Managing the UML Model Lifecycle in Visual Studio 2010

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Outline

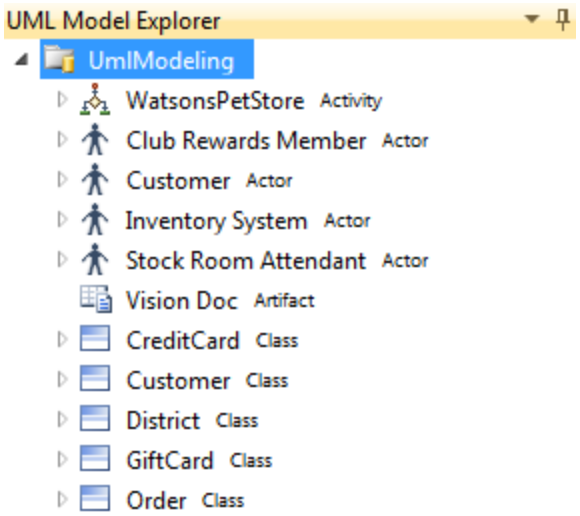
- Training Course Scenario Review
- Interact with Models via UML Model Explorer
- Generating Code from UML Models
- Generating UML Models from Existing Code
- Extending the UML Model Through Profiles
- Importing UML Models Built in Other Tools
- Summary

Training Course Scenario Review

- **Watson's Pet Store**
  - They are a growing local store that provides pet supplies and services.
  - Their customers want to be able to order products and manage their service appoints online.

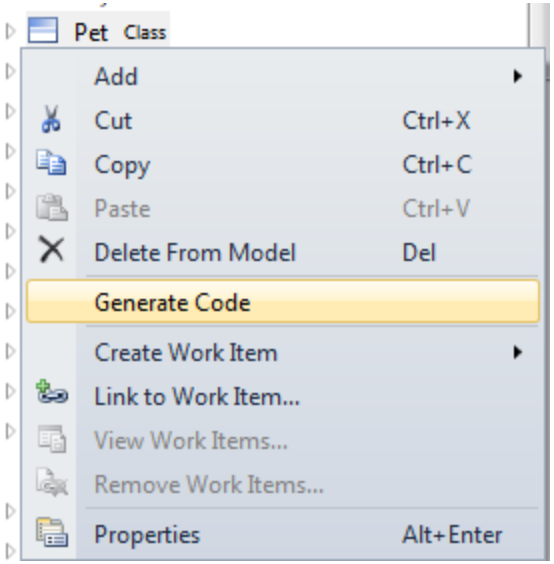
Interact with Models via UML Model Explorer

- **The UML Model Explorer lets you view UML model artifacts that exist across diagrams.**
  - Elements
  - Properties
  - Relationships
  - Unspecified Types
- **New artifacts can be created from within the UML Model Explorer.**
- **The UML Model Explorer acts as a toolbox for building new diagrams and reusing model artifacts.**



Generating Code from UML Models

- **UML class diagram artifacts can be turned into physical representations.**
  - Class (operations and attributes)
  - Struct
  - Interface
  - Enumeration
- **Stereotype values impact generated code.**
- **Code templates can be customized.**

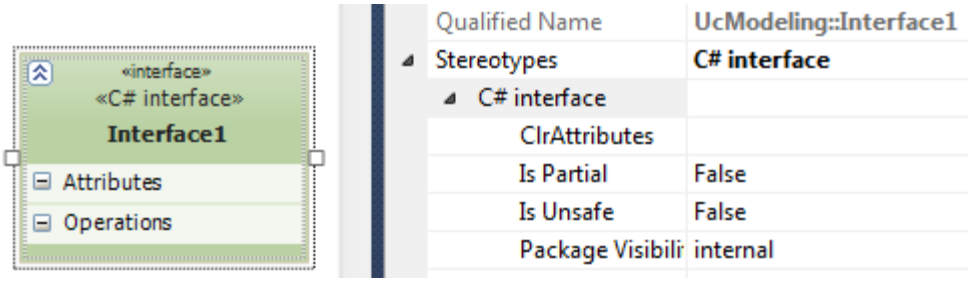


Generating UML Models from Existing Code

- **VS 2010 supports the translation of .NET types to UML entities.**
  - Class
  - Struct
  - Enum
  - Interface
- **Generated model elements retain a link to the originating source code.**
- **This feature leverages the Architecture Explorer.**
- **Sequence diagrams can be generated from code, but these are NOT UML sequence diagrams.**

Extending the UML Model Through Profiles

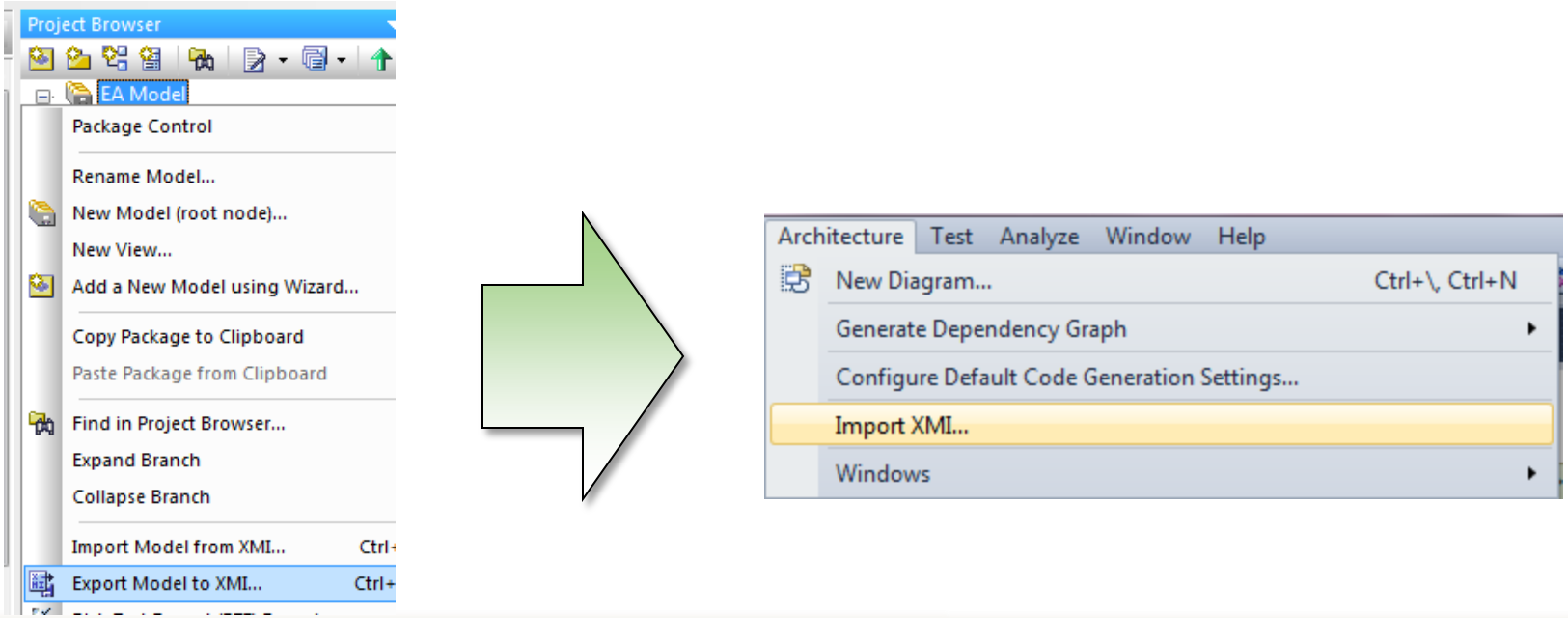
- **UML models in VS 2010 can be extended in multiple ways:**
  - Profiles
  - Custom Toolbox Items
  - Validation Rules
  - Menu Commands
  - Responding to Changes
  - Code Generation
  - … and more!



- **Profiles define a stereotype(s) that can be used to extend a particular elements available list of properties.**
- **Building a profile can be done in the Visual Studio SDK or by hand.**

Importing UML Models Built in Other Tools

- **VS 2010 can XMI 2.1 which is a standard XML notation for describing UML models.**
  - Support exists for importing sequence, class and use case diagrams
- **Many external models will contain custom profiles which can be imported into a Modeling Project as well.**



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