Software Engineering With UML

Module 1
Introduction to Design and Modeling Tools

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What You Will Learn

→ UML Design and Modeling

2 Working with Design and Modeling Tools

Reality vs Model

A model is a representation of reality, but it is a simplification or approximation that doesn't reflect all of reality (Model is an Abstraction of Reality)

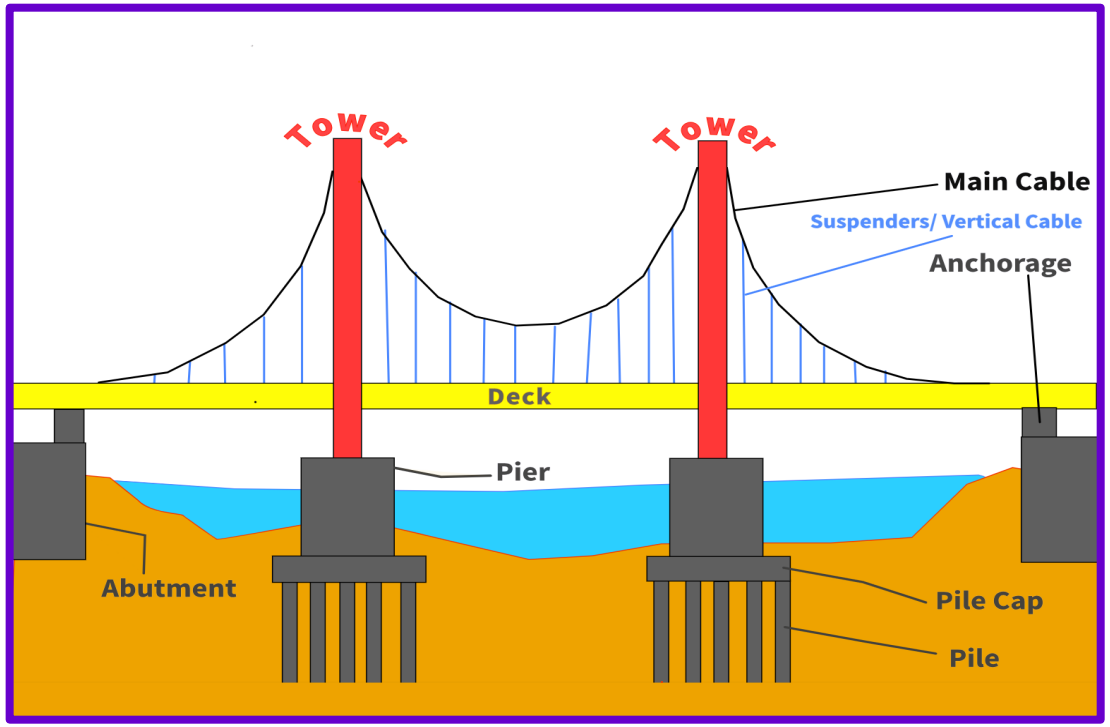
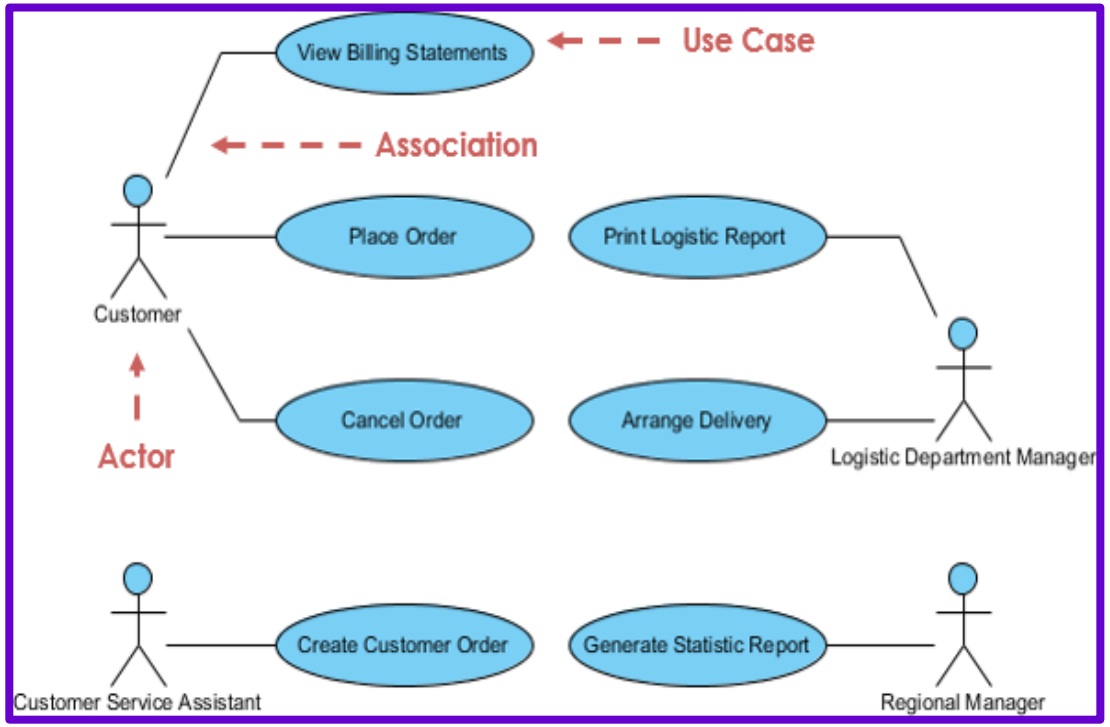
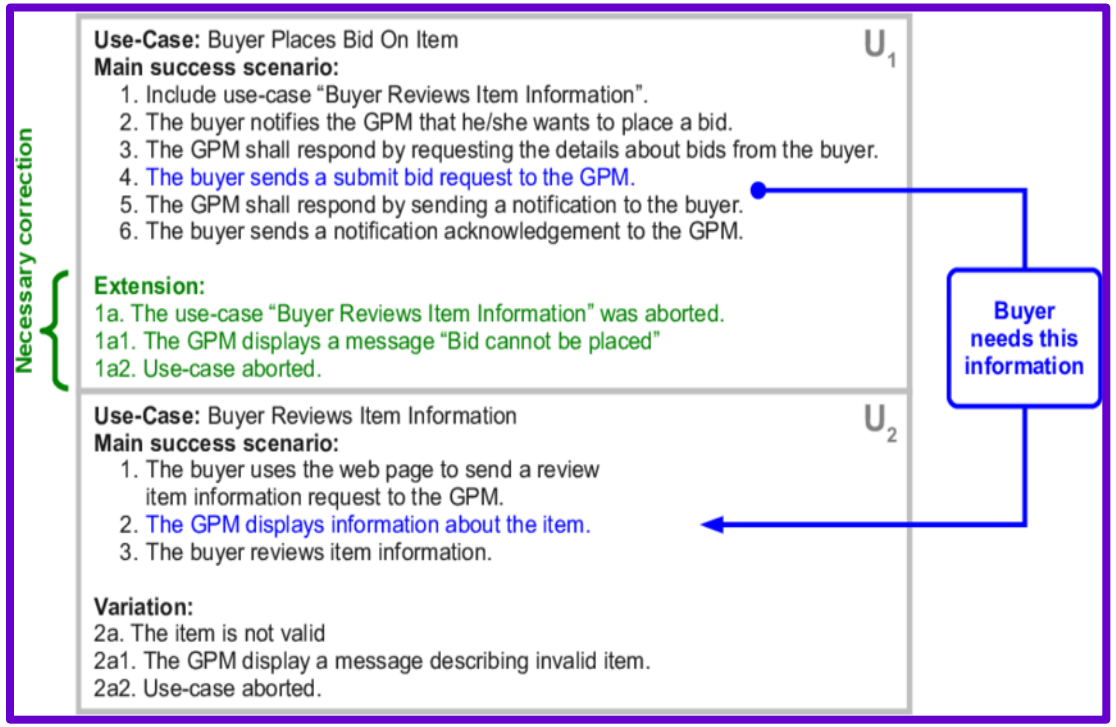


Diagram vs Model

Diagram is a Visual Representation of Model



Models are abstract representations of a system

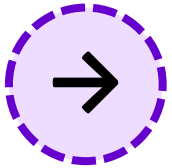


What is UML?

Is a standardized modeling language consisting of an integrated set of diagrams, developed to help system and software developers for specifying, visualizing, constructing, and documenting the artifacts of software systems, as well as for business modeling and other non-software systems

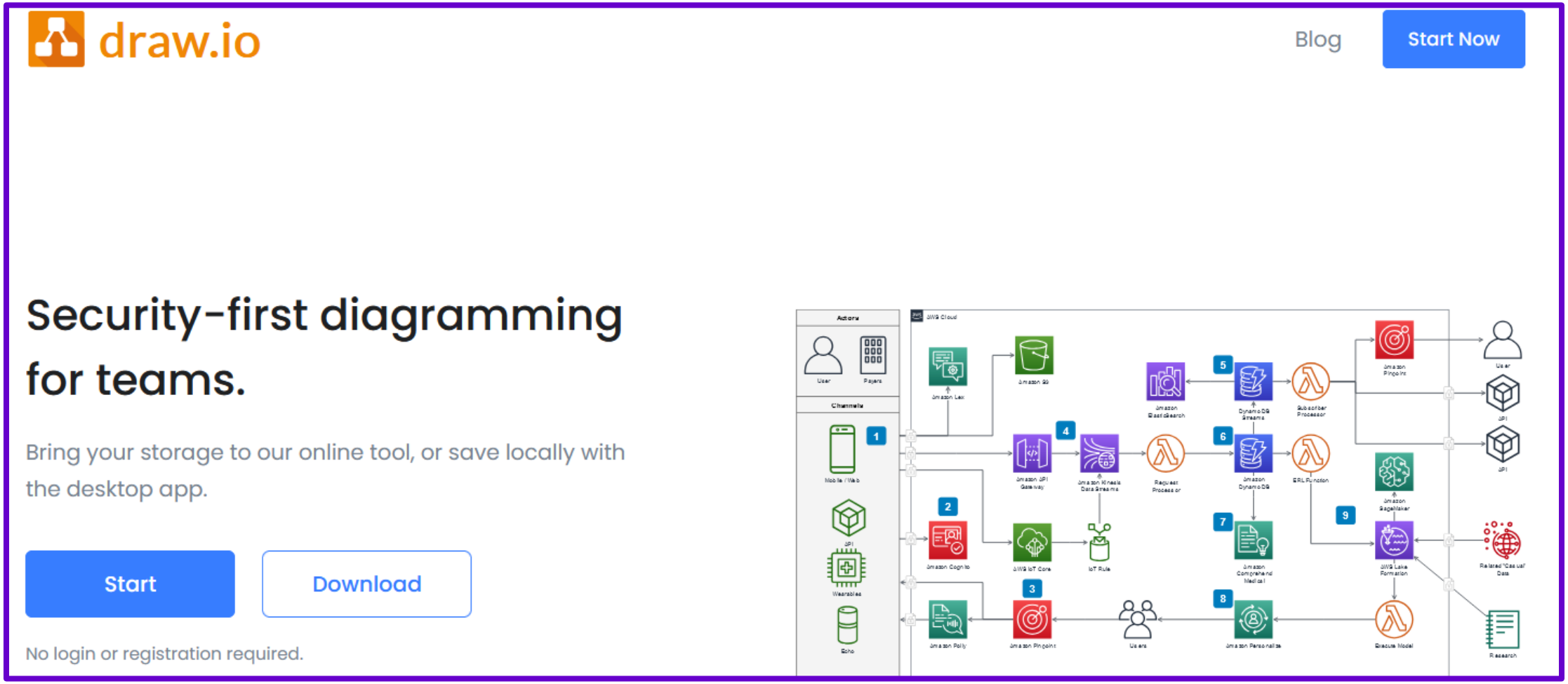
What You Will Learn

UML Design and Modeling

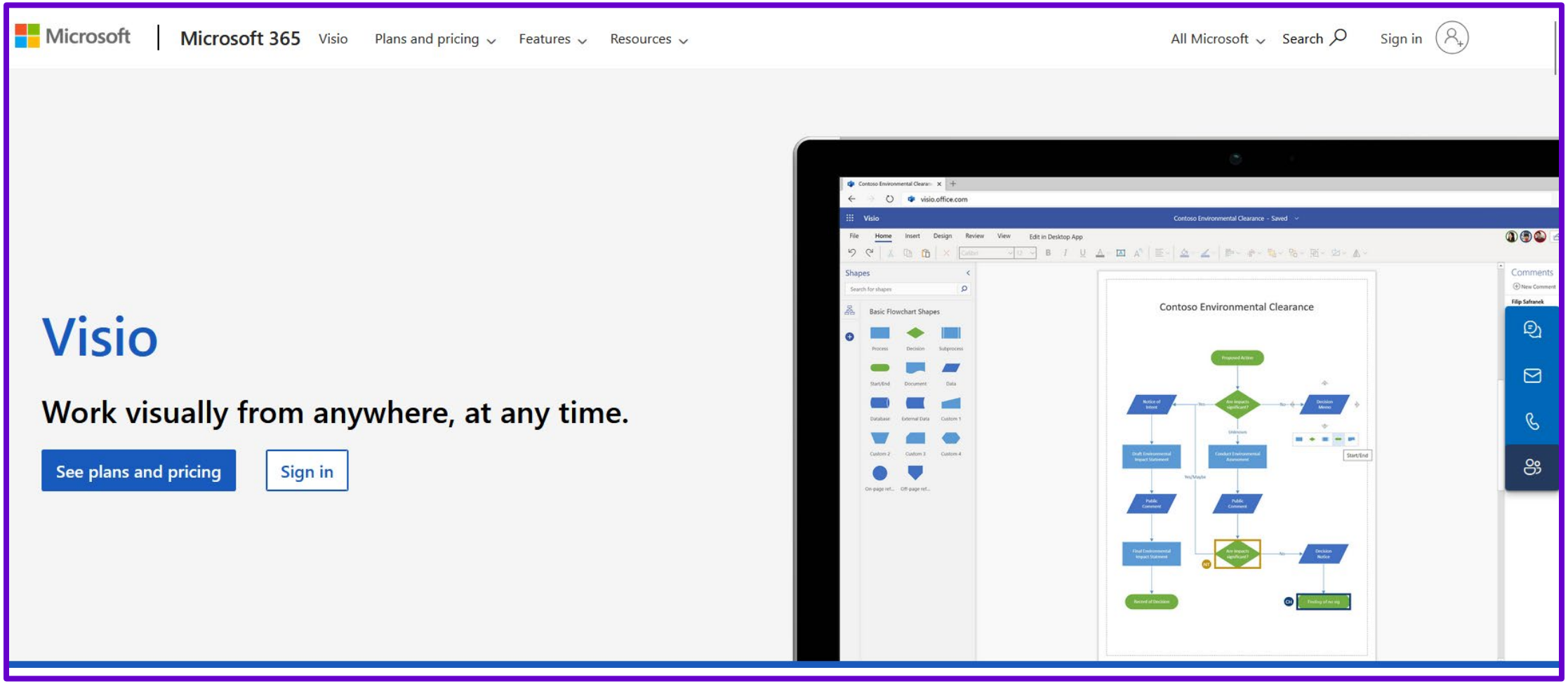


Design and Modeling Tools

General Design and Modeling Tools: Draw.io



General Design and Modeling Tools: Visio



Specialized Design and Modeling Tools: Visual Paradigm

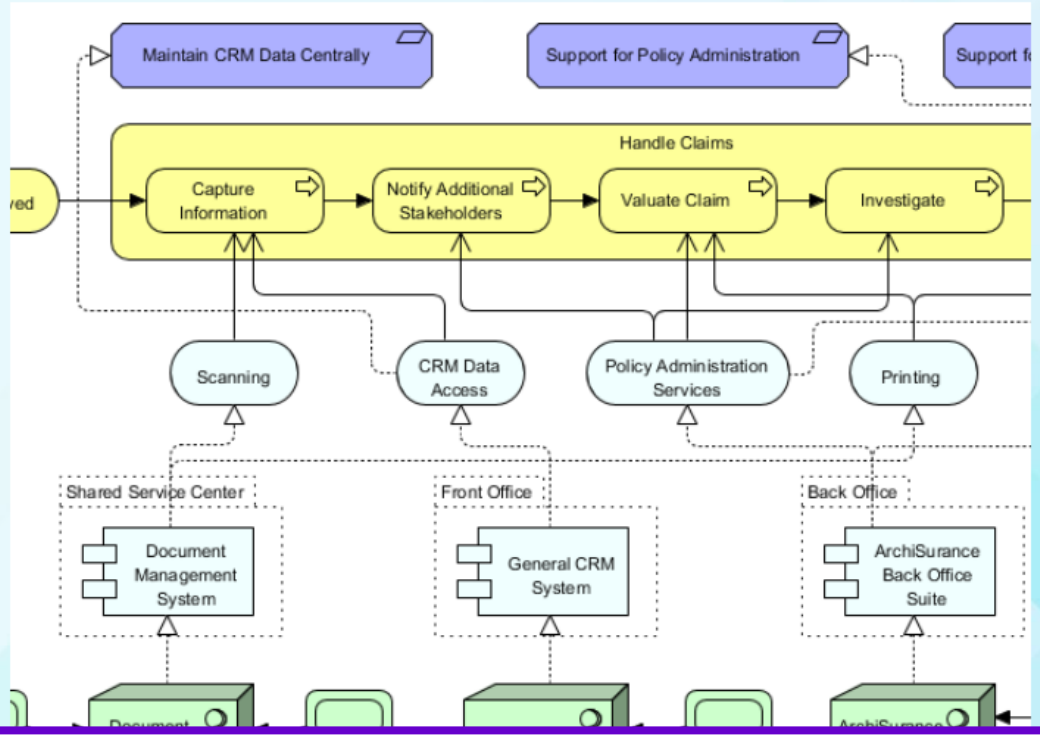
Visual Paradigm

What's New | Features | Tutorials | Support | Pricing | Try Now | Request Demo | VP Online

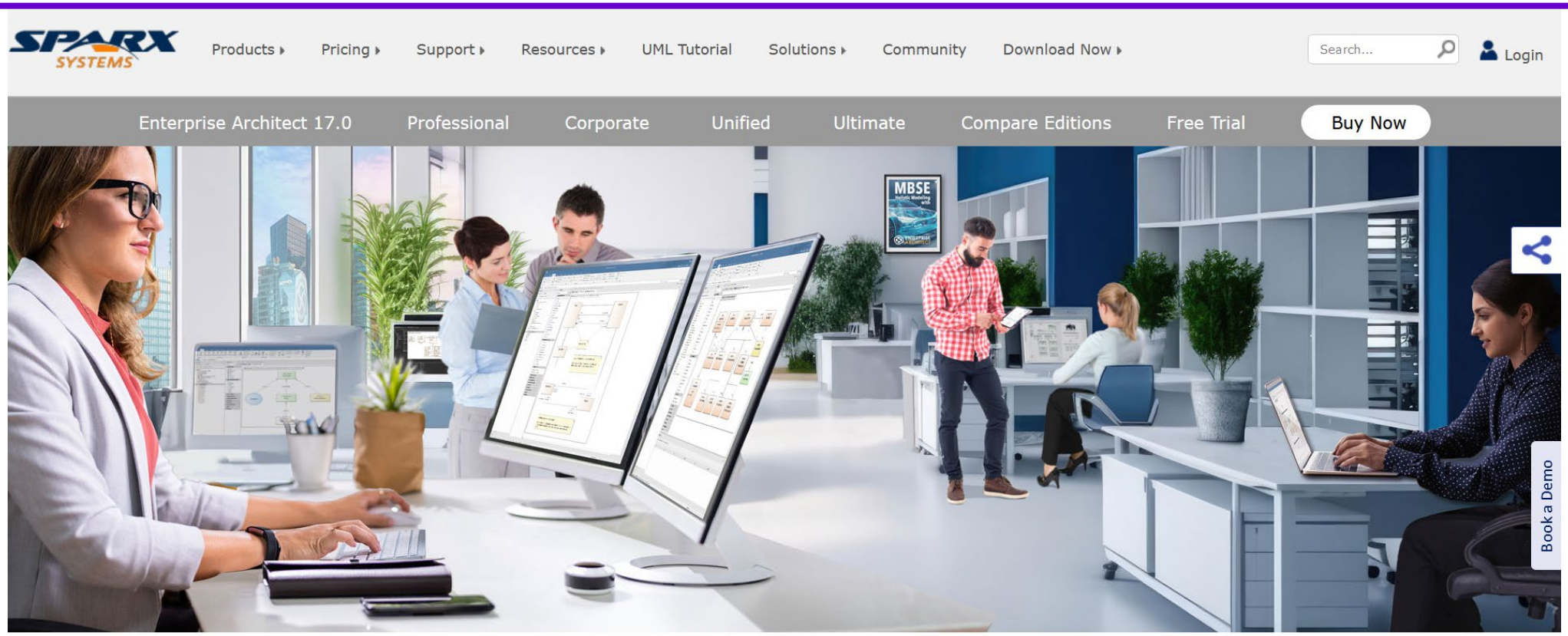
The #1 Development Tool Suite

that drives your project to success

A suite of design, analysis and management tools to drive your IT project development and digital transformation.



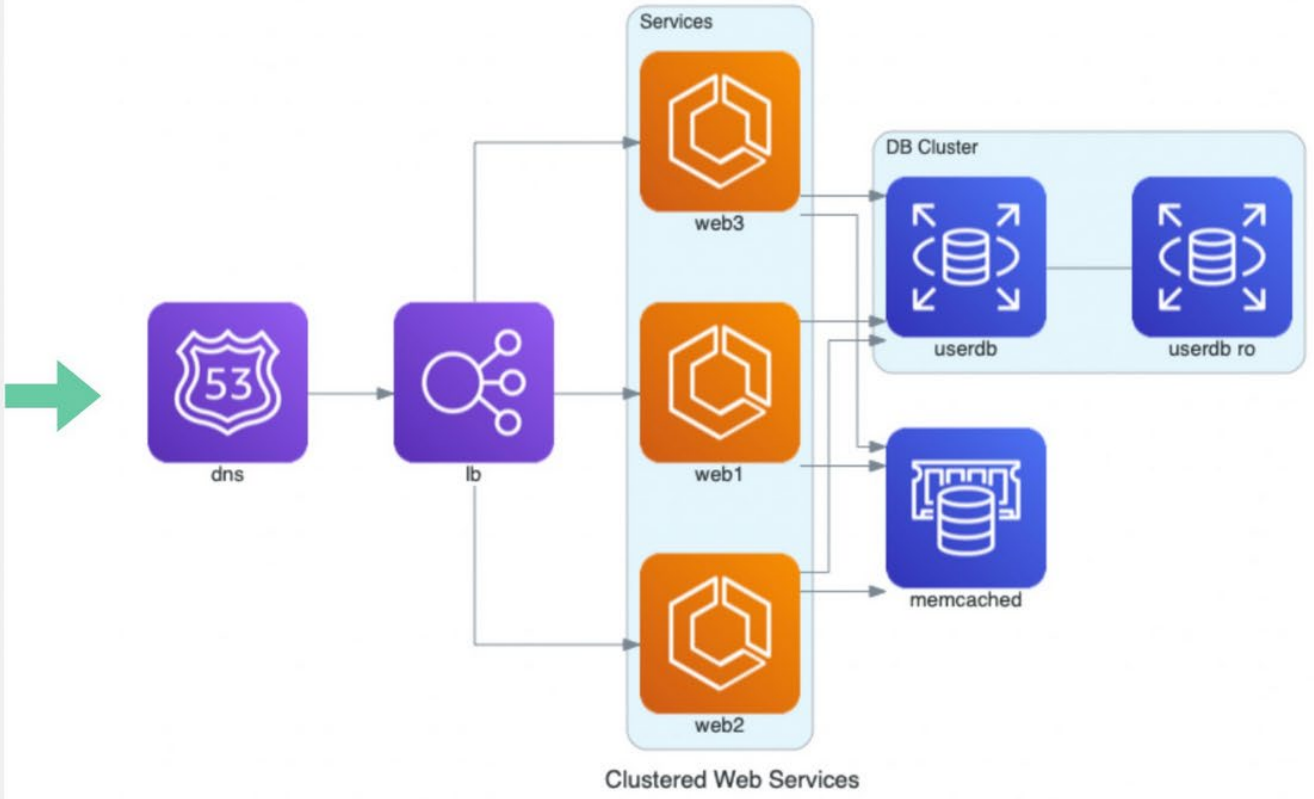
Specialized Design and Modeling Tools: SPARX Enterprise Architect



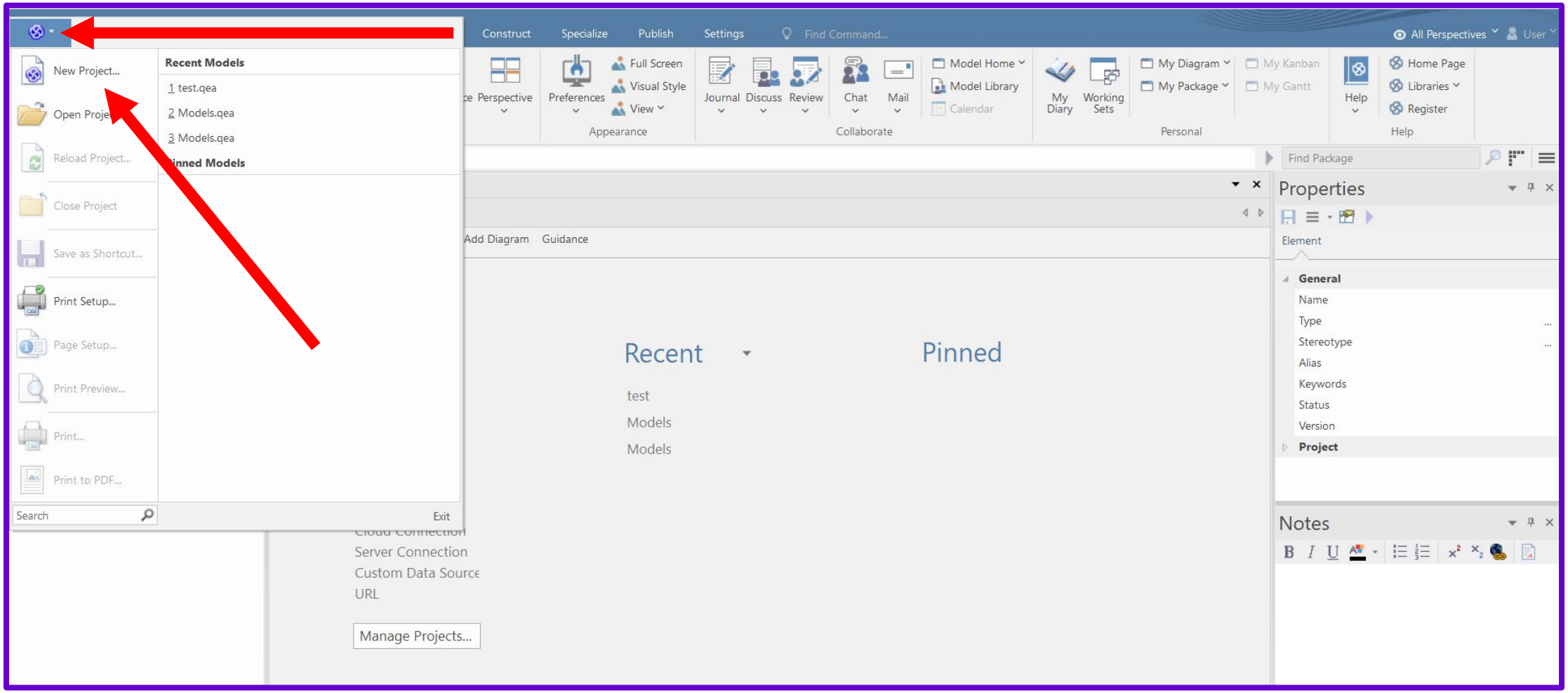
ENTERPRISE ARCHITECT 17.0

Specialized Design and Modeling Tools: Diagram as Code Tools like **Mermaid**

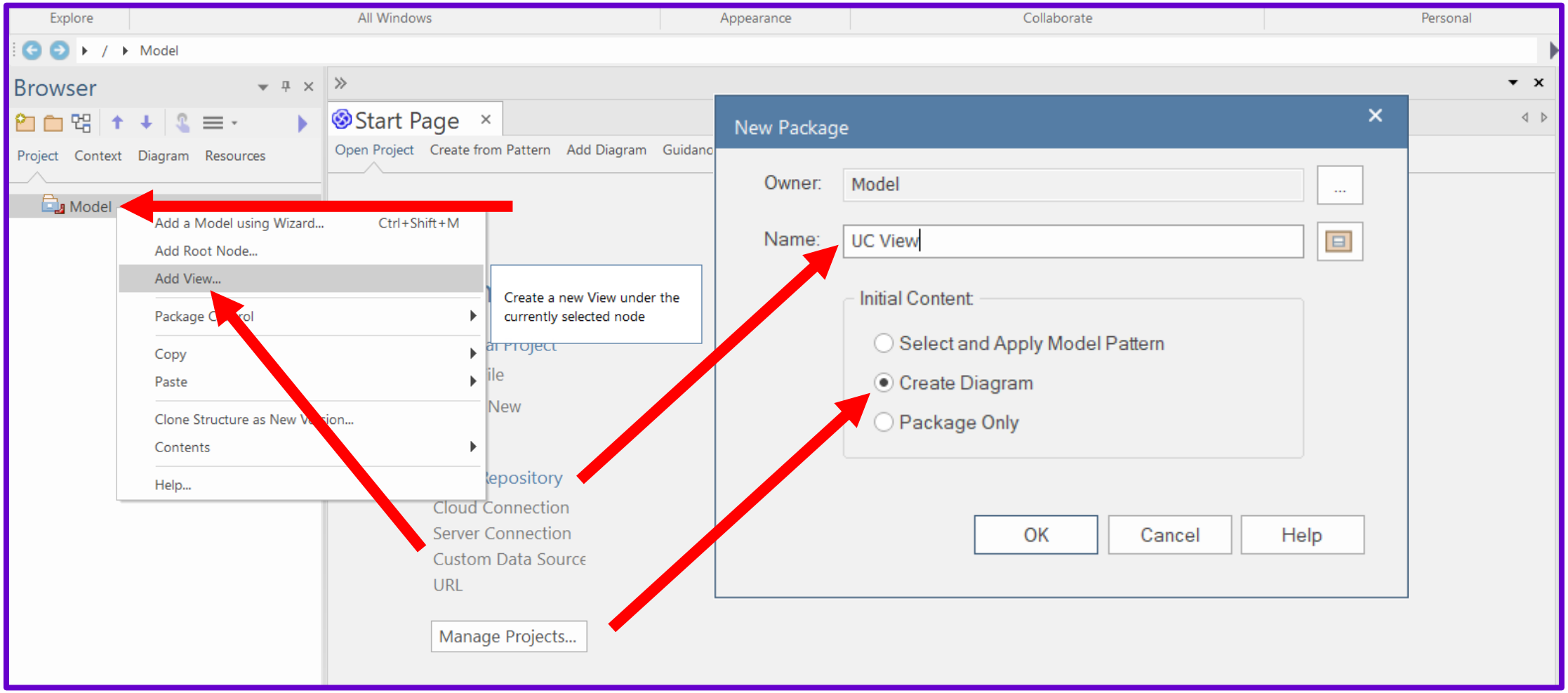
```python
from diagrams import Cluster, Diagram
from diagrams.aws.compute import ECS
from diagrams.aws.database import ElastiCache, RDS
from diagrams.aws.network import ELB
from diagrams.aws.network import Route53

with Diagram("Clustered Web Services", show=False):
    dns = Route53("dns")
    lb = ELB("lb")

    with Cluster("Services"):
        svc_group = [ECS("web1"),
                     ECS("web2"),
                     ECS("web3")]

    with Cluster("DB Cluster"):
        db_primary = RDS("userdb")
        db_primary - [RDS("userdb ro")]

    memcached = ElastiCache("memcached")

    dns >> lb >> svc_group
    svc_group >> db_primary
    svc_group >> memcached
```



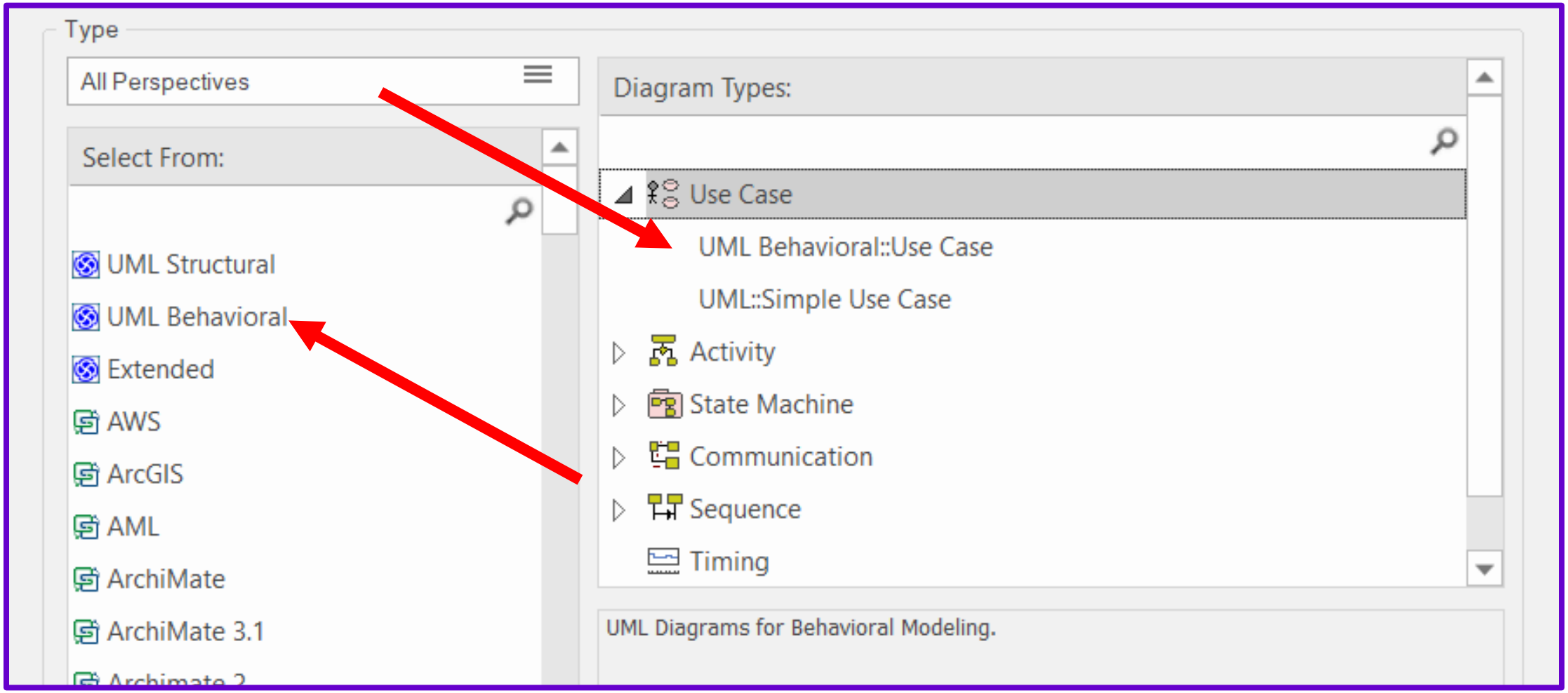
Step 1: Create new project



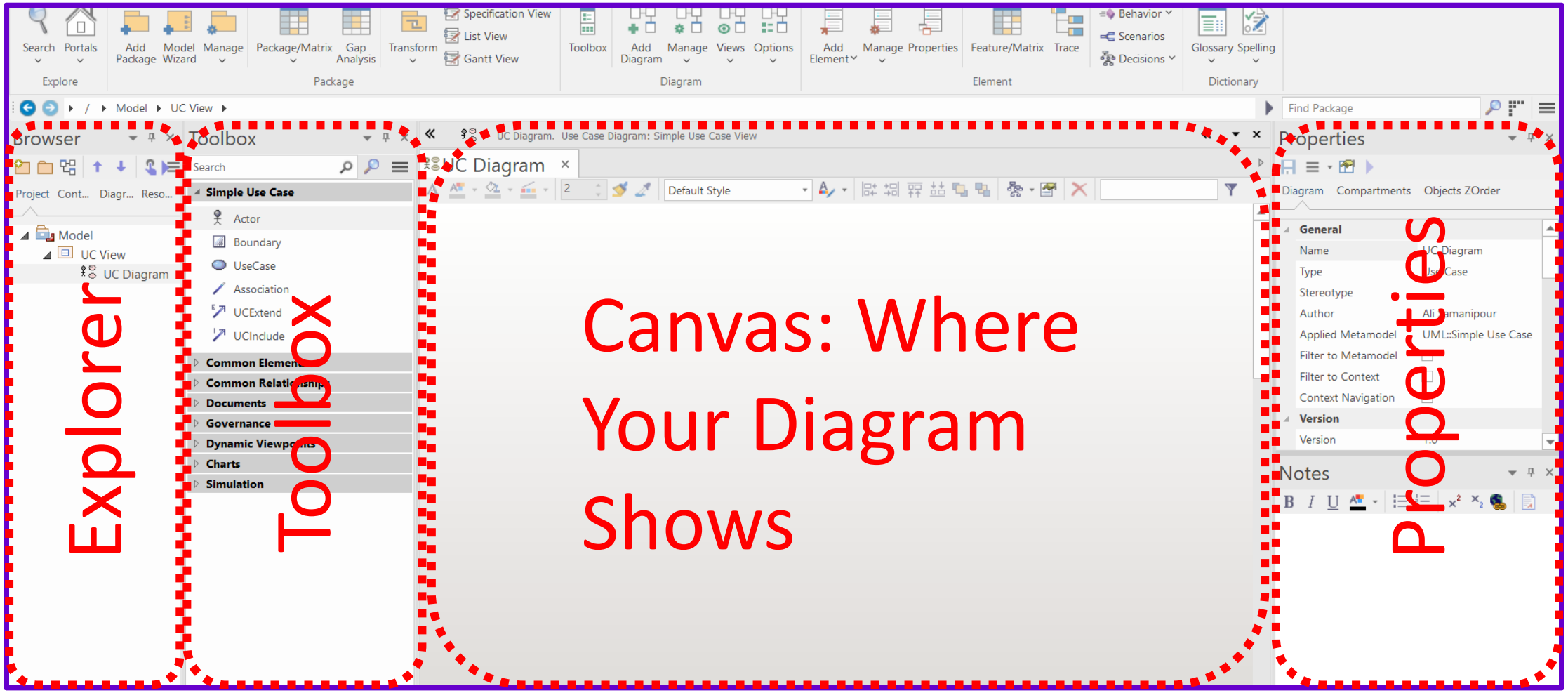
Step 2: Add View (Package) to Model



Step 3: Search & Select Diagram Type



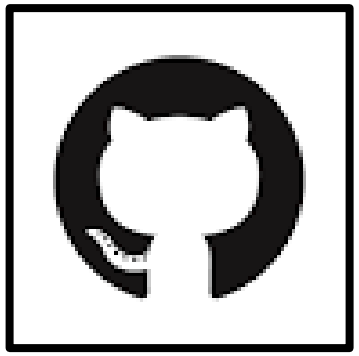
Step 4: Start Modeling



What You Will Learn

- ✓ Scrum Rituals: Daily Standups & Sprint Planning
- ✓ Scrum Artifacts: User Stories

Access to Course Resources



https://github.com/samanipour/Software-Engineering-With-UML.git