

# Programming Mobile Applications with Android Lab2

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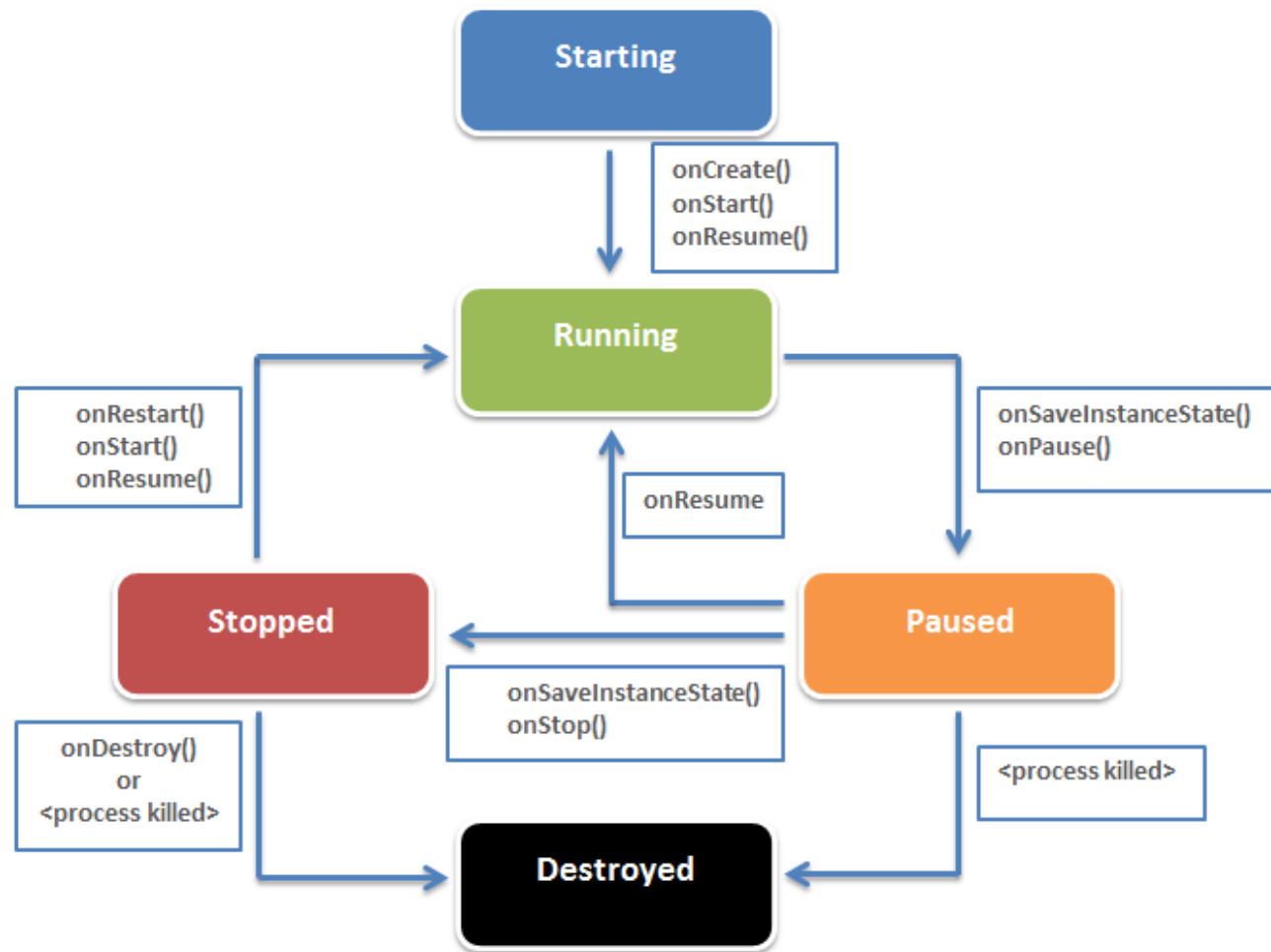
# Programming Mobile Applications with Android

- Android Lab II.- Create, compile and execute an Android application to understand the Android life cycle
  - Follow the instructions to add information messages that will be shown in the different stages of the life cycle of our application
  - We also create a View class to include it in our layout

# Programming Mobile Applications with Android

- Android Lab II
  - Create a new Android Application Project named Lab2ApplicationProject with a blank activity and 4.2 as target device
  - Open the activity file → `src/package_name/file.java` and explore the methods
  - Remember the lifecycle of the Android applications

# Programming Mobile Applications with Android



# Programming Mobile Applications with Android

- Android Lab II
  - Using the Java object oriented philosophy, we will override the following methods:
    - onDestroy()
    - onPause()
    - onRestart()
    - onResume()
    - onStart()
    - onStop()
  - Right button on the .java file → Source → override/implement methods

# Programming Mobile Applications with Android

- Android Lab II
  - We will add the following code to each one of the new methods, replacing the “XXXXX” content by the name of the method
    - `Toast.makeText(this, "Activity A XXXXX", Toast.LENGTH_SHORT).show();`
  - Now, we will add two buttons to the layout with the text
    - Start Activity B
    - Start Activity B and destroy Activity A

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- Android Lab II
  - Now it is time to create a new activity from the menu:  
New → Other → Android → Android Activity
    - Name: ActivityLab2B
    - Do not check the launcher activity option
  - The next steps consist in adding functionalities to the buttons in the first layout

# Programming Mobile Applications with Android

- Android Lab II
  - The next steps consist in adding functionalities to the buttons in the first layout
    - Select the first button and, in the onClick slot, enter the “btnEvent” text → a method named “btnEvent” will handle the click event
    - Select the second button and, in the onClick slot, enter the “btnEvent2” text → a method named “btnEvent2” will handle the click event



# Programming Mobile Applications with Android

- Android Lab II

Could not create the view:  
org.eclipse.myllyn.tasks.ui.views.tasks

Outline

- RelativeLayout
  - textView1 - "Activity A"
  - button1 - "Start Activity B"
  - button2 - "Start Activity B and Destroy A"

Properties

Long Clickable	<input type="checkbox"/>
Duplicate Par...	<input type="checkbox"/>
Min Height	48dip
Min Width	64dip
Content Desc...	
On Click	btnEvent2

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- Android Lab II

- Open the first activity file and add, below the onDestroy method the following code

```
void btnEvent(android.view.View v)
{
    android.content.Intent i = new android.content.Intent(this, ActivityLab2B.class);
    startActivity(i);
}
```

- Start the second activity when click

# Programming Mobile Applications with Android

- Android Lab II

- Open the first activity file and add, below the btnEvent method the following code

```
void btnEvent2(android.view.View v)
{
    android.content.Intent i = new android.content.Intent(this, ActivityLab2B.class);
    startActivity(i);
    finish();
}
```

- Start the second activity when click and stop

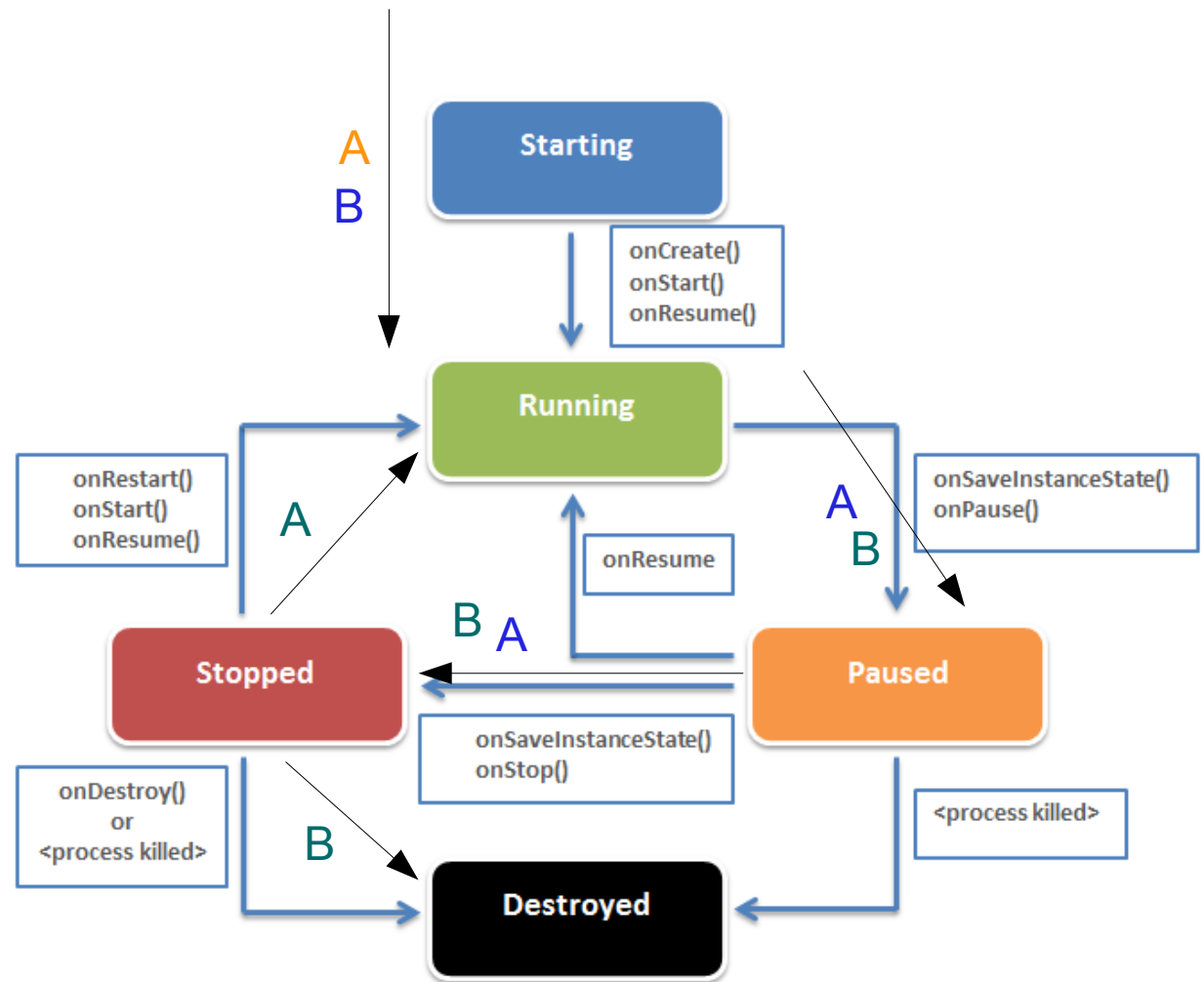
# Programming Mobile Applications with Android

- Android Lab II
  - Launch the application (in your device or the emulator) and see the result when opening the main activity and also when pressing the back button from activity B
    - After pressing the first button in activity A
    - After pressing the second button in activity A

# Programming Mobile Applications with Android

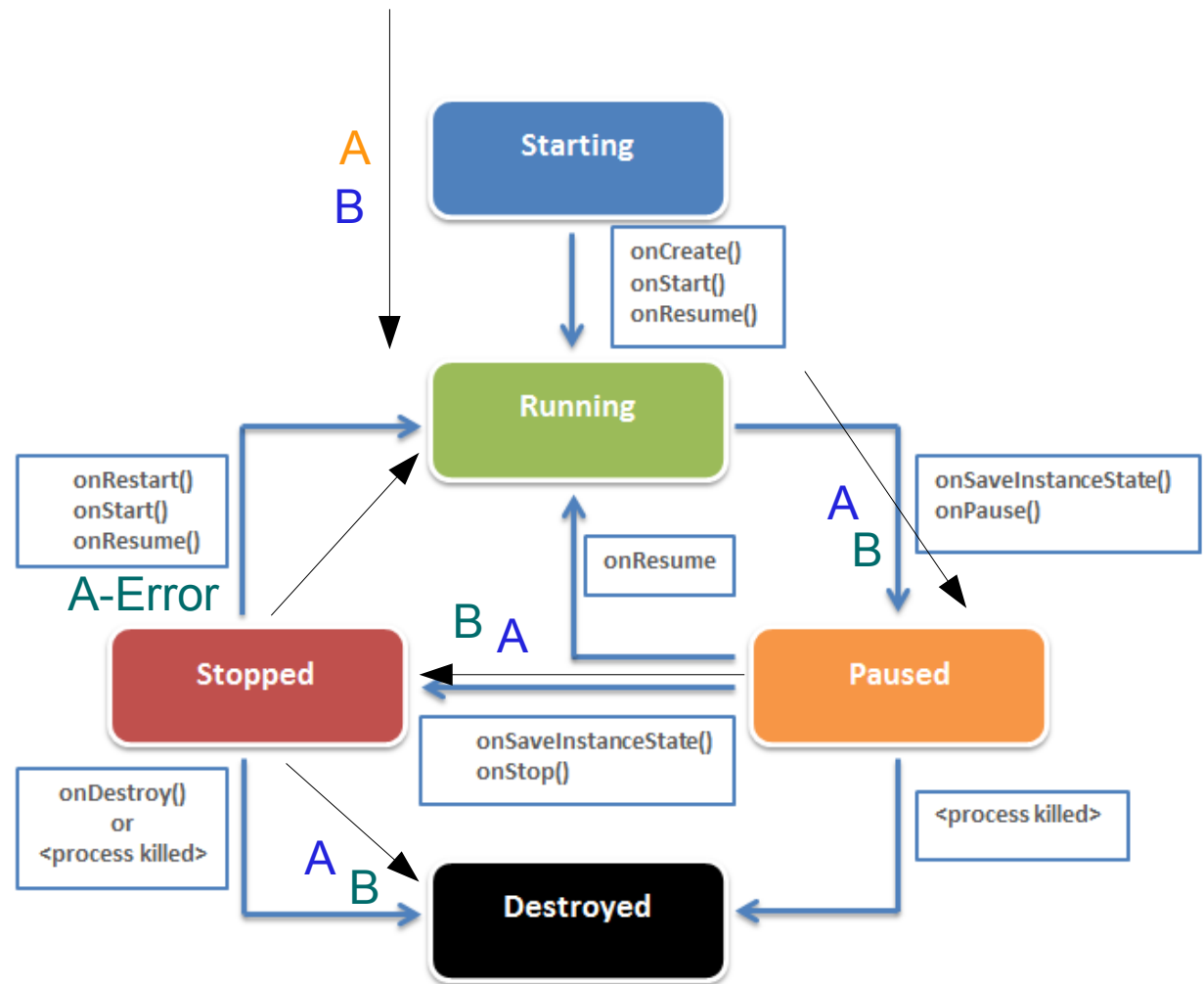
- Android Lab II

- Launch
- First Button
- Back



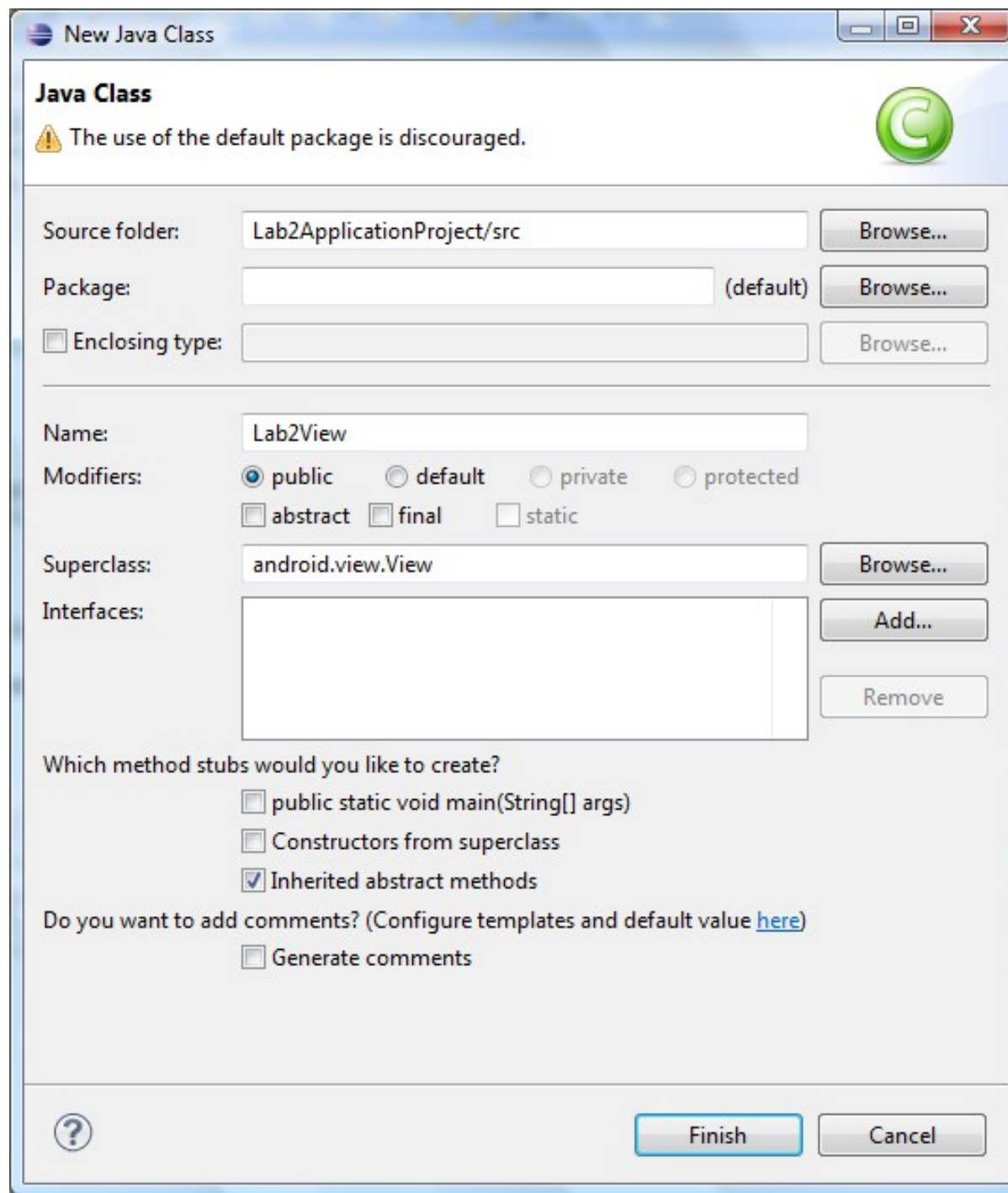
# Programming Mobile Applications with Android

- Android Lab II
  - Launch
  - Second Button
  - Back



# Programming Mobile Applications with Android

- Android Lab II
  - Finally, we will create a View specific class
    - This class will represent a graphical element whose visualization will be determined by our code
  - New → Class → “Lab2View” and select the following options
    - Superclass → android.view.View
    - Select the package of the other files





# Programming Mobile Applications with Android

- Android Lab II

- You can now check that we have errors in this View class → left your mouse over the error line and select the second option to add the constructor

```
public Lab2View(Context context, AttributeSet attrs)
{
    super(context, attrs);
}
```

# Programming Mobile Applications with Android

- Android Lab II
  - The last step is to add a method that will be automatically invoked when a Lab2View element is visualized
  - Open the Lab2View.java file and add the following code below the constructor:

```
public void onDraw(Canvas canvas) { }
```
  - Fix the import error leaving your mouse over it

# Programming Mobile Applications with Android

- Android Lab II

- You all can now create your own visualizations by following these steps

- Create a Paint object to select the color

- `Paint p = new Paint();`

- `p.setColor(Color.BLACK);`

- Use the canvas object to create forms

- `canvas.drawRect(0,0,50,50, p);`

.. and then add the a Lab2View element to out layout

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- Android Lab II
  - Open the layout for the activity B
  - Form Widgets Menu → Custom and library Views
    - Push the refresh button if it not appears