP verb for creating (with a known URL) or editing
    # object, note that browsers only support POST for now.
    def put(self, *args, **kwargs):
        return self.post(*args, **kwargs)
```

```
class FormMixin(ContextMixin):
    # 생략 ...

    def get_context_data(self, **kwargs):
        if 'form' not in kwargs:
            kwargs['form'] = self.get_form()
        return super().get_context_data(**kwargs)
```

<https://github.com/django/django/blob/2.1/django/views/generic/edit.py#L129>

# Create 구현의 다양한 예 #1

```
def post_new(request):
    if request.method == 'POST':
        form = PostForm(request.POST, request.FILES)
        if form.is_valid():
            object = form.save()
            return redirect(object)
    else:
        form = PostForm()
    return render(request, "myapp/post_form.html", {
        "form": form,
    })
```

```
<form action="" method="post">
    {% csrf_token %}
    <table>
        {{ form }}
    </table>
    <input type="submit" />
</form>
```

# Create 구현의 다양한 예 #2

```
from django.shortcuts import resolve_url
from django.views.generic import FormView
from .forms import PostForm
```

```
class PostCreateView(FormView):
    form_class = PostForm
    template_name = 'myapp/post_form.html'

    def form_valid(self, form):
        self.object = form.save() # CBV ModelFormMixin에서 구현된 부분
        return super().form_valid(form)

    def get_success_url(self):
        # 주의: Post모델에 get_absolute_url() 멤버함수 구현 필요
        return resolve_url(self.object)
        # return self.post.get_absolute_url() # 대안 1
        # return reverse('blog:post_detail', args=[self.post.id]) # 대안 2

post_new = PostCreateView.as_view()
```

# Create 구현의 다양한 예 #3/#4

```
from django.views.generic import CreateView
from .forms import PostForm
```

```
class PostCreateView(CreateView):
    form_class = PostForm
```

```
post_new = PostCreateView.as_view()
```

```
from django.views.generic import CreateView
from .models import Post
```

```
class PostCreateView(CreateView):
    model = Post
```

```
post_new = PostCreateView.as_view()
```



# CreateView와 UpdateView (1)

```
class CreateView(SingleObjectTemplateResponseMixin, BaseCreateView):
    """
    View for creating a new object, with a response rendered by a template.
    """
    template_name_suffix = '_form'

class BaseCreateView(ModelFormMixin, ProcessFormView):
    """
    Base view for creating a new object instance.
    Using this base class requires subclassing to provide a response mixin.
    """
    def get(self, request, *args, **kwargs):
        self.object = None
        return super().get(request, *args, **kwargs)

    def post(self, request, *args, **kwargs):
        self.object = None
        return super().post(request, *args, **kwargs)
```

<https://github.com/django/django/blob/2.1/django/views/generic/edit.py#L175>

# CreateView와 UpdateView (2)

```
class UpdateView(SingleObjectTemplateResponseMixin, BaseUpdateView):  
    """View for updating an object, with a response rendered by a template."""  
    template_name_suffix = '_form'
```

```
class BaseUpdateView(ModelFormMixin, ProcessFormView):  
    """  
    Base view for updating an existing object.  
    Using this base class requires subclassing to provide a response mixin.  
    """  
    def get(self, request, *args, **kwargs):  
        self.object = self.get_object()  
        return super().get(request, *args, **kwargs)  
  
    def post(self, request, *args, **kwargs):  
        self.object = self.get_object()  
        return super().post(request, *args, **kwargs)
```

# ModelFormMixin

<https://github.com/django/django/blob/2.1/django/views/generic/edit.py#L70>

```
class ModelFormMixin(FormMixin, SingleObjectMixin):
    """Provide a way to show and handle a ModelForm in a request."""
    fields = None

    def get_form_class(self):
        """Return the form class to use in this view."""
        if self.fields is not None and self.form_class:
            raise ImproperlyConfigured(
                "Specifying both 'fields' and 'form_class' is not permitted."
            )
        if self.form_class:
            return self.form_class
        else:
            if self.model is not None:
                # If a model has been explicitly provided, use it
                model = self.model
            elif getattr(self, 'object', None) is not None:
                # If this view is operating on a single object, use
                # the class of that object
                model = self.object.__class__
            else:
                # Try to get a queryset and extract the model class
                # from that
                model = self.get_queryset().model

            if self.fields is None:
                raise ImproperlyConfigured(
                    "Using ModelFormMixin (base class of %s) without "
                    "the 'fields' attribute is prohibited." % self.__class__.__name__
                )

        return model_forms.modelform_factory(model, fields=self.fields)
```

```
def get_form_kwargs(self):
    """Return the keyword arguments for instantiating the form."""
    kwargs = super().get_form_kwargs()
    if hasattr(self, 'object'):
        kwargs.update({'instance': self.object})
    return kwargs

def get_success_url(self):
    """Return the URL to redirect to after processing a valid form."""
    if self.success_url:
        url = self.success_url.format(**self.object.__dict__)
    else:
        try:
            url = self.object.get_absolute_url()
        except AttributeError:
            raise ImproperlyConfigured(
                "No URL to redirect to. Either provide a url or define "
                "a get_absolute_url method on the Model."
            )
    return url

def form_valid(self, form):
    """If the form is valid, save the associated model."""
    self.object = form.save()
    return super().form_valid(form)
```

# FormMixin

```
class FormMixin(ContextMixin):
    """Provide a way to show and handle a form in a request."""
    initial = {}
    form_class = None
    success_url = None
    prefix = None

    def get_initial(self):
        """Return the initial data to use for forms on this view."""
        return self.initial.copy()

    def get_prefix(self):
        """Return the prefix to use for forms."""
        return self.prefix

    def get_form_class(self):
        """Return the form class to use."""
        return self.form_class

    def get_form(self, form_class=None):
        """Return an instance of the form to be used in this view."""
        if form_class is None:
            form_class = self.get_form_class()
        return form_class(**self.get_form_kwargs())
```

```
    def get_form_kwargs(self):
        """Return the keyword arguments for instantiating the form."""
        kwargs = {
            'initial': self.get_initial(),
            'prefix': self.get_prefix(),
        }

        if self.request.method in ('POST', 'PUT'):
            kwargs.update({
                'data': self.request.POST,
                'files': self.request.FILES,
            })
        return kwargs

    def get_success_url(self):
        """Return the URL to redirect to after processing a valid form."""
        if not self.success_url:
            raise ImproperlyConfigured("No URL to redirect to. Provide a success_url.")
        return str(self.success_url) # success_url may be lazy

    def form_valid(self, form):
        """If the form is valid, redirect to the supplied URL."""
        return HttpResponseRedirect(self.get_success_url())

    def form_invalid(self, form):
        """If the form is invalid, render the invalid form."""
        return self.render_to_response(self.get_context_data(form=form))

    def get_context_data(self, **kwargs):
        """Insert the form into the context dict."""
        if 'form' not in kwargs:
            kwargs['form'] = self.get_form()
        return super().get_context_data(**kwargs)
```

<https://github.com/django/django/blob/2.1/django/views/generic/edit.py#L10>

# DeleteView

```
class DeleteView(SingleObjectTemplateResponseMixin, BaseDeleteView):
    """
    View for deleting an object retrieved with self.get_object(), with a
    response rendered by a template.
    """
    template_name_suffix = '_confirm_delete'
```

```
class BaseDeleteView(DeletionMixin, BaseDetailView):
    """
    Base view for deleting an object.
    Using this base class requires subclassing to provide a response
    mixin.
    """
```

```
<form action="" method="post">
    {% csrf_token %}
    <input type="submit"
value="삭제하겠습니다." />
</form>
```

```
class DeletionMixin:
    """Provide the ability to delete objects."""
    success_url = None

    def delete(self, request, *args, **kwargs):
        """
        Call the delete() method on the fetched object and then redirect
        to the
        success URL.
        """
        self.object = self.get_object()
        success_url = self.get_success_url()
        self.object.delete()
        return HttpResponseRedirect(success_url)

    # Add support for browsers which only accept GET and POST for now.
    def post(self, request, *args, **kwargs):
        return self.delete(request, *args, **kwargs)

    def get_success_url(self):
        if self.success_url:
            return self.success_url.format(**self.object.__dict__)
        else:
            raise ImproperlyConfigured(
                "No URL to redirect to. Provide a success_url.")
```

Life is short.  
You need Python and Django.

I will be your pacemaker.

