Windows 10 UWP Developer Workshops

# Presentation Guide

\*Updated Nov 2nd with learnings from first events\*

This document gives guidance to presenters of the Windows 10 UWP Developer Workshops to assist in delivering a successful event. This workshop is designed to give attendees an enjoyable day of hands-on coding, exploring key features in the UWP dev platform. Sessions are one hour or 30 minutes in length and typically involve a presenter introducing the topic with a few slides, and then walking through one or two labs in an Instructor-led Lab style.

## Event Preparation

Download the workshop materials from <https://github.com/Windows-Readiness/WinDevWorkshop> .

Download the hands on lab manuals and files from <https://github.com/Windows-Readiness/WinDevHOLs> .

Watch videos of dry runs of the sessions at <http://1drv.ms/1PCyCn4> to get an idea of style and pace.

This event is a **hands-on** event. Some attendees will need assistance at some point during the day, so you are strongly advised to have at least one proctor (TE/MVP/RD or similar) for every 20 attendees. It would be a good idea for the proctors to work through the hands on labs before the event to ensure familiarity with the material.

#### Avoiding potential attendee satisfaction issues

1. **Machine Incorrectly Setup**Although attendees will have received a number of communications informing them of how to prepare their machines, inevitably some will arrive with improperly setup machines, or will have experienced problems with installing the tools. Be prepared for this and make sure you have briefed your proctors to assist people during the Setup session and during session 1.  
   You may wish to provide a number of pre-configured machines as loaners for the day that attendees can use if their own machines cannot be setup correctly.
2. **Visual Studio 2015 not installed or Windows 10 developer tools not installed**  
   Some attendees may turn up with machines that have Windows 10 installed, but have not installed Visual Studio 2015 or the Windows 10 development tools. To install the Windows 10 tools, you have to select a **Custom Install** when installing Visual Studio 2015 and select the Windows 10 development tools. Some people may miss this.  
   You are advised to download the Visual Studio 2015 Community ISO (and optionally Visual Studio 2015 Language Pack for your location) from <https://www.visualstudio.com/en-us/downloads/download-visual-studio-vs.aspx> and to copy the ISO onto some USB drives to help people with incompletely configured machines.
3. **Windows 10 Mobile Emulators**  
   Users with Windows 10 Home edition, or who are running Windows 10 Pro or higher on an old PC (one that does not support Client Hyper-V and Second Level Address Translation (SLAT)) will not be able to run the phone emulators. There are only a small number of tasks in these labs where a mobile device or emulator is required, however if you are concerned that attendees may experience disappointment, you may wish to provide a number of loaner Windows 10 Mobile devices with USB cables that affected attendees may borrow for the day.

### Instructor Hardware

Instructors are strongly advised to have a setup as follows:

* Presentation machine running Visual Studio, and with the Lab manual open so that you can copy blocks of code and paste into the code editor.  
  You may find it helpful to setup two virtual desktops, with Visual Studio showing in one, and the lab manual on the other, then you can use CTRL + Windows + Left Arrow|Right Arrow to easily switch between. Or use ALT+Tab if you keep them both on one desktop.
* A separate device such as a Surface [Pro] next to your presentation machine, also with the Lab manual showing on it. In Settings – System – Power and Sleep, change the timeouts so that the device doesn’t go to sleep too quickly while you are not using it.

This allows you to read the lab steps on the Surface and talk through the lab, while you perform the lab on your presentation machine. Always remember though that attendees likely will not have this convenience, so give them time to switch between the lab manual and Visual Studio where appropriate.

For Lab 1, it is optional though recommended to demonstrate the app built in that lab running on an IoT device such as a Raspberry Pi 2. This comes with some challenges to demo. You will need:

* HDMI input to your video projection so you can plug in the HDMI output of the IoT device to show what is being displayed
* Your PC and the IoT machine must be connected to the same subnet. You may connect directly via ethernet or Wi-Fi or use Internet Connection Sharing (ICS) to connect through your development machine. For more information on connecting your IoT device to your local network, visit <https://ms-iot.github.io/content/en-US/win10/ConnectToDevice.htm>
* Determine the local IP address of your IoT device. A Raspberry Pi 2 running the default Windows 10 for IoT devices displays its device name and IP address on the home screen.
* Use Powershell to connect and configure your Windows 10 IoT Core device as described here: <http://ms-iot.github.io/content/en-US/win10/samples/PowerShell.htm>

Ideally, the instructor who presents the More Personal Computing session (Session 6) should have a Surface Pro device with a stylus to be able to demonstrate inking directly onto the screen.

A nice to have would be a new Phone with Continuum support (wouldn’t we all ☺) and another nice to have is a machine with Windows Hello face recognition support for demoing those features.

### Tips on Running Instructor led Labs

Advise the students not to try to read every word of the lab manual – there are a lot of pictures and explanatory text, so if they try to read every step, you will never get through the lab in time. Instead, encourage them to try to follow you. Make sure you read the introductory paragraph to each Exercise and Task to explain the following steps of the lab, and read out any Notes where appropriate. Your job is to lead them through the lab and to give them additional explanation on what they are doing.

Do not go too fast – people in the room will have different levels of comfort with working with Visual Studio, C# and XAML.

Do not go too slow! You cannot run the lab at the pace of the slowest person. Use your judgement on when to move on, but rely on the proctors to give assistance to anyone who is struggling. Some labs have two or more exercises. If a student has struggled, they could always open the solution from the exercise to see it working, and use it as the starting point for the subsequent exercise.

Some of the lab steps involve entry of multiple lines of code. Do not try to type in each line laboriously. Much better to copy the code from the lab manual and paste it in – but then take the trouble to explain what the code does.

As the instructor, you are strongly advised to have an additional machine such as a Surface with the lab manual showing on that device and Visual Studio on the presentation machine. Attendees will likely not have the lab manual on a separate device. In the ‘Getting Setup’ session right at the beginning of the day, show attendees how to use the Windows 10 Virtual Desktop feature and open the lab manual on one desktop and Visual Studio on a second desktop. Then it is easy for attendees to use the Task View or CTRL + Windows + LeftArrow | RightArrow hotkeys to easily move between the desktops.

## Suggested Agenda

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Time** | **Topic - Dev** |  | **Outline (Dev)** | **Key Tech. Covered (Dev)** |
| 9:00 AM-10:00 AM | Registration | | | |
| 9:30 AM-10:00 AM | **Get Setup** – time to ensure attendees have machines correctly setup and to try to resolve any problems. | | | |
| 10:00 AM-11:00 AM | Intro to Windows 10 UWP | | Lecture (15 minutes)   * One Windows, One Store, One SDK * Adaptive UI to create great UI across all devices   HOLs (45 minutes)   * Hello UWP World * Page Navigation and handling Back | * Overview of UWP * Device Families * Extension SDKs * Overview of Tooling * Page navigation * Back buttons – hardware and shell-drawn |
| 11:00 AM– 12:00 PM | Adaptive UI |  | Lecture (15min):   * Design guidance * Adaptive UI * Relative panel * Visual State Setters * Adaptive Triggers   HOL (45 min):   * Building an Adaptive UI | * Design guidance * Process of picking screen size/orientation snap points * Tools to build an adaptive UI: Relative panel, Visual State Setters, Adaptive Triggers |
| 12:00 AM – 12:30PM | Live Tiles and Notifications |  | Lecture (10 min):   * Adaptive Template * Interactive Toast   HOL (20 min):   * Tiles * Interactive toast | * Tiles basics * Adaptive Template * Toast basics * Interactive Toast |
| 12:30 PM– 1:30 PM | Lunch |  | | |
| 1:30 PM– 2:30 PM | * + Edge and Hosted Web Apps |  | Lecture (15 min):   * Edge * WebView * Hosted Web Apps   HOL (45 min):   * WebView * Hosted Web Apps | * + Edge browser   + WebView   + Hosted Web Apps   + Web apps calling UWP APIs |
| 2:30 PM - 3:30 PM | * + Cloud Services |  | Lecture (15 min):   * Connected Experiences * Azure App Services   HOL (45 min):   * Azure App Service Mobile Apps | * + Importance of connected experiences across a user’s devices   + Azure App Service Mobile Apps for an easy way to build a cloud backend for your mobile app * AAD Authentication * Offline Sync |
| 3:30 PM– 4:00 PM | Break – opportunity for partner showcase area |  |  |  |
| 4:00 PM - 5:00 PM | **Option 1: For locations where Cortana is available:** | | | |
| More Personal Computing |  | Lecture (20 min):   * Cortana/Speech * Inking * Windows Hello/Face Reco   HOL (40 min):   * Voice Commands and Cortana integration * Inking | * + Voice commands   + Voice recognition, synthesis   + Speech interaction through Cortana to Background task   + Inking   + Ink text reco   + Face Reco used in app |
| 4:00 PM - 5:00 PM | **Option 2: For locations where Cortana is not available:** | | | |
| More Personal Computing |  | Lecture (15 min):   * Cortana/Speech * Inking * Windows Hello/Face Reco   HOL (15 min):   * Inking | * + Voice commands   + Voice recognition, synthesis   + Speech interaction   + Inking   + Ink text reco   + Face Reco used in app |
| App Services |  | Lecture (10 min):   * App Services   HOL (20 min):   * App Services | * + App Service client   + App service declaration   + App Service – client interactions |
| 5:00 – 5:30PM | Store and Monetization |  | Lecture: (20 min)   * One Store * App Submission Walk through   HOL (10 minute):   * Adding Interstitial advertising | * + One Store   + App Submission process   + App Pricing   + Hidden apps in Store   + IAP   + Interstitial advertisements |
| 5:30 PM– ?:00 PM | Q&A/Partner Showcase  Ask the experts booth – MVPs | | | |

## Session Notes

Please practice these sessions and make sure that you are comfortable with timings. All slides have slide notes and of course all the hands on labs have step by step instructions.

## Session 1: Intro to Windows 10 UWP

Duration: 60 minutes

Lecture: slides (15 minutes) introducing the Windows 10 developer opportunity, explaining device families.

The slide deck for this session includes two labs. However, at the first events, what worked best was to use Session 1 primarily to ensure that as many attendees as possible have a setup that will allow them to take part in the labs. Do Lab 1 only, but get very engaged with the attendees: walk amongst them, make sure that they are able to do the lab. If they do not have the pre-requisite software correctly installed, get the proctors to assist them with installing missing tools, such as Visual Studio or the Tools for Windows 10. Think of this first session as a gentle introduction to the day. It is a great idea to demo the initial app on a Raspberry Pi.

**Lab 1: Hello Cross Devices World**

Note that Task 5 of Exercise 2 of this lab is to show the app running on an IoT device. Clearly, this is not a step that the attendees will be equipped to perform. It is a great idea to demo this if you can – but see the notes in the introduction of this document on the various setup steps you will have to perform to do this successfully.

Exercise 3 of this lab is Optional. You are advised not to go through this exercise or you probably will not have time to complete Lab 2. Leave it as an exercise for the attendees to go through in their own time.

**Lab 2: Page navigation and Handling Back [Optional]**

The main teaching point of this lab is despite differences between device families on how Back UI is manifested, and even within the desktop family differences between desktop and Tablet mode, the UWP APIs allow Back to be handled in a universal way, the same across all device families.

Exercise 2, Tasks 4 and 5 are optional. They walk through how to create your own on-canvas Back Button if you do not want to use the shell-drawn Back Button. You will probably not have time to walk through these exercises, and should explain to attendees what the tasks show and encourage them to work through those steps in their own time.

## Session 2: Adaptive UI

Duration: 60 minutes

Lecture: slides (15 minutes)

**Lab: Building an Adaptive UI**

Take your time walking through this lab. Make sure that you read the introductory paragraph to each Task in the lab so that the teaching points are clear.

## Session 3: Live Tiles and Notifications

Duration : 30 minutes

Lecture : slides (15 minutes)

**Lab : Adding Live Tiles and Notifications**

You will not have time to go through Exercise 3 – Interactive Toast. Encourage attendees to go through the exercise in their own time as it is a great example of how UWP has extended the Toast framework to provide useful new ways for users to interact with your app.

## Session 4: Edge and Hosted Web Apps

Duration : 60 minutes

Lecture : slides (20 minutes)

**Lab: Hosted Web Apps**

Note that this lab has a short last exercise on Manifoldjs. If you have time, you may wish to demo this exercise, but not do it as an instructor-led lab. Be careful if you do, there are some supporting packages you need to install in order to perform this exercise.

## Session 5: Cloud Services

Duration : 60 minutes

Lecture : slides (15 minutes)

**Lab : Connecting your App to the Cloud (Exercises 1 and 2 only)**

The lab manual for this is very long – but a lot of it is pictures. Nonetheless, make sure you rehearse this to ensure that you can deliver it successfully within the allocated time.

Note that this lab involves the attendees connecting to an existing Azure App Service Mobile App service. This service requires authentication, so a custom Azure Active Directory has been set up with 500 users created in it, names [user1@uwphols.onmicrosoft.com](mailto:user1@uwphols.onmicrosoft.com) through [user499@uwphols.onmicrosoft.com](mailto:user499@uwphols.onmicrosoft.com), password **Password1** through **Password499** respectively. The username token is stored against every item stored in the cloud database, so in principle, every user will enjoy separation of their data from everyone else’s. Also, a webjob runs every night to clear down data stored in the backend database.

However, people taking the lab call a webpage to find out which username/password to use but all that does is round-robin the available users. Therefore, there is a very slim chance that if more than 500 people take the lab in any one day, or people just choose a username at random, then they may find that two or more people end up using the same username and the ToDo items they create will be merged. For this reason, please advise folks to keep it clean when creating ToDo items!

## Session 6:

The long version of this session has a whole hour of More Personal Computing with labs on Speech Commands through Cortana and Inking. However, despite the fact that developers in regions where Cortana is not available may still want to support voice commands for the benefit of purchasers of their app in regions where Cortana is available, do not try to run the Cortana lab in unsupported regions – there is no way of executing the lab steps on systems where Cortana is not operational.

**Option 1 for locations where Cortana is available:**

### Session 6: More Personal Computing

Duration: 60 minutes

Lecture: slides (20 minutes)

Optional Demo: Windows Hello – you may wish to demo Windows Hello if you have a system with the appropriate camera hardware.

**Lab 1: 6A - Speech enabling your mobile app**

If Cortana is not recognising what you are saying to her, and you are using a headset microphone to present so that everyone can hear you, try turning off the headset just when you talk to Cortana. When your voice is also coming out over the public address, Cortana voice recognition can have difficulties.

You will not have time to go through Exercise 3 of this lab if you want to go through the Inking lab as well, so please encourage attendees to work through Ex 3 in their own time. It’s an interesting exercise implementing a background task to handle speech interactions through the Cortana UI.

**Lab 2: 6B - Adding Ink support**

Run through Exercise 3 of this lab only if you have time. If you do not, encourage attendees to run through this exercise in their own time. It shows how easy it is to implement handwriting recognition.

**Option 2 for locations where Cortana is NOT available:**

### Session 6-1: More Personal Computing

Duration: 30 minutes

Lecture: slides (15 minutes)

Optional Demo: Windows Hello – you may wish to demo Windows Hello if you have a system with the appropriate camera hardware.

**Lab: 6B - Adding Ink support**

### Session 6-2: App Services

Duration: 30 minutes

Lecture: slides (10 minutes)

**Lab: 6C - Building an App Service**

## Session 7: Store and Monetization

Duration: 30 minutes

Lecture: slides (10 minutes)  
There are a lot of slides, but this should be presented as a rapid click-through, with minimal comment. The goal is to show the key steps of the submission process without actually going through a live demo of the submission process.

At the first events, it proved almost impossible to present the deck and still have time

**Lab: Incorporating Interstitial Advertising**

Do not do Task 1 as described in the lab manual! It takes too long to download and install the Advertising SDK. It is a good idea to distribute the SDK along with the Hands on Lab materials at the start of the day so that students can install it beforehand.

You are advised to only attempt to run through Task 2 and 3 of this lab, to get to the point where the interstitial ad video plays, and optionally Task 4 to implement the code to detect if the user has cancelled the ad early.

## Hands On Labs – Full List

The hands on labs that are incorporated into the sessions described above are not the only ones available. The full list of labs are all available at <https://github.com/Windows-Readiness/WinDevHOLs> along with the main session labs are as follows: (\* indicates labs that are incorporated into the workshop sessions):

01A. Hello Cross Devices World\*

01B. Page Navigation and Handling Back\*

02 Building an Adaptive UI\*

03 Adding Live Tiles and Notifications\*

04 Hosted Web Apps\*

05 Integrating your app with the Cloud

06A. Launching apps with Speech Commands\*

06B. Inking\*

06C. App Services\*

07 Incorporating Interstitial Advertisements\*

08 Using Adaptive Code

09 Data Binding

10 Background Tasks

11 Launch for Results