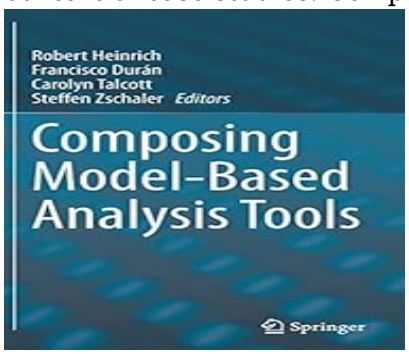
Composing Model-Based Analysis Tools By Robert Heinrich

This book presents joint works of members of the software engineering and formal methods communities with representatives from industry with the goal of establishing the foundations for a common understanding of the needs for more flexibility in model-driven engineering. It is based on the Dagstuhl Seminar 19481 „Composing Model-Based Analysis Tools“ which was held November 24 to 29 2019 at Schloss Dagstuhl Germany where current challenges their background and concepts to address them were discussed. The book is structured in two parts and organized around five fundamental core aspects of the (1) the composition of languages models and analyses; (2) the integration and orchestration of analysis tools; (3) the continual analysis of models; (4) the exploitation of results; and (5) the way to handle uncertainty in model-based developments. After a chapter on foundations and common terminology and a chapter on challenges in the field one chapter is devoted to each of the above five core aspects in the first part of the book. These core chapters are accompanied by additional case studies in the second part of the book in which specific tools and experiences are presented in more detail to illustrate the concepts and ideas previously introduced. The book mainly targets researchers in the fields of software engineering and formal methods as well as software engineers from industry with basic familiarity with quality properties model-driven engineering and analysis tools. From reading the book researchers will receive an overview of the state-of-the-art and current challenges research directions and recent concepts while practitioners will be interested to learn about concrete tools and practical applications in the context of case studies. Composing Model-Based Analysis Tools



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