Abstract: The following thesis work is focused on developing a decentralized web-based storage solution based on Solid project for the LinkedPipes Applications platform and demonstrate the full benefits of decentralized storage and the Solid technology. The Solid project, started by Sir Tim Berners-Lee, is focused on decentralizing the World Wide Web and decoupling data from applications on the Internet. The results of the practical work satisfy all defined functional and non-functional requirements stated by the LinkedPipes Applications project. The results of the work are integrated into the LinkedPipes Applications platform as a set of several software libraries allowing interaction with Solid Servers.