The Prague Dependency Treebank (PDT) is a valuable resource of linguistic information annotated on several layers. These layers range from shallow to deep and they should contain all the linguistic information about the text. The natural extension is to add a semantic layer suitable as a knowledge base for tasks like question answering, information extraction etc. In this thesis I set up criteria for this representation, explore the possible formalisms for this task and discuss their properties. One of them, Multilayered Extended Semantic Networks (MultiNet), is chosen for further investigation. Its properties are described and an annotation process set up. I discuss some practical modifications of MultiNet for the purpose of manual annotation. MultiNet elements are compared to the elements of the deep linguistic layer of PDT. The tools and problems of the annotation process are presented and initial annotation data evaluated.