This paper presents an approach to introduce performance awareness in integrated development environments (IDE) for Java Enterprise Edition (EE) applications. The approach predicts the response time of EE component operations during implementation time and presents these predictions within an IDE. Source code is parsed and represented as an abstract syntax tree (AST). This structure is converted into a Palladio Component Model (PCM). Calls to other Java EE component operations are represented as external service calls in the model. These calls are parameterized with monitoring data acquired by Kieker from Java EE servers. Immediate predictions derived using analytical techniques are provided each time changes to the code are saved. The prediction results are always visible within the source code editor, to guide developers during the component development process. In addition to this immediate feedback mechanism, developers can explicitly trigger a more extensive response time prediction for the whole
component using simulation. The paper covers the conceptional approach, the current state of the implementation and sketches for the user interface.

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