Creating traceability links in a project may appear to be a simple task, but it can be quite difficult to accomplish in practice. The difficulty arises in large projects where there may be tens of thousands of regulatory codes, requirements, design components, classes and test cases. Under these circumstances, the traceability effort can be overwhelming in terms of cost and effort, and the resulting traceability links are often incomplete and inaccurate. To address these challenges, numerous research teams have been working to automate the process of traceability creation.

This part of the book presents a variety of techniques that are representative of the state of art with respect to traceability creation. The chapter by De Lucia et al. presents an overview of “Information Retrieval Methods for Automated Traceability Recovery” while the chapter by Ali et al. looks at some of the specific “Factors Impacting the Inputs of Traceability Recovery Approaches”. The chapter by Asuncion and Taylor presents an alternate approach to instrument a software development environment and capture traceability links in situ as developers perform their tasks, “Automated Techniques for Capturing Custom Traceability Links Across Heterogeneous Artifacts”. Finally, the chapter on “Using Rules for Traceability Creation” describes a rule-based approach for automatically creating trace relationships and for identifying missing elements according to previously defined rules.