

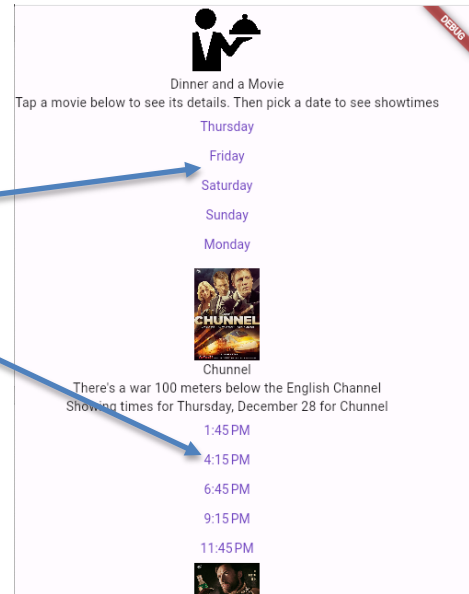
9A Stateful widgets deep dive Lab

Unfortunately, our app is only ever displaying the times for today's showings, never for tomorrow's or the next day's. In this lab you're going to allow the user to pick a date and refresh the list of showing times for the selected day.

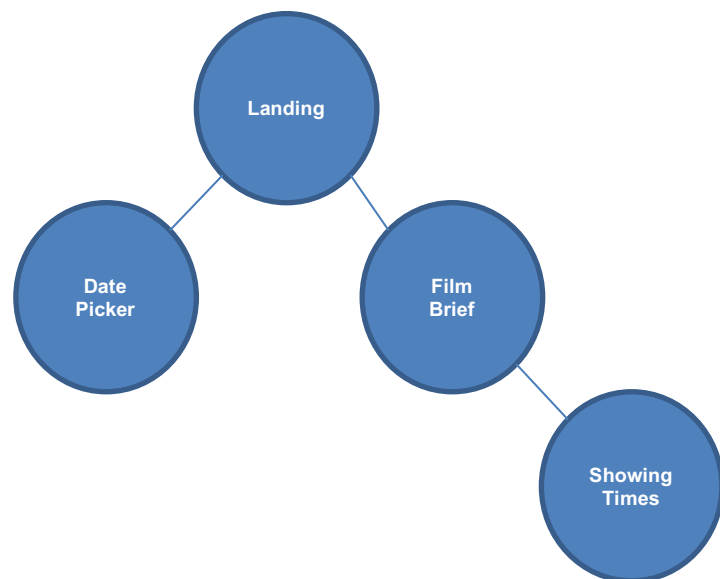
1. Try out the current situation. On the landing page notice the showing times. They're all for today. In the DatePicker widget, tap on a different day. Notice that the showing times have not changed. But they should; the showing times are different for each day.

The problem is that the FilmBrief widget always hardcodes the `selectedDate` as `DateTime.now()`. Our app should A) Change the `selectedDate` when a user taps in DatePicker and B) Use `selectedDate` in the ShowingTimes widget.

Oh no! DatePicker and ShowingTimes are encapsulated and can't share data.



Remember, when this happens we can lift state up to their common ancestor in the widget tree. In this case, the common ancestor is Landing.



Lift `selectedDate` up to Landing

2. Edit `landing.dart`. In Landing's State class, create a new `DateTime` variable called `selectedDate`. Initialize it to `DateTime.now()`.
3. Send the `selectedDate` down from Landing to each FilmBrief.

4. Edit `film_brief.dart`. Modify `FilmBrief`'s constructor to receive the `selectedDate` (along with the already-existing `film`).
5. Make sure you remove anywhere you've hardcoded `selectedDate` to be `DateTime.now()` and rely on the `selectedDate` that you just passed in.
6. Run and test. You shouldn't see anything different so far.

Passing a setter to DatePicker

7. Create a method in `Landing` called `setSelectedDate()`. Have it receive a `DateTime` and return nothing -- a `void`.
8. In this method, run `setState()` and set the `selectedDate` variable to whatever was passed in to `setSelectedDate()`.
9. Find where you're instantiating `DatePicker()` and pass this method down in its constructor.

Obviously you'll have to edit the `DatePicker` widget to receive the new parameter.

10. Edit `date_picker.dart`, changing the constructor to receive a final `void Function(DateTime)` called `setSelectedState`.
11. Find the `onPressed` event handler. Call your `setSelectedState` method here.
12. Run and test. You will see a label change indicating the proper date. But the times still haven't changed yet. We'll fix that next.

Convincing ShowingTimes to re-draw itself

Flutter, in trying to be efficient will re-use widgets in memory. When Flutter re-draws, it saves old widgets and just plugs them back in to the widget tree. You must tell Flutter to re-render.

13. Edit `ShowingTimes`. Add this to the `State` class:

```
@override
void didUpdateWidget(oldWidget) {
  if (widget.selectedDate.day == oldWidget.selectedDate.day) {
    return;
  }
  fetchShowings(filmId: widget.film.id, date: widget.selectedDate)
    .then((showings) => setState(() => _showings = showings));
  super.didUpdateWidget(oldWidget);
}
```

Notice that it is exactly the same as `initState()` but `initState()` runs only one time; when the widget is first being rendered. We want to fetch more showings each time the widget is re-rendered and the date has changed. So we'll let the `didUpdateWidget()` lifecycle method do its work.

14. Run and test. You'll know you've got it working when you can tap on a day in the app and see the showing times change.
15. Bonus!! In order to keep your code DRY, take what's common between `initState()` and `didUpdateWidget()` and pull it into a third method that the others call.