**Design Patterns Workshop Syllabus**

Location: Office of the Comptroller of the Currency (OCC)

Dates: October 10 – 11, 2017

Presenter: Crystal Tenn | Presenter email: [Crystal.Tenn@Microsoft.com](mailto:Crystal.Tenn@Microsoft.com)

**Day 1**

* 9AM – 10:30AM
  + Overview Core Design Patterns
    - Lab on Design Patterns
* 10:30AM – 11:30AM
  + SOLID Slides
    - Lab on SOLID
* 11:30AM – 12PM
  + MVC / MVP Refresher Slides
* 12PM – 1PM: Lunch Break
* 1PM – 1:45PM
  + Design Patterns Jeopardy
* 1:45PM – 3:30PM
  + Dependency Injection + Comparisons between Mef and Unity
    - Mef lab, create a new simple Console application with Mef
    - Mef2 lab, create a new .NET Core application with Mef2
    - Unity lab, create a new Console application with Unity

**Day 2**

* 9AM – 11AM
  + Building REST API’s + Naming Conventions + Best Practices
    - Swagger Demo
    - Fiddler Demo
    - Postman Demo
    - REST API + Swagger Lab
* 11AM – 12PM
  + Dapper Intro + Comparison to Entity Framework
    - Dapper lab (builds off API Swagger lab, same solution is used)
* 12PM – 1:30PM: Lunch
* 1:30PM – 2:30PM
  + Tooling Presentation + Demo: ReSharper configurations, SonarQube
* 2:30PM – 3:30PM
  + Visual Studio 2017 and C# 7.0 Features Presentation

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| Action | VS Mapping | Recommended Shortcut | How to remember it: | Default |
| Project / Files / References |  |  |  |  |
| Add a new class | Project.AddClass | Ctrl + N, Ctrl + C | N for New and C for Class | N |
| Add new Project | File.AddNewProject | Ctrl + N, Ctrl + P | N for New and P for Project | N |
| Add existing Project | File.AddExistingProject | Ctrl + N, Ctrl + E | N for New and E for Existing | N |
| Set current project as startup | Project.SetasStartUpProject | Ctrl + S, Ctrl + P | S Set as Startup and P and Project | N |
| Add Reference to selected project | Project.AddReference | Ctrl + A, Ctrl + R | A for Add and R for Reference | N |
| Code Related |  |  |  |  |
| Comment out code | Edit.CommentSelection | Ctrl + K, Ctrl + C |  | Y |
| Comment in code | Edit.UncommentSelection | Ctrl + K, Ctrl + U |  | Y |
| Collapse all methods | Edit.CollapsetoDefinitions | Ctrl + M, Ctrl + O |  | Y |
| Collapse all code | Edit.ToggleAllOutlining | Ctrl + M, Ctrl + L |  | Y |
| Uncollapse all code | Edit.StopOutlining | Ctrl + M, Ctrl + P |  | Y |
| Rename all | Refactor.Rename | Ctrl + R, Ctrl + R |  | Y |
| Fix all code alignment | Edit.FormatDocument | Ctrl + K, Ctrl + D |  | Y |
| Commenting template |  | /// the line above what you want to comment, then hit enter |  | Y |
| Navigational |  |  |  |  |
| Go to Declaration | Edit.GoToDeclaration | F12 |  | Y |
| Go to Implementation | Edit.GoToImplementation | Ctrl + F12 |  | Y |
| Navigate To | ReSharper VS config default | Ctrl + T |  | Y |
| Go to Solution Explorer | View.SolutionExplorer | Ctrl + S, Ctrl + E | S for Solution and E for Explorer | N |
| Go to Team Explorer | View.TfsTeamExplorer | Ctrl + T, Ctrl + E | T for Team and E for Explorer | N |
| Go to Test Explorer | TestExplorer.Show. |  |  |  |
| TestExplorer | Ctrl + U, Ctrl + T | U for Unit and T for Tests | N |  |
| Previous page | View.NavigateBackward | Ctrl + - |  | Y |

|  |  |
| --- | --- |
| **Design Pattern Name** | **Short Definition in your own words** |
|  |  |
| Abstract Factory |  |
| Builder |  |
| Factory |  |
| Prototype |  |
| Singleton |  |
|  |  |
| Adapter |  |
| Bridge |  |
| Composite |  |
| Decorator |  |
| Façade |  |
| Flyweight |  |
| Proxy |  |
|  |  |
| Chain of Resp |  |
| Command |  |
| Interpreter |  |
| Iterator |  |
| Mediator |  |
| Memento |  |
| Observer |  |
| State |  |
| Strategy |  |
| Template |  |
| Visitor |  |
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