The aim of web services is to make data resources available over the Internet to applications (programs) written in any language. There are two approaches to web services: SOAP (where "SOAP" stands for "Simple Object Access Protocol) -based and RESTful (where "REST" stands for "Representational State Transfer). RESTful Web services have now been recognized as generally the most useful methods to provide data-services for web and mobile application development.

The aim of the thesis is to study the concept of RESTful web services in depth and to construct a catalogue of patterns for designing data-intensive web services. The aim of the catalogue is to act as a guide for practical design of web services for application development.