Script Lab Workshop

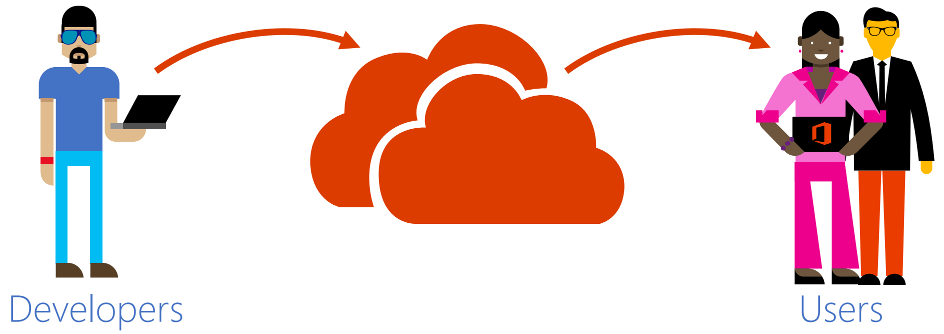
Office Add-ins History

PC	Since 2000	PC + Servers	Since 2007	Devices + Cloud	Since 2013
Office, Lync, Exchange, SharePoint icons		Office Lync Exchange SharePoint			
VBA		VBA COM Add-ins Microsoft .NET		Office Add-ins	

Why Office Add-ins?

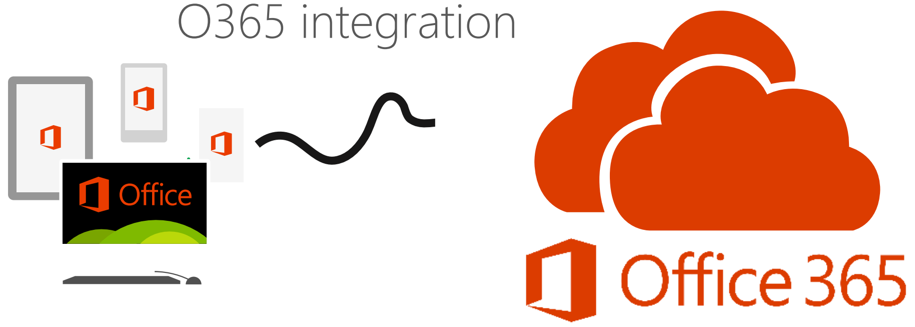
Build once, run everywhere

Streamlined lifecycle



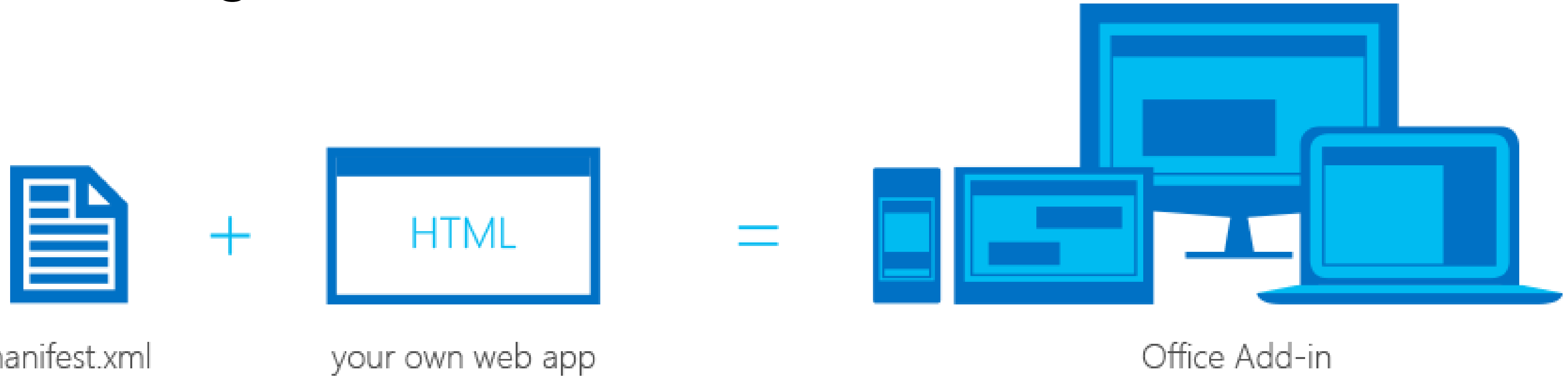
Web standards, open platform

O365 integration



Office Add-ins

Extend Office clients across platforms using web technologies



npm install –g yo generator-office

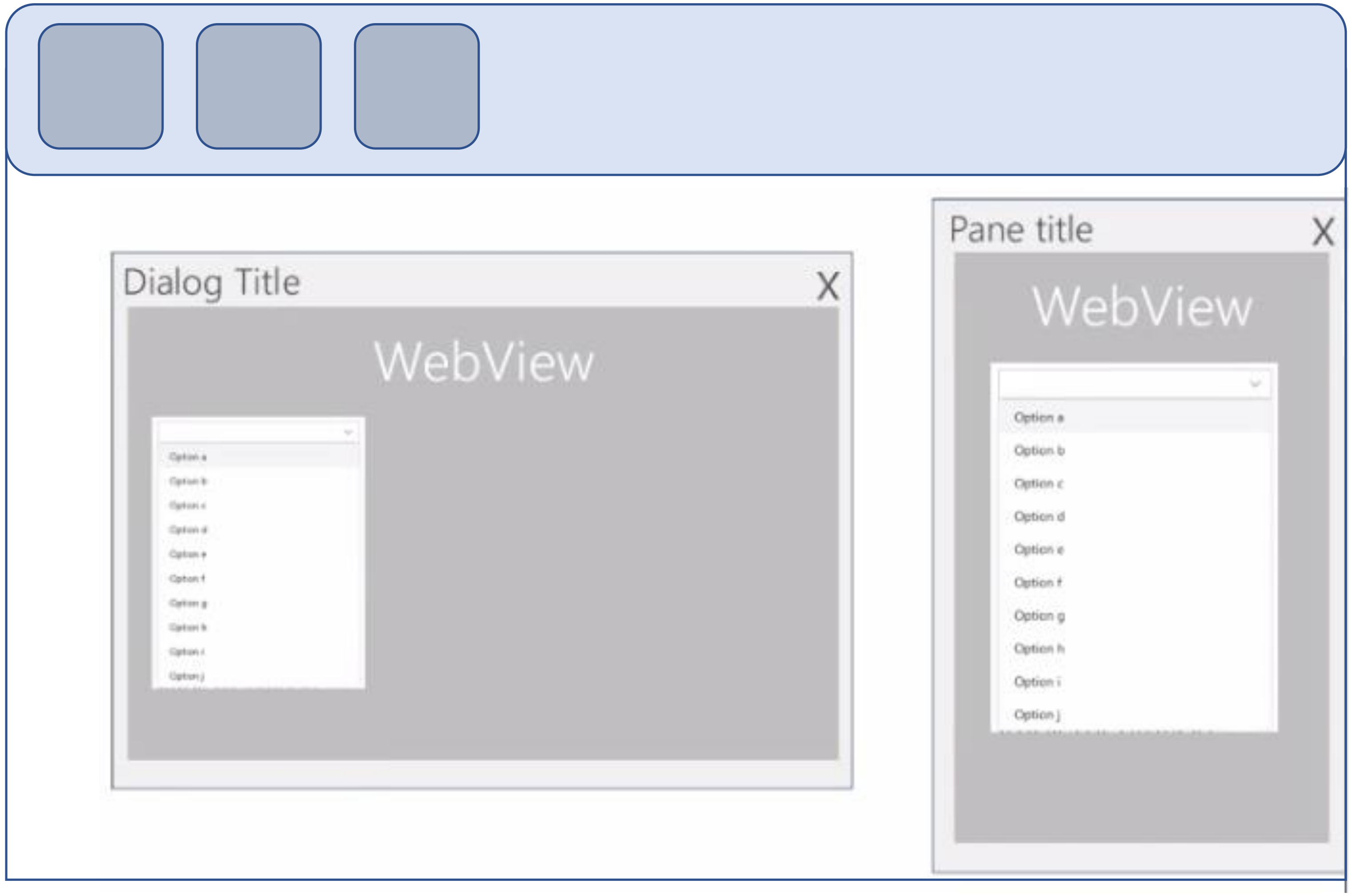
https://dev.office.com/getting-started/addins

+ your favorite IDE/Editor

Visual Studio

Free Visual Studio 2015/2017 Community Edition

Office Add-ins User Interface Elements



Add-in Commands
(e.g. Ribbon Buttons)

HTML Canvases
(e.g. Taskpanes, Dialogs)

Office UI Fabric (optional)
(e.g. dropdown controls)

Add-In Commands

Custom UI hooks into Office clients

Entry points

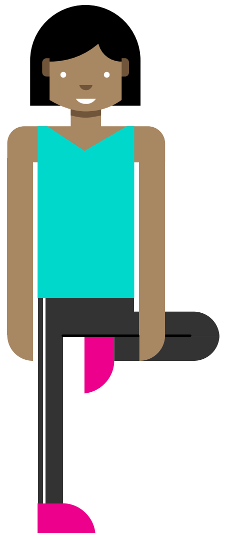
- Buttons on existing tabs
- Buttons on a custom tab
- Contextual Menus

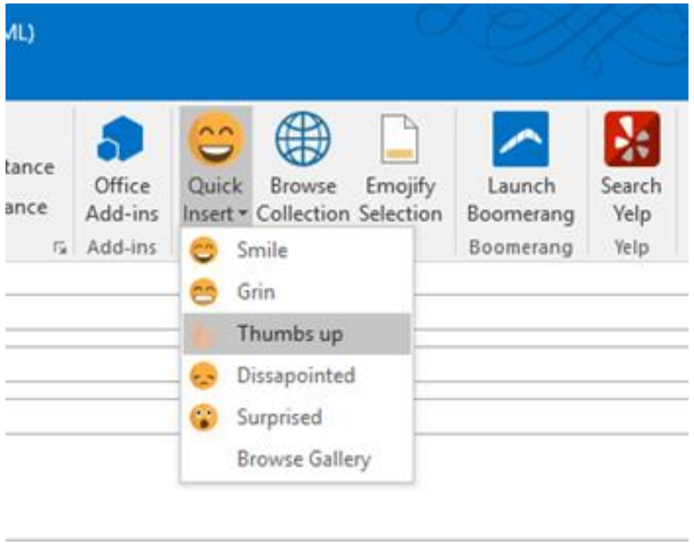
Actions

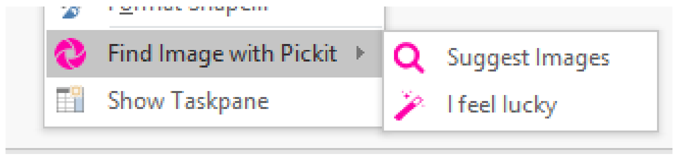
- ShowTaskpane
- ExecuteFunction

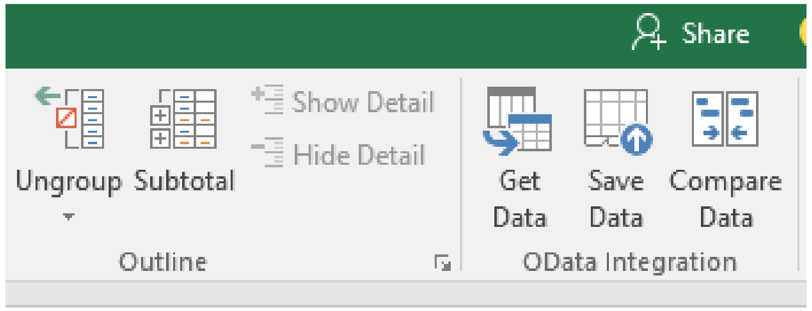
InfoBar

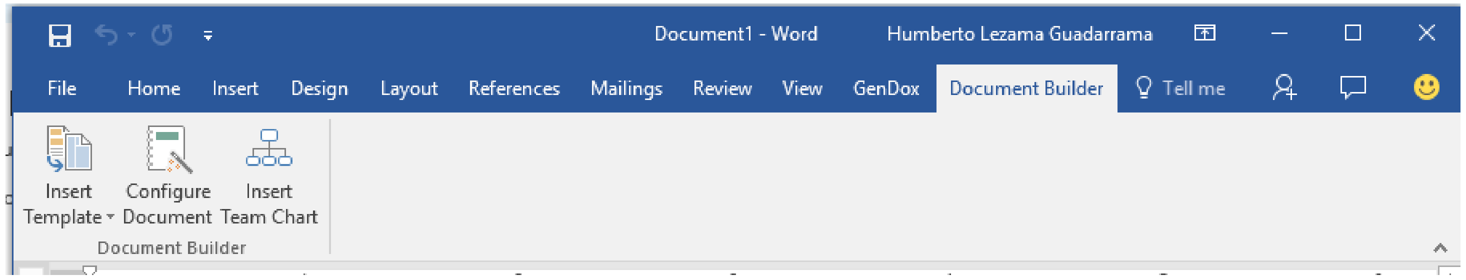
- Show simple text msgs
- Alerts/dialogs not allowed











Add-in commands on the Mac

Ribbon and context menus

Show a pane or execute silent function on command activation

Exactly same manifest and code:

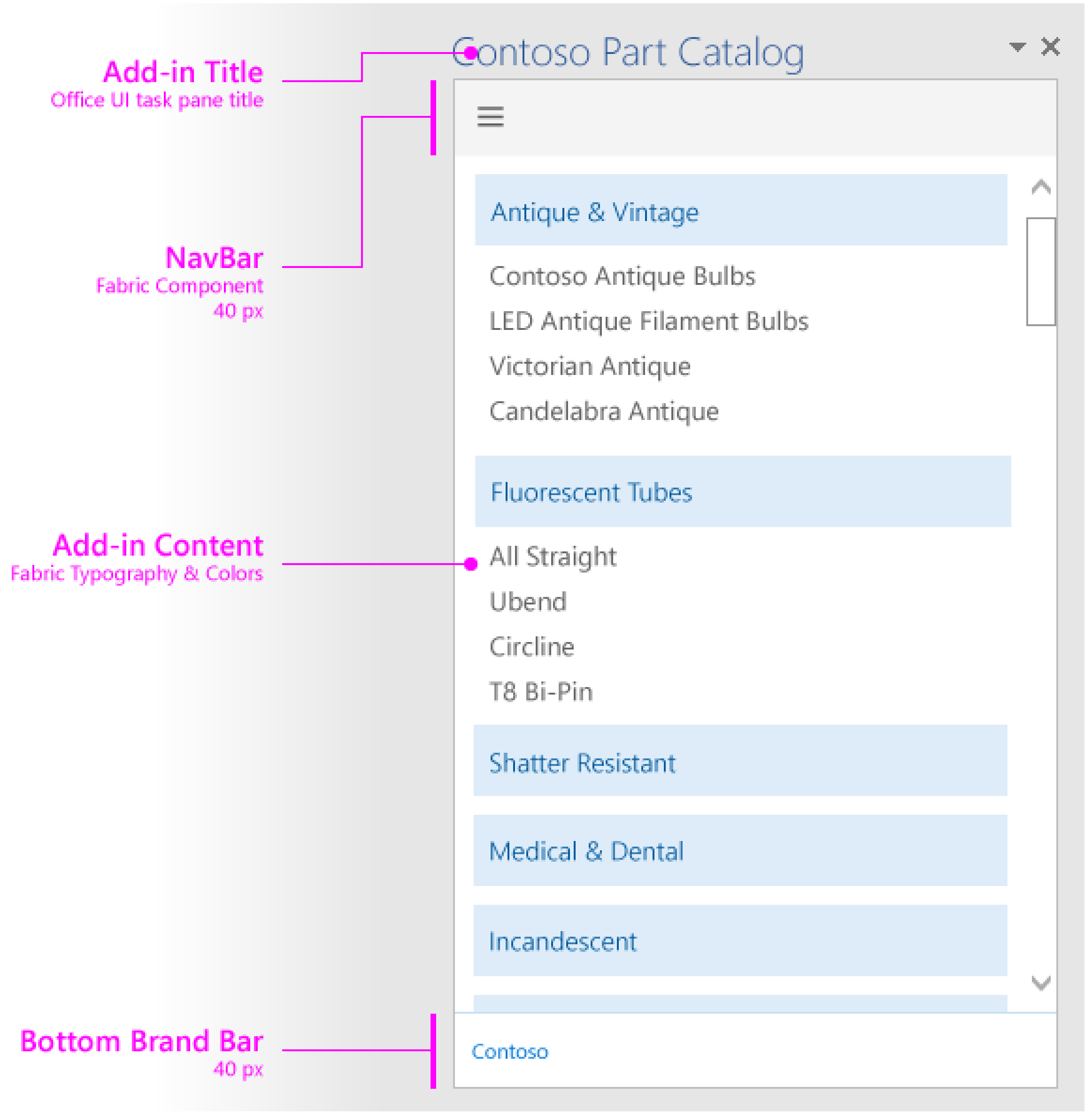
- Office for Windows Desktop
- Office Online
- **Now for Office Mac**

Task Pane Layout Recommendation

Navigation element (optional) <= 80 pixels.

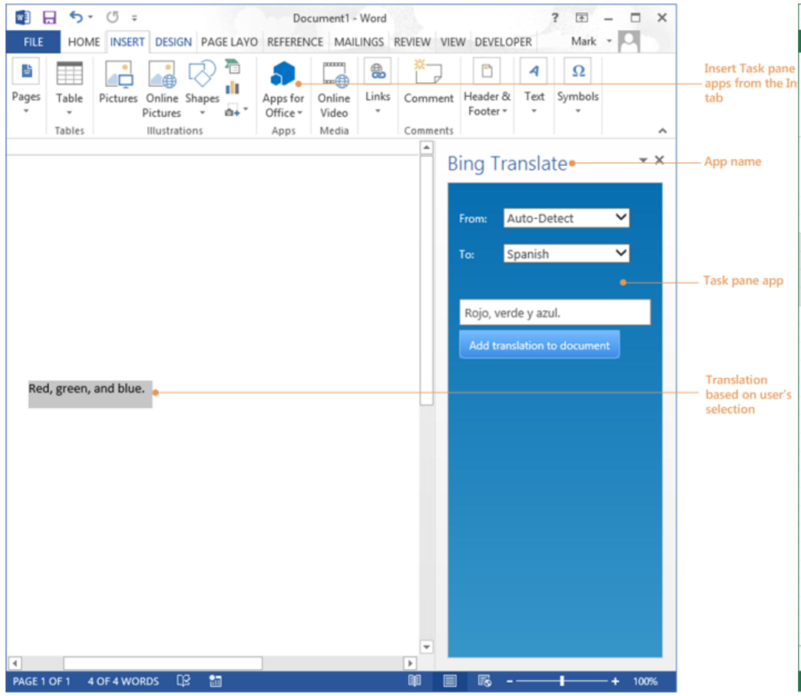
Add-in content

Branding element (optional) 40 pixels



Types of Office Add-ins

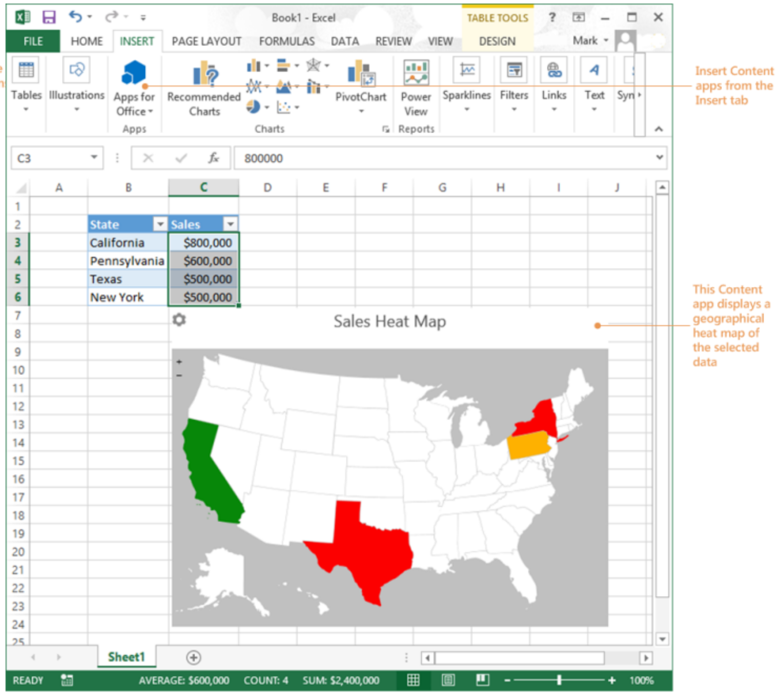
Task Pane Add-in



Rojo, verde y azul.

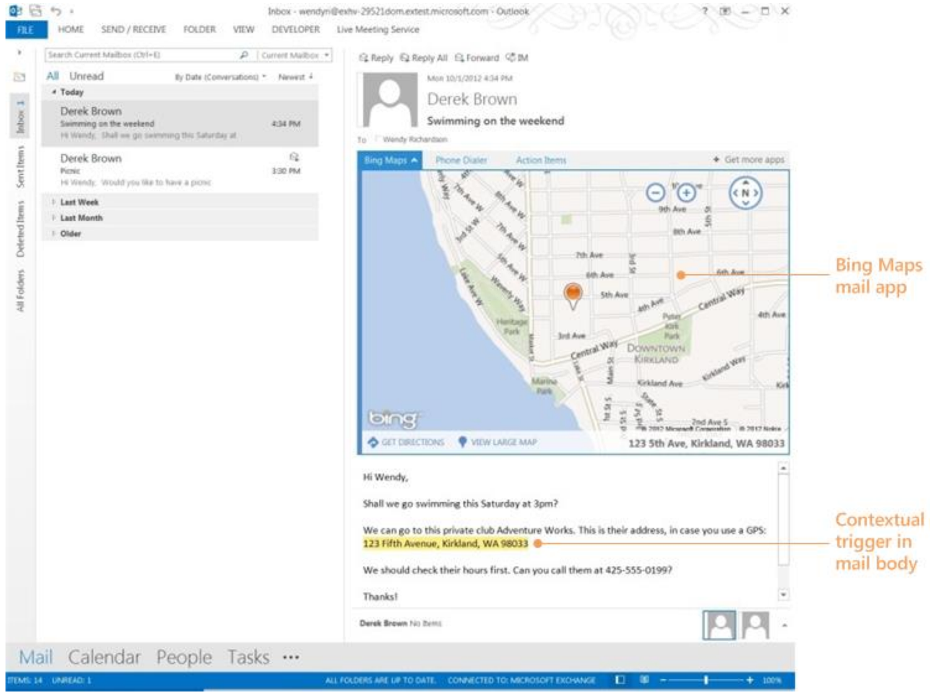
Red, green, and blue.

Content Add-in



State	Sales
California	$800,000
Pennsylvania	$600,000
Texas	$500,000
New York	$500,000

Mail Add-in



Hi Wendy,

Shall we go swimming this Saturday at 3pm?

We can go to this private club Adventure Works. This is their address, in case you use a GPS: 123 Fifth Avenue, Kirkland, WA 98033

We should check their hours first. Can you call them at 425-555-0199?

Thanks!

Typescript vs js

Javascript:
PRO: familiar, popular, web language
widely supported in browsers
CON:
ES5, ES6, browser support, shims
lack of strong typing, late syntax/error
Typescript:
PRO: strongly typed, catches errors up front

Ready?

ScriptLab Workshop Goals:

Learn to use ScriptLab

Learn about Office JS API and add-ins (Excel)

Write code

Test

Share your code

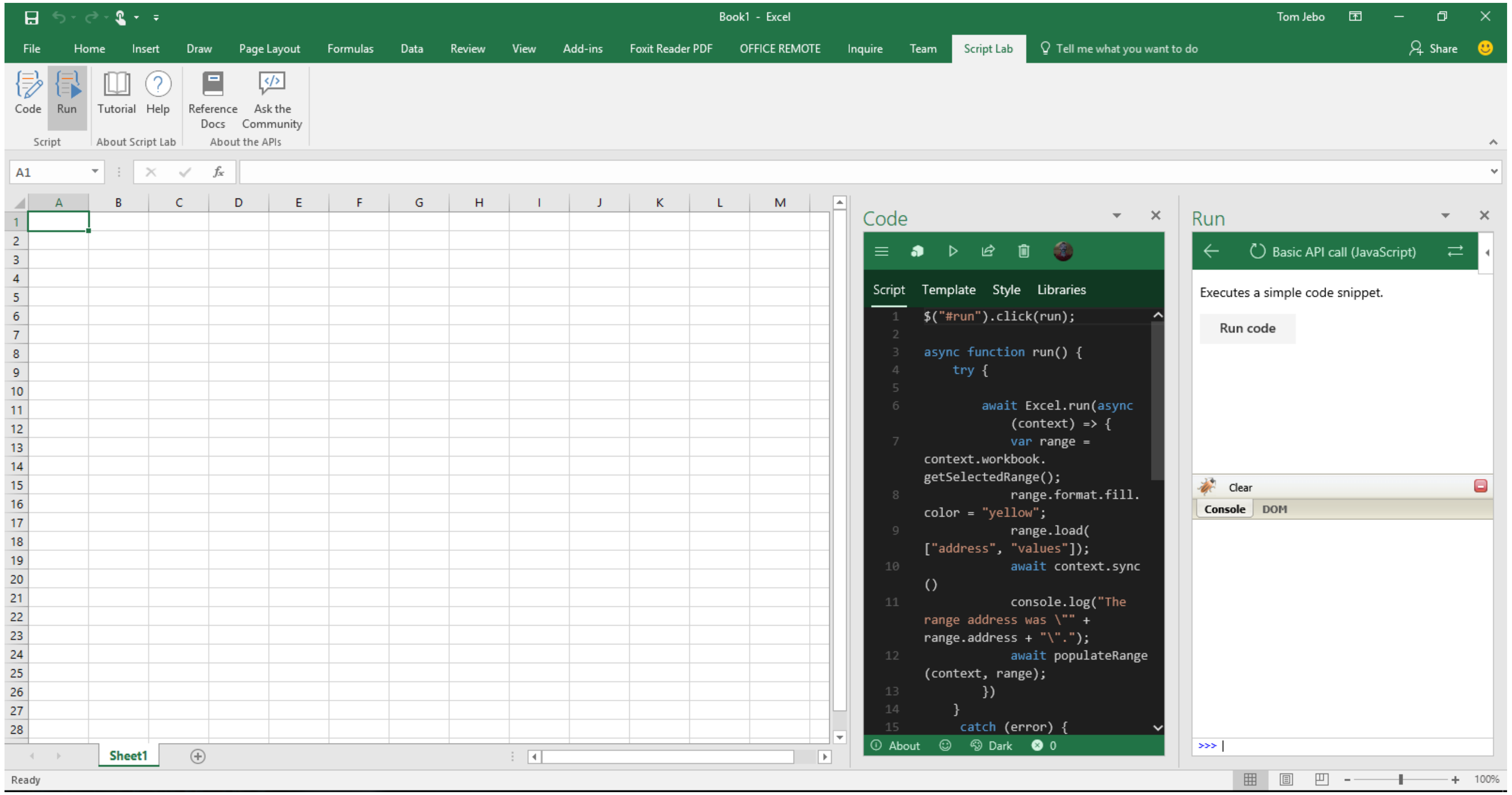
Get Set…

Getting setup:

1. Load Excel
   Preferrably Excel desktop but you can use online
2. Install the ScriptLab add-in from Store
3. Load the Office JS docs on
   http://dev.office.com/
   http://dev.office.com/devprogram - free 1 year subscription to Office
   https://dev.office.com/docs/add-ins/excel/excel-add-ins-javascript-programming-overview

4. Get the lab modules:
   https://github.com/tomjebo/addin-workshop

ScriptLab



Basic API call (JavaScript)

Executes a simple code snippet.

Run code

```
$("#run").click(run);

async function run() {
    try {

        await Excel.run(async (context) => {
            var range = context.workbook.getSelectedRange();
            range.format.fill.color = "yellow";
            range.load(["address", "values"]);
            await context.sync()
            console.log("The range address was \"" + range.address + "\".");
            await populateRange(context, range);
        })
    }
    catch (error) {
```

context

```
var ctx = new Excel.RequestContext();
```

Requests to the Excel application

proxy objects

```
var selectedRange = ctx.workbook.getSelectedRange();
```

Trust them, they know what they’re doing!

sync()

Synchronize between proxies and Excel.

Batched operations queued up get synced.

Excel.run()

Excel.run() executes a batch script that performs actions on the Excel object model.

This is where your code runs!

load()

```
object.load(string: properties);
//or
object.load(array: properties);
//or
object.load({loadOption});

var range =
ctx.workbook.worksheets.getActiveWorksheet().getRange("A1:A2").load("values");
```

You can chain together these calls to get a proxy and load values.

Async and promises

```
Excel.run(function (ctx) {

    return ctx.sync().then(function() {
            console.log("Done");
    });
}).catch(function(error) {
        console.log("Error: " + error);
        if (error instanceof OfficeExtension.Error) {
            console.log("Debug info: " + JSON.stringify(error.debugInfo));
        }
});
```

Context object returns a promise. JS provices the .then construct.

Go!

Module 1	ScriptLab
	Run Basic API call (js)
	Populate cells
	MySnippets

Async and Typescript

```
async function run() {
try {
            await Excel.run(async (context) => {
                        // some code ...
                        await context.sync()

                        console.log("The range address was \"" + range.address + "\".");
                        await populateRange(context, range);
            })
   }
catch (error) {
            OfficeHelpers.UI.notify(error);
            OfficeHelpers.Utilities.log(error);
   }
}
```

Use async and await construct.
More readable!

Better, faster, smarter!

Module 2	Typescript exercise
	Run Copy and Multiply Values sample
	Grand Total
	Tax

Charts

Module 3

Add a chart

Hints:

- Use the chart collection add method.
- See https://dev.office.com/reference/add-ins/excel/chartcollection

Functions

Module 4

Range.Calculate() and calculate():

See： https://dev.office.com/reference/add-ins/excel/range

ConditionalFormat object:

See: https://github.com/OfficeDev/office-js-docs/blob/ExcelJs_OpenSpec/reference/excel/conditionalformatcollection.md

Calling Graph

Module 5

- Create a new add-in
- Register the add-in application for use with Graph permission scopes
- Use the Office JS Helpers to authenticate
- Call Graph to send email

Helpful Links

- https://dev.office.com/docs/add-ins/excel/excel-add-ins-javascript-api-reference?product=excel
- https://dev.office.com/docs/add-ins/excel/excel-add-ins-javascript-programming-overview?product=excel#excelrunfunctioncontext--batch-

Thank You!

Questions?