



Building and Distributing Your App with Xcode 4

Chris Espinosa
Manager, Xcode Core Tools

Introduction

- Same project structure as Xcode 3
- Simple things are now more obvious
- Complex things are now more clear
- **Schemes** simplify the matrix of targets, configurations, and architectures
- **Workspaces** help you combine multiple projects and share schemes

What You'll Learn

- How to use the Xcode 4 interface to construct and edit projects and targets
- How to construct schemes to build, launch, and archive apps
- How to build workspaces to relate multiple projects and share schemes with others

Recap

Xcode projects, targets, and configurations

What's in a Project?

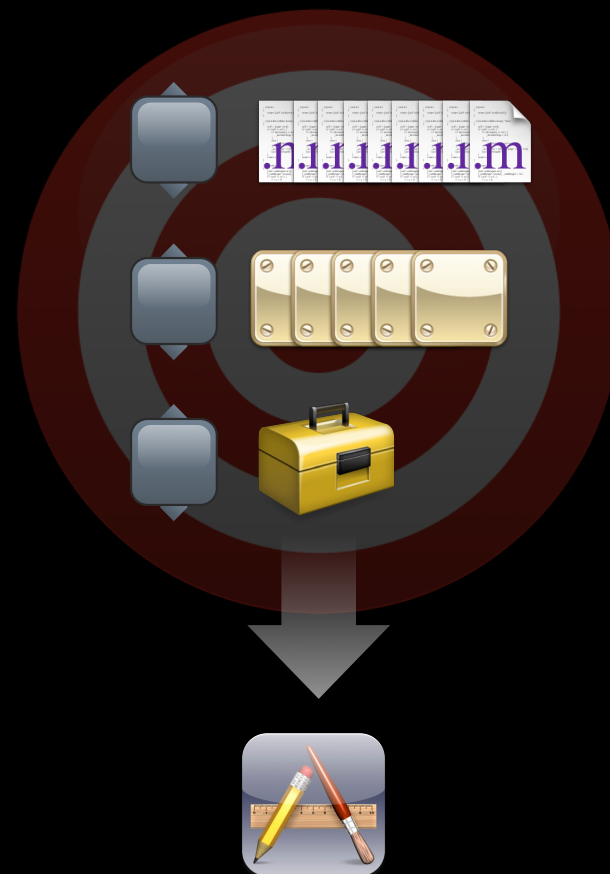
- References to sources and headers
- Groups to organize files
- Targets that build products



What's in a Target?

Instructions for building one product

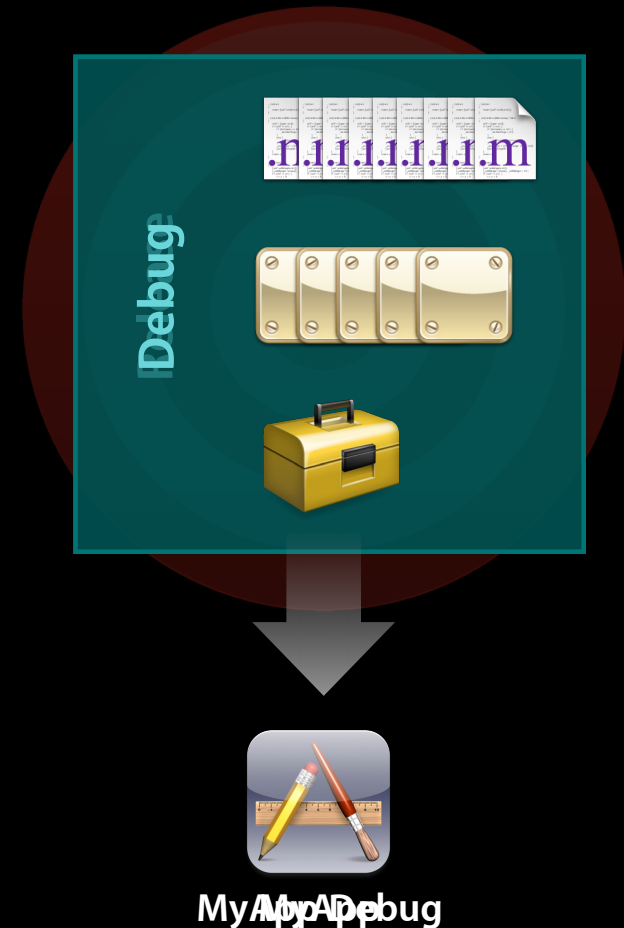
- References some or all source files in the project
- Contains build phases—the high-level sequence of steps
- Build rules determine how to handle each file type
- Build settings control how it's done
- Can depend on one or more other targets



Build Settings

Parameterize your builds

- Values are used by each build tool
- Xcode sets defaults according to your product type
- You can redefine any setting for your whole project, or a specific target
- Sets of build settings are called "configurations"



Two Big Changes

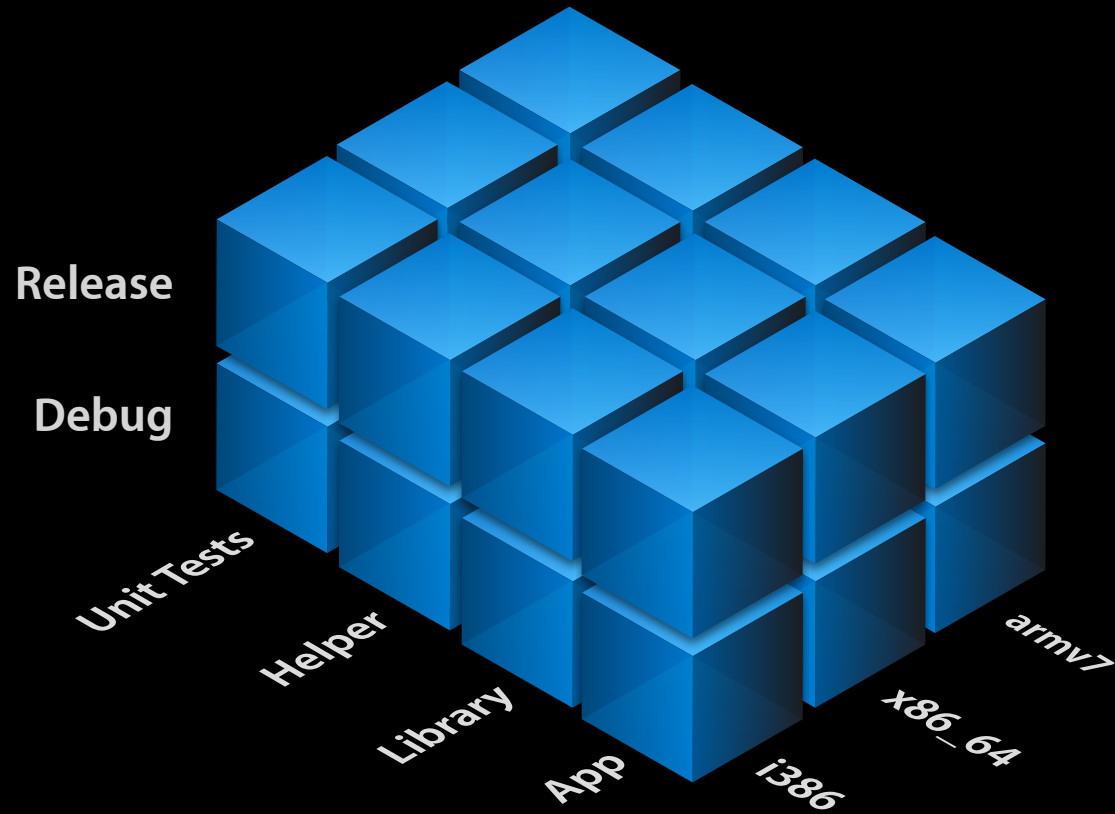
- Groups and Files split into several Navigators
- Project management done in the Editor, not Inspectors

Demo

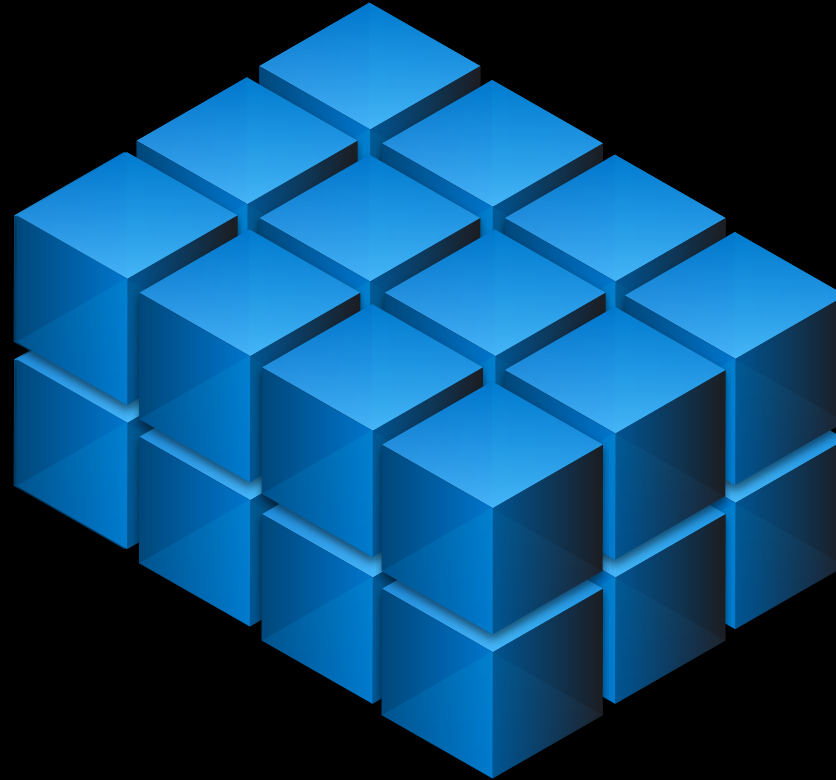
A tour of editing projects

Schemes

The Build and Run Matrix



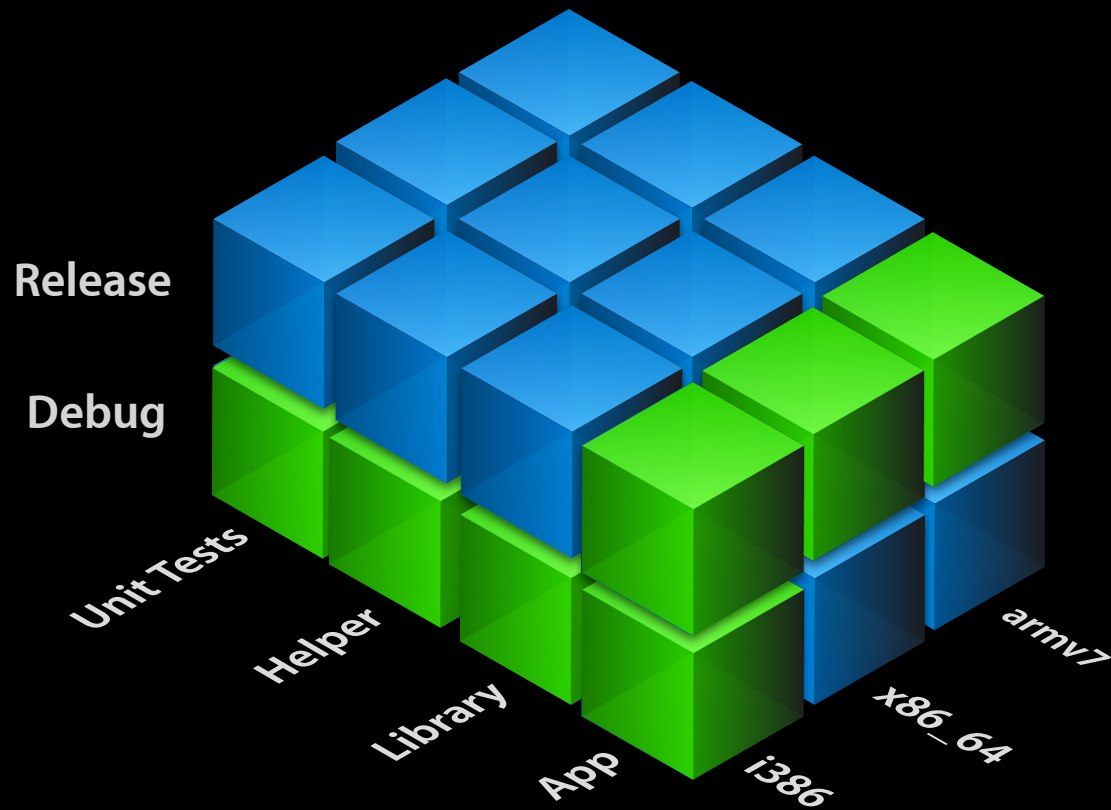
The Build and Run Matrix



iPMatrixOSSX

The Build and Run Matrix

Schemes



✓ Build and Debug	Intel
Ship It	Intel Intel 64-bit iPhone

Your First Scheme Is Free



My Great App



My Great App.app



Common Support



Support Debug Jig



Server Test



testscript



Destinations

My Great App

Support Debug Jig

Server Test

Destinations

My Great App	Intel Intel 64-Bit
Support Debug Jig	Intel Intel 64-Bit
Server Test	Intel Intel 64-Bit



Mac OS X



i386



Mac OS X



x86_64

Destinations

My Great App	Simulator iPod Touch
Support Debug Jig	Simulator iPod Touch
Server Test	Simulator iPod Touch



iOS 4



i386



Simulator



iOS 4

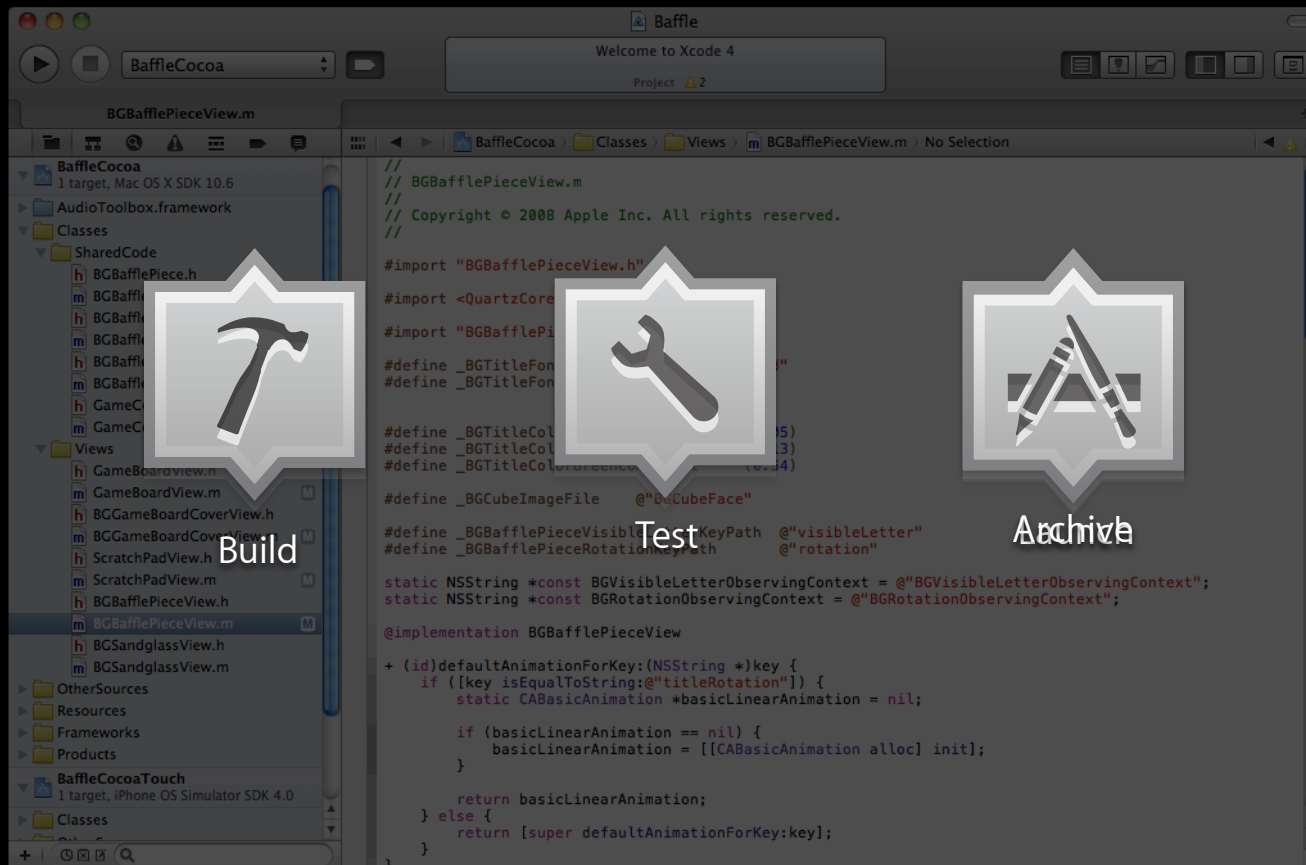


armv7



iPod Touch

Three Parts of a Scheme



What Goes into a Launch Scheme

- Build action
 - Determines what targets(s) to build, and how
- Test action
 - Determines what testing to run, and how
- Launch action
 - Determines which build product to launch, and how

What Goes into a Distribution Scheme

- Build action
 - Determines what targets(s) to build, and how
- Test action
 - Determines what testing to run, and how
- Archive action
 - Determines how to save or process the build products

Build Actions

Debug

Debug-Fat

Release

Building

Running



Test Actions

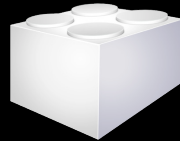
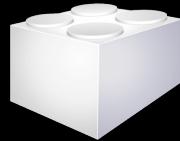
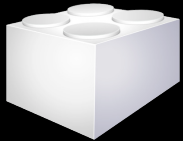
Debug

Debug-Fat

Release

Building

Testing

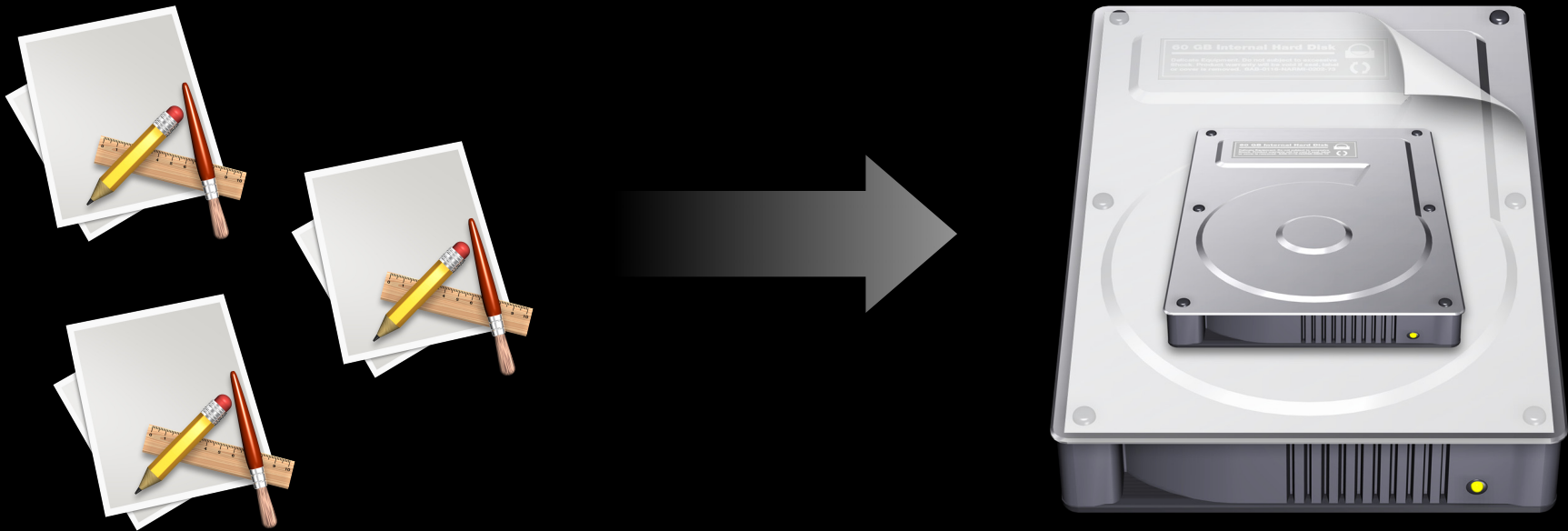


Launch Actions

- Executable
- Debugger: GDB or LLDB
- Launch using Instruments
- Launch arguments
- Environment variables
- Memory management diagnostics
- Logging options



Archive Actions

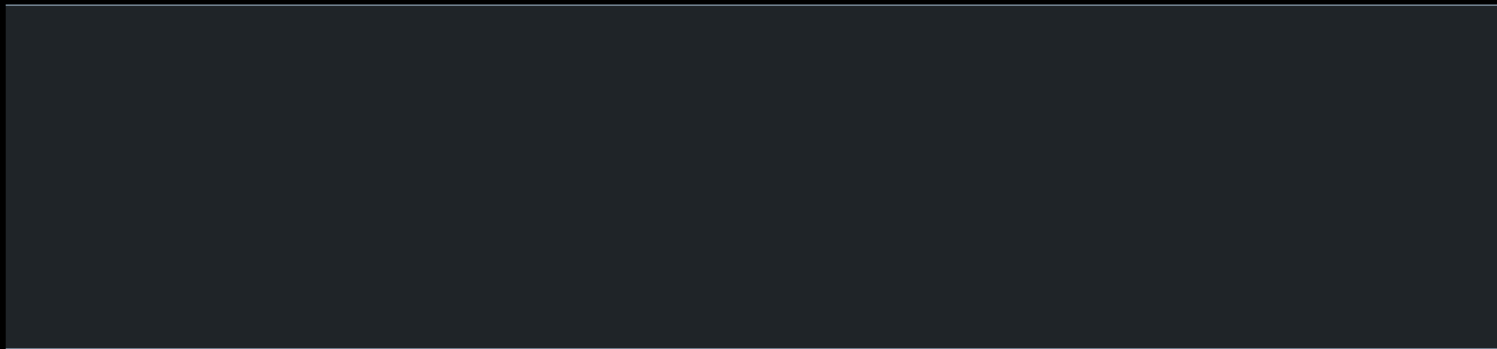


Pre- and Post-Actions

Pre-Action

Action

Post-Action



Pre- and Post-Actions

Pre-Action

Action

Post-Action

Unzip Frameworks

Build

Pre- and Post-Actions

Pre-Action

Action

Post-Action

Build

Strip Headers

Pre- and Post-Actions

Pre-Action	Action	Post-Action
Copy Sample Data	Launch	Clean Up

Demo

Creating schemes

Workspaces

Workspaces

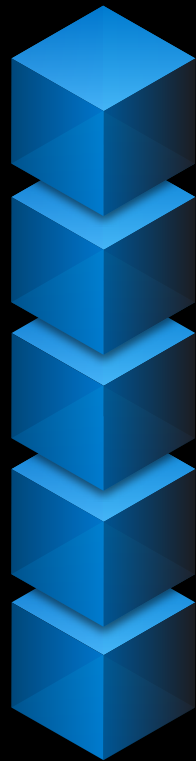
- Container for one or more projects
- Imposes consistent cross-project
 - Index
 - Build locations

Assembling a Workspace

- Opening files in Xcode puts them into a scratch untitled workspace
 - You can use Xcode as a projectless text editor this way
- Drag and drop files, folders, and projects from the Finder
- Add projects with New Project...

Sharing in the Workspace

My Stuff



Shared

Their Stuff



Demo

Using workspaces

Summary

Summary

- Projects in Xcode 4 act as they do in Xcode 3
- Edit project settings in an editor, not inspector
- Create schemes instead of executables and Run Script build phases
- Create workspaces to associate multiple projects

More Information

Michael Jurewitz

Developer Tools Evangelist

jurewitz@apple.com

Apple Developer Forums

<http://devforums.apple.com>

Related Sessions

Introducing Xcode 4	Mission Wednesday 3:15PM
Using Interface Builder in Xcode 4	Pacific Heights Thursday 4:30PM
Debugging with Xcode 4 and LLDB	Mission Friday 9:00AM
Developing Your App with Xcode 4	Mission Wednesday 4:30PM

Labs

Xcode 4 Lab

Developer Tools Lab B
Friday 9:00AM



