

2º Pratical Assignment - Report

Report – MIEIC

Course: Sistemas Distribuidos

Authors:

* Ana Rita Fonseca Santos –  [up201605240@fe.up.pt](mailto:up201707291@fe.up.pt)
* André Filipe da Silva Moutinho – [up201704889@fe.up.pt](mailto:up201704889@fe.up.pt)
* Eduardo João Santana Macedo – [up201703658@fe.up.pt](mailto:%75p%32%301%37%303%36%358@%66%65%2eu%70%2e%70t)
* Sérgio Bruno Rodrigues Dias – [up201704889@fe.up.pt](mailto:up201704889@fe.up.pt)

**Maio 2020**

**Academic Year 2019 / 2020**

**Índice**

[**1.** **Introduction** 3](#_Toc40824013)

[**2.** **Overview** 3](#_Toc40824014)

[**3.** **Protocols** 3](#_Toc40824015)

[**3.1.** **Backup** 4](#_Toc40824016)

[**3.2.** **Restore** 4](#_Toc40824017)

[**3.3.** **Delete** 4](#_Toc40824018)

[**4.** **Concurrency Implementation** 4](#_Toc40824019)

[**5.** **JSSE** 4](#_Toc40824020)

[**6.** **Scalability** 4](#_Toc40824021)

[**7.** **Fault-tolerance** 4](#_Toc40824022)

# **Introduction**

This report serves as a complement for the second practical assignment, having the purpose of specifying the design and implementation of the backup service. It also describes the extra features that were implemented to raise the project’s grade’s ceiling.

# **Overview**

The implemented solution allows for the backup, restore and deletion of files. There is also a state operation, which shows the client the storage status and the files that a give peer has initiated backup for.

JSSE was used for secure communication. Although the project members planned and attempted to use the more complex interface **SSLEngine**, the difficulties encountered in the process and shortage of time led to the decision of changing the communication mechanism halfway through the project development. Therefore, the final solution uses **SSLSocket** instead**.**

As for the scalability and fault-tolerance, those are ensured at the design level. The implemented design is decentralized and conforms with the Chord protocol/algorithm, which was incorporated to satisfy both requirements.

.

# **Protocols**

# **Backup**

Start here

# **Restore**

Start here

# **Delete**

Start here

# **Concurrency Implementation**

# **JSSE**

# **Scalability**

# **Fault-tolerance**