

# Essential TOGAF Applied™ Workshop

— UML/BPMN/Tool-independent edition —

**Accelerate your TOGAF project with this intense, interactive workshop that emphasizes pragmatic modeling principles and techniques. This workshop features UML 2 as the architecture description language for TOGAF, with BPMN as an optional business process modeling language. It shows how to apply effective modeling techniques using any UML/BPMN-compliant modeling tool.**

As enterprise systems continue to sprawl into systems-of-systems that are monotonically increasing in complexity, there is an urgent need for large-scale mechanisms to help manage their size and complications. A mechanism that has emerged to help address this problem is the *enterprise architecture framework* (*architecture framework* for short). An **architecture framework is a prefabricated structure that organizes an enterprise architecture into complementary views**, analogous to how a building blueprint is arranged into complementary *plans* (site plan, elevation, floor plan, etc.). The Architecture Forum of The Open Group defined The Open Group Architecture Framework in 1995 to organize enterprise architectures for commercial (non-defense) systems. (Compare the DoD Architecture Framework—DoDAF—which is primarily used for defense systems.) Since that time TOGAF has continuously evolved, and the latest version is TOGAF 9 which was launched in February 2009. TOGAF 9 is a mature architecture framework standard that includes many improvements, including a formal metamodel that links system artifacts, as well as significantly expanded guidelines, templates, and examples.

This introductory TOGAF workshop **provides students with a solid foundation for applying Model-Based Engineering principles and best practices to TOGAF-compliant architectures using UML 2 as the architecture description language, and BPMN as an optional business process modeling language.** The workshop teaches the student **how to solve practical problems using TOGAF views (*architecture domains*) and UML/BPMN diagram types** that are appropriate for their systems. Learning modules are punctuated with frequent Q&A sessions and hands-on practice exercises. Students who desire integrated modeling tool training may also choose versions of this workshop that are customized for popular UML/BPMN modeling tools. (For a list of workshops customized for popular visual modeling tools see the [Training](#) page of the PivotPoint web).

## WHY TRAIN WITH US? – PIVOTPOINT TRAINING ADVANTAGES

- PivotPoint workshops are **authored and taught by Model-Based Engineering experts** with 10+ years practical application experience.
- PivotPoint workshops **are intense (high Instructor/Student ratio) and pragmatic—punctuated with frequent Q&A sessions and hands-on practice exercises.**
- PivotPoint workshops are **based on proven tool-independent principles and techniques**, so you can learn a leading modeling language or architecture framework with/without a modeling tool. (For a list of workshops customized for popular visual modeling tools see the *Training* page on the PivotPoint web.)
- PivotPoint workshops are **modular and can be customized to meet your team and project needs.** To begin with, you can pick-and-choose your modeling language, and then select from modeling tool and architecture framework training options.
- PivotPoint workshops **offer flexible choices of venues (onsite, offsite, webconference) and durations (#days).**

For more details about the advantages of PivotPoint's Model-Based Engineering training check out the [“Why Train with Us?”](#) page on the PivotPoint web. But don't just take our word for it; you should also check out the [Client Testimonials](#) page on our web.

Workshop learning objectives, prerequisites, syllabus, and logistical information are described below.

PIVOTPOINT TECHNOLOGY, MODEL-BASED SOLUTIONS, ESSENTIAL UML APPLIED, ESSENTIAL SYSML APPLIED, ESSENTIAL BPMN APPLIED, ESSENTIAL DODAF APPLIED, ADVANCED UML APPLIED, ADVANCED SYSML APPLIED, ADVANCED BPMN APPLIED, MODEL-BASED REQUIREMENTS ENGINEERING WITH USE CASES, and MODEL-BASED ARCHITECTURE & PROCESS STRATEGY are trademarks of PivotPoint Technology Corporation. UML, BPMN and OMG SYSML are trademarks of the Object Management Group. TOGAF is a trademark of The Open Group. All other trademarks are the property of their respective owners.

## WHAT WILL YOU LEARN?

- What is TOGAF and why do we model enterprise architectures with frameworks?
- TOGAF's essential and supporting products for specifying architectures
- How UML 2 can be used as an Architecture Description Language for TOGAF
- How BPMN can be used as a business process modeling language for TOGAF
- How TOGAF + UML + BPMN can specify large, complex systems
- How TOGAF + UML + BPMN can specify artifacts for the full system lifecycle: requirements through testing
- How to reduce the complexity of mapping UML and BPMN diagrams to TOGAF architecture domains
- Practical guidelines for specifying correct, complete, clear, concise, and consistent TOGAF specifications
- How to select TOGAF/UML/BPMN tools and methods [optional]
- How to architect a TOGAF-compliant system using a selected TOGAF/UML/BPMN tool: (optional; see popular visual modeling tools supported on the *Training* page of the PivotPoint web)
- How to learn more about TOGAF, UML, and BPMN modeling

## WHO SHOULD PARTICIPATE?

Software developers, software engineers, business analysts, systems engineers, system architects, project managers, and others who want to learn how to improve how they specify system models and architectures will benefit from this workshop.

**PREREQUISITES:** Software or systems engineering experience in building large, complex systems. Experience using one or more structured analysis/design, object or component methods is desirable.

## WORKSHOP AUTHOR & CHIEF INSTRUCTOR



**Cris Kobryn** is the CEO and Founder of PivotPoint Technology Corporation, a company that specializes in Model-Based Engineering Solutions™ for tough business and engineering problems. He is an internationally recognized expert in visual modeling and Model-Based Engineering, and has successfully applied these technologies to diverse industries ranging from aerospace-defense and communications to financial services and manufacturing. Cris chaired large international teams of vendors and users to specify the Unified Modeling Language (UML) 1.x and 2.0 standards for software engineering, and the Systems Modeling Language (SysML) 1.0 standard for systems engineering. In recognition of Cris's contributions to the UML the Object Management Group (OMG) presented him with its Distinguished Service Award, and in acknowledgement of his contributions to the SysML the International

Council on Systems Engineering (INCOSE) presented him with its Outstanding Service Award.

**WORKSHOP SYLLABUS:** The workshop syllabus, in a menu form that can be customized to meet your team/project needs, is described at the end of this document. NOTE: This workshop description and syllabus are subject to revision. Check the *Training* page on the PivotPoint web for the most recent update.

**FLEXIBLE VENUES:** All of our workshops are available onsite (at a Client training facility), offsite (at a PivotPoint training facility), and via webconference.

**FOLLOW-UP CONSULTING/MENTORING SERVICES:** All of our workshops can be followed up with consulting/mentoring services that will keep your Model-Based Engineering project on track. Please check out the Consulting services page on the PivotPoint web, or contact us to discuss details.

**SCHEDULING AND COST:** Workshops must be reserved in advance by Purchase Order or prepayment. We generally require at least 4 weeks lead time for scheduling workshops, but longer lead time is desirable to reserve your preferred training dates. Workshop cost depends upon workshop duration (number of days), venue choice (onsite, offsite, webconference), and number of students.

**FURTHER INFORMATION & PRICE QUOTES:** Please visit our web site at [www.PTCorp.com](http://www.PTCorp.com), email us at [workshops@PTCorp.com](mailto:workshops@PTCorp.com), or call us at +1-760-201-0200 to discuss workshop details and receive a price quote.

# WORKSHOP MENU

All PivotPoint workshops include both structured presentations and interactive hands-on work sessions to reinforce learning principles and best practices. In addition, all workshops can be customized to address special project or team requirements.

- **3 day workshop** includes: *TOGAF – Basic, UML 2 – Intermediate, and TOGAF – Intermediate.*
- **4 day workshop** includes: *TOGAF – Basic, UML 2 – Intermediate, TOGAF – Intermediate, and TOGAF/UML/BPMN – Basic Modeling Tool.*
- **5 day workshop** includes: *TOGAF – Basic, UML 2 – Intermediate, and TOGAF – Intermediate, TOGAF/UML/BPMN – Basic Modeling Tool, and TOGAF – Project Practicum.*

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| <p style="text-align: center;"><b>TOGAF – BASIC (UML/BPMN)</b><br/>[Module# FT101-U/B]</p> <p><b>Introduction</b></p> <ul style="list-style-type: none"> <li>• Model-Based Engineering &amp; Architecture Frameworks</li> <li>• Basic concepts</li> <li>• Principles and best practices</li> </ul> <p><b>TOGAF/UPDM Quick Tour</b></p> <ul style="list-style-type: none"> <li>• Framework overview</li> <li>• View and product walkthrough</li> </ul> <p><b>UML Quick Tour</b><br/><i>[If UML crash course or refresher required]</i></p> <p><b>BPMN Quick Tour</b><br/><i>[If BPMN crash course or refresher required]</i></p> <p><b>Diagram Techniques</b></p> <ul style="list-style-type: none"> <li>• UML::Use Case</li> <li>• UML::Class</li> <li>• UML::Sequence</li> <li>• UML::Activity</li> <li>• BPMN::Business Process Diagram</li> </ul> <p><b>TOGAF Architecture Domains</b></p> <ul style="list-style-type: none"> <li>• Business architecture</li> <li>• Applications Architecture</li> </ul> | <p style="text-align: center;"><b>Goals</b></p> <ul style="list-style-type: none"> <li>• Learn about the advantages of a Model-Based Engineering approach that uses architecture frameworks</li> <li>• Understand the basic concepts and principles for modeling complex systems with TOGAF and UML/BPMN</li> <li>• Learn how to apply basic UML/BPMN diagram techniques</li> <li>• Learn how to specify a correct, complete, clear, concise, and consistent TOGAF-compliant system model</li> </ul> |
| <p style="text-align: center;"><b>UML 2 – INTERMEDIATE</b><br/>[Module# LU102]</p> <p><b>Topics</b></p> <ul style="list-style-type: none"> <li>• Model verification and validation</li> <li>• Model integrity guidelines</li> <li>• Model metrics</li> <li>• Interface-based design</li> <li>• Component-based development</li> <li>• Service Oriented Architectures</li> </ul> <p><b>Diagram Techniques</b></p> <ul style="list-style-type: none"> <li>• Composite Structure</li> <li>• State Machine</li> <li>• Component</li> <li>• Deployment</li> <li>• Object</li> <li>• Package</li> <li>• Other Interaction diagrams</li> </ul> <p><b>Lifecycle Phases</b></p> <ul style="list-style-type: none"> <li>• Design</li> <li>• Construction</li> <li>• Testing</li> </ul>   | <p style="text-align: center;"><b>Goals</b></p> <ul style="list-style-type: none"> <li>• Learn how to apply UML 2 to the full System Development Life Cycle (SDLC)</li> <li>• Understand how to make your models more scalable</li> <li>• Learn how to improve the integrity and quality of your models</li> <li>• Understand how to verify and validate your models</li> </ul>  |

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| <p style="text-align: center;"><b>TOGAF – INTERMEDIATE (UML)</b><br/>[Module# FT102-U]</p> <p><b>Topics</b></p> <ul style="list-style-type: none"> <li>Refining Business Architecture and Application Architecture views into Data Architecture and Technical Architecture views</li> <li>Architecture Development Method (ADM)</li> <li>Modeling Service Oriented Architectures</li> </ul> <p><b>TOGAF Architecture Domains</b></p> <ul style="list-style-type: none"> <li>Data Architecture</li> <li>Technical Architecture</li> </ul>   | <p style="text-align: center;"><b>Goals</b></p> <ul style="list-style-type: none"> <li>Learn how Business Architecture and Application Architecture views can be refined into Data Architecture and Technical Architecture views</li> <li>Understand how to specify Service Oriented Architectures using TOGAF architecture domains</li> <li>Learn how ADM can help you design and evaluate your TOGAF-compliant enterprise architecture</li> </ul>                        |
| <p style="text-align: center;"><b>TOGAF – BASIC MODELING TOOL (UML/BPMN):<br/>OPTIONAL</b><br/>[Module# FT111-U/B]</p> <p><i>[All Model-Based Engineering workshops are based on tool-independent principles and best practices. If you have already chosen a TOGAF/UML/BPMN modeling tool, we can integrate optional tool training into your workshop. If you have not, we can help you select one that best meets your project and team needs. For a list of workshops customized for popular visual modeling tools see the Training page of the PivotPoint web.]</i></p> <p><b>Topics</b></p> <ul style="list-style-type: none"> <li>Projects and diagrams</li> <li>Generating documentation</li> <li>Importing/exporting models</li> <li>Requirements verification</li> <li>Model validation and metrics</li> <li>Model simulation/execution</li> </ul> <p><b>Diagram Techniques</b></p> <ul style="list-style-type: none"> <li>UML::Use Case</li> <li>UML::Class</li> <li>UML::Sequence</li> <li>UML::Activity</li> <li>BPMN::Business Process Diagram</li> <li>UML::Composite Structure</li> <li>UML::State Machine</li> <li>Other diagrams TBD</li> </ul> | <p style="text-align: center;"><b>Goals</b></p> <ul style="list-style-type: none"> <li>Gain familiarity with the user interface and basic features of selected TOGAF modeling tool</li> <li>Learn how to model most common TOGAF architecture artifacts using your selected TOGAF modeling tool</li> <li>Understand the strengths and weaknesses of selected modeling tool</li> <li>Assess TOGAF, UML, and BPMN standards compliance for selected modeling tool</li> </ul> |
| <p style="text-align: center;"><b>TOGAF – PROJECT PRACTICUM (UML/BPMN)</b><br/>[Module# FT121-U/B]</p> <p>The project practicum provides an opportunity to apply TOGAF/UML modeling principles and best practices to solve project modeling problems in a creative and supervised workshop environment. The practicum can be used to facilitate:</p> <ul style="list-style-type: none"> <li>TOGAF/UML/BPMN model peer reviews</li> <li>TOGAF/UML/BPMN model revisions and extreme makeovers</li> </ul> <p>Students can identify project modeling problems in advance, or Instructor will work with students to identify them.</p>  | <p style="text-align: center;"><b>Goals</b></p> <ul style="list-style-type: none"> <li>Identify the TOGAF/UML/BPMN principles and best practices that are most important to your team and your project</li> <li>Apply advanced TOGAF/UML/BPMN modeling techniques to a practical problem that you choose</li> </ul>  |