



**<<Interface>>
IMessageService**

```
+ addOrUpdate(MessageDTO): MessageDTO
+ delete(String): void
+ findAll(void): List<MessageDTO>
+ findById(String): MessageDTO
+ findByHoroLessThanEqual(LocalDateTime): List<MessageDTO>
+ findByHoroGreaterThanEqual(LocalDateTime): List<MessageDTO>
+ findByHoroBetween(LocalDateTime, LocalDateTime): List<MessageDTO>
+ findBySenderId(String): List<MessageDTO>
+ findBySenderIdAndHoroLessThanEqual(String, LocalDateTime): List<MessageDTO>
+ findBySenderIdAndHoroGreaterThanEqual(String, LocalDateTime): List<MessageDTO>
+ findBySenderIdAndHoroBetween(String, LocalDateTime, LocalDateTime): List<MessageDTO>
+ findByReceiverId(String): List<MessageDTO>
+ findByReceiverIdAndHoroLessThanEqual(String, LocalDateTime): List<MessageDTO>
+ findByReceiverIdAndHoroGreaterThanEqual(String, LocalDateTime): List<MessageDTO>
+ findByReceiverIdAndHoroBetween(String, LocalDateTime, LocalDateTime): List<MessageDTO>
+ findBySenderIdAndReceiverId(String, String): List<MessageDTO>
+ findBySenderIdAndReceiverIdAndHoroLessThanEqual(String, String, LocalDateTime): List<MessageDTO>
+ findBySenderIdAndReceiverIdAndHoroGreaterThanEqual(String, String, LocalDateTime): List<MessageDTO>
+ findBySenderIdAndReceiverIdAndHoroBetween(String, String, LocalDateTime, LocalDateTime): List<MessageDTO>
```

MessageService

```
- messageRepository: MessageRepository
```

**<<Interface>>
ITransactionService**

```
+ addOrUpdate(TransactionDTO): TransactionDTO
+ delete(String): void
+ findAll(void): List<TransactionDTO>
+ findById(int): TransactionDTO
+ findByTransactionNumber(String): TransactionDTO
+ findByTransactionDate(DateTime): List<TransactionDTO>
+ findBySenderId(int): List<TransactionDTO>
+ findByReceiver(int): List<TransactionDTO>
+ findByState(TxState): List<TransactionDTO>
+ findByTransactionDateAndSenderId(DateTime, String): List<TransactionDTO>
+ findByTransactionDateAndReceiverId(DateTime, String): List<TransactionDTO>
+ findBySenderIdAndReceiverId(String, String): List<TransactionDTO>
+ findByTransactionDateAndState(DateTime, TxState): List<TransactionDTO>
```

TransactionService

```
- transactionRepository: TransactionRepository
```

