

LAPORAN PRAKTIKUM GUIDED&UNGUIDED

KONTRUKSI PERANGKAT LUNAK

MODUL 8



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PROGRAM STUDI S1 REKAYASA PERANGKAT LUNAK

FAKULTAS INFORMATIKA

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A. Sourcode :

1. banktransferapp.js

```
const readline = require('readline');
const BankTransferConfig = require('../config/BankTransferConfig');

class BankTransferApp {
  constructor() {
    this.config = new BankTransferConfig().config;
    this.rl = readline.createInterface({
      input: process.stdin,
      output: process.stdout
    });
  }

  askQuestion(query) {
    return new Promise(resolve => this.rl.question(query, resolve));
  }

  async run() {
    const lang = this.config.lang;
    const promptAmount = lang === "en" ?
      "Please insert the amount of money to transfer: " :
      "Masukkan jumlah uang yang akan di-transfer: ";

    const amountStr = await this.askQuestion(promptAmount);
    const amount = parseFloat(amountStr);
    const fee = amount <= this.config.transfer.threshold
      ? this.config.transfer.low_fee
      : this.config.transfer.high_fee;
    const total = amount + fee;

    if (lang === "en") {
      console.log(`Transfer fee = ${fee}`);
      console.log(`Total amount = ${total}`);
    } else {
      console.log(`Biaya transfer = ${fee}`);
      console.log(`Total biaya = ${total}`);
    }

    console.log(lang === "en" ? "Select transfer method:" : "Pilih metode transfer:");
    this.config.methods.forEach((method, idx) => {
      console.log(`${idx + 1}. ${method}`);
    });

    await this.askQuestion(lang === "en" ? "Choose a method (press Enter after): " : "Pilih metode (tekan Enter setelah): ");
    const confirmationPrompt = lang === "en" ?
      `Please type "${this.config.confirmation.en}" to confirm the transaction: ` :
      `Ketik "${this.config.confirmation.id}" untuk mengkonfirmasi transaksi: `;
    const confirmationInput = await this.askQuestion(confirmationPrompt);

    if (
      (lang === "en" && confirmationInput.trim().toLowerCase() === this.config.confirmation.en) ||
      (lang === "id" && confirmationInput.trim().toLowerCase() === this.config.confirmation.id)
    ) {
      console.log(lang === "en" ? "The transfer is completed" : "Proses transfer berhasil");
    } else {
      console.log(lang === "en" ? "Transfer is cancelled" : "Transfer dibatalkan");
    }

    this.rl.close();
  }
}

module.exports = BankTransferApp;
```

2. banktransferconfig.js

```
const fs = require('fs');
const path = require('path');

class BankTransferConfig {
  constructor() {
    this.configPath = path.join(__dirname, '../data/bank_transfer_config.json');
    this.defaultConfig = {
      lang: "en",
      transfer: {
        threshold: 25000000,
        low_fee: 6500,
        high_fee: 15000
      },
      methods: ["RTO (real-time)", "SKN", "RTGS", "BI FAST"],
      confirmation: {
        en: "yes",
        id: "ya"
      }
    };
    this.config = this.loadConfig();
  }

  loadConfig() {
    if (fs.existsSync(this.configPath)) {
      const data = fs.readFileSync(this.configPath, 'utf8');
      return JSON.parse(data);
    } else {
      this.saveConfig(this.defaultConfig);
      return this.defaultConfig;
    }
  }

  saveConfig(config) {
    fs.writeFileSync(this.configPath, JSON.stringify(config, null, 2));
  }
}

module.exports = BankTransferConfig;
```

3. bank_transfer_config.json

```
{
  "lang": "en",
  "transfer": {
    "threshold": 25000000,
    "low_fee": 6500,
    "high_fee": 15000
  },
  "methods": ["RTO (real-time)", "SKN", "RTGS", "BI FAST"],
  "confirmation": {
    "en": "yes",
    "id": "ya"
  }
}
```

4. Index.js

```
const BankTransferApp = require('./app/BankTransferApp');
const app = new BankTransferApp();
app.run();
```

B. Output

1. Transfer Berhasil

```
Please insert the amount of money to transfer: 93500
Transfer fee = 6500
Total amount = 100000
Select transfer method:
1. RTO (real-time)
2. SKN
3. RTGS
4. BI FAST
Choose a method (press Enter after): 1
Please type "yes" to confirm the transaction: yes
The transfer is completed
```

2. Transfer gagal

```
Please insert the amount of money to transfer: 503500
Transfer fee = 6500
Total amount = 510000
Select transfer method:
1. RTO (real-time)
2. SKN
3. RTGS
4. BI FAST
Choose a method (press Enter after): 1
Please type "yes" to confirm the transaction: no
Transfer is cancelled
```

3. Deskripsi Program

Aplikasi ini adalah sistem simulasi transfer bank berbasis Node.js yang dirancang untuk memproses transaksi perbankan secara virtual dengan pengaturan runtime yang fleksibel. Pengguna dapat menentukan jumlah uang yang ingin ditransfer, memilih metode transfer yang tersedia, dan mengonfirmasi transaksi untuk menyelesaikannya. Seluruh konfigurasi aplikasi — seperti bahasa, biaya transfer, dan pilihan metode transfer — dikelola melalui file JSON eksternal, sehingga memungkinkan penyesuaian tanpa harus mengubah kode inti dari aplikasi.