

Application Life Cycle - Windows Phone 7 Mango

This article describes the Application Life Cycle for Windows Phone 7.5 (Mango).



Introduction

[\[code\]](#)

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It is important for developers to know Application's Life Cycle so that they can understand well what they are developing and use the best practices, which in turn helps in building a quality product and minimizes repetitive development efforts.

Application Life Cycle

Events and States together make up for an application's life cycle. In Mango, there are 4 application life cycle events (Launching, Deactivated, Activated, Closing) and 3 application states (Running, Dormant and Terminated). Events lead to change the application's state.

Launch Event

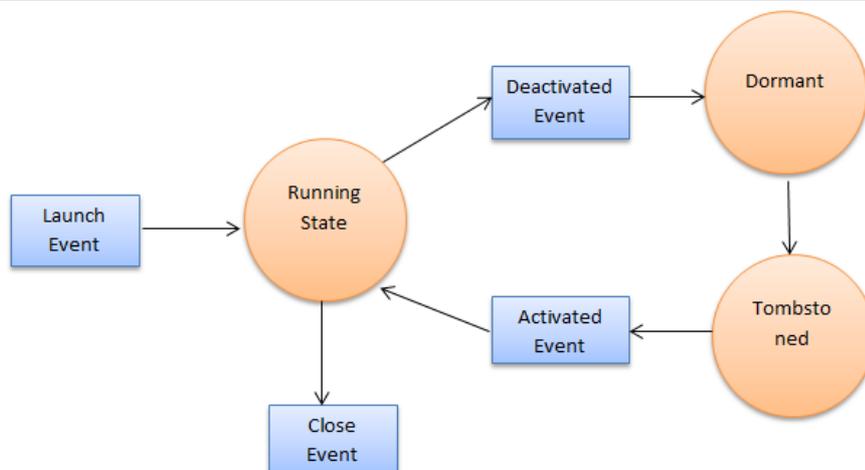
- This event is raised when the user starts an application.
- Keep this event quick, as users like the application to get loaded quickly.
- Don't use heavy resource usage activities in this event.

Code for application launching

```
private void Application_Launching(object sender, LaunchingEventArgs e)
{
}
```

Running State

- Once the application is launched it goes into Running state.
- This state is on till the user doesn't navigate away from application or the phone is in lock mode.



Deactivated Event

- Once the user goes away from your application, this event is raised.
- In this event application's context (state) should be saved. Once reactivated this saved state should be restored by the application.

Code for deactivation

```
private void Application_Deactivated(object sender, DeactivatedEventArgs e)
{
}
```

Dormant State

- Dormant state did not exist in the versions before Mango.
- This state was added in Mango for fast application switching.
- On the deactivation event the application goes into this state.
- In this state, application's processing is stopped but it stays in memory.

- In case other active applications need more memory, the dormant applications can be tombstoned.

Tombstoned State

- Once an application is terminated it goes into tombstoned state.
- In this state the data/application state information is preserved for maximum 5 applications.

Activated Event

- When user switch back to a dormant or tombstoned application, this event is fired.
- Developer should check the `IsApplicationInstancePreserved` property to know if the application is returning from being dormant or tombstoned state.
- If it's value true, then the application was in dormant state else tombstoned state.

Code for application activated

```
private void Application_Activated(object sender, ActivatedEventArgs e)
{
    if(e.IsApplicationInstancePreserved == true)
        // Dormant State
    else
        // Tombstoned State
}
```

Close Event

- When the user navigates backwards from the first page of application, this event is fired.
- Application gets terminated in this event and you get only 10 seconds to save any data if required.
- Remember developers should not have an explicit exit button for application to maintain the consistency of Windows Metro flow.

Code for closing event

```
private void Application_Closing(object sender, ClosingEventArgs e)
{
}
```

