# WEEK 7 DN 4.0 JAVA FSE HANDS on

**EXERCISE : 9 CRICKET APP**

ListofPlayers.js

```
// ListofPlayers.js
import React from 'react';

const ListofPlayers = () => {
  const players = [
    { name: 'Rohit', score: 90 },
    { name: 'Virat', score: 80 },
    { name: 'Dhoni', score: 60 },
    { name: 'Rahul', score: 45 },
    { name: 'Bumrah', score: 78 },
    { name: 'Jadeja', score: 56 },
    { name: 'Ashwin', score: 50 },
    { name: 'Shami', score: 72 },
    { name: 'Pant', score: 67 },
    { name: 'Hardik', score: 85 },
    { name: 'Gill', score: 95 }
  ];

  // Filter players with score < 70 using arrow function
  const below70 = players.filter(player => player.score < 70);

  return (
    <div>
      <h2>All Players</h2>
      <ul>
        {players.map((p, index) => (
          <li key={index}>{p.name} - {p.score}</li>
        ))}
      </ul>

      <h2>Players with score below 70</h2>
      <ul>
        {below70.map((p, index) => (
          <li key={index}>{p.name} - {p.score}</li>
        ))}
      </ul>
    </div>
  );
};
```

```
export default ListofPlayers;
```

IndianPlayers.js

```
// IndianPlayers.js
import React from 'react';

const IndianPlayers = () => {
  const team = ['Rohit', 'Virat', 'Dhoni', 'Rahul', 'Bumrah', 'Jadeja', 'Ashwin', 'Shami'];

  // Destructuring and odd-even team display
  const oddTeam = team.filter((_, index) => index % 2 !== 0);
  const evenTeam = team.filter((_, index) => index % 2 === 0);

  // Merging two arrays using ES6 spread operator
  const T20players = ['Rohit', 'Virat', 'Rahul'];
  const RanjiTrophy = ['Pujara', 'Saha', 'Vihari'];
  const allPlayers = [...T20players, ...RanjiTrophy];

  return (
    <div>
      <h2>Even Team Players</h2>
      <ul>
        {evenTeam.map((name, index) => <li key={index}>{name}</li>)}
      </ul>

      <h2>Odd Team Players</h2>
      <ul>
        {oddTeam.map((name, index) => <li key={index}>{name}</li>)}
      </ul>

      <h2>Merged Players (T20 + Ranji)</h2>
      <ul>
        {allPlayers.map((p, index) => <li key={index}>{p}</li>)}
      </ul>
    </div>
  );
};

export default IndianPlayers;
```

App.js

```
// App.js
import React from 'react';
import ListofPlayers from './ListofPlayers';
import IndianPlayers from './IndianPlayers';

function App() {
  const flag = true; // Set to false to toggle components
```

```
  return (
    <div className="App">
      <h1>🏏 Cricket App</h1>
      {flag ? <ListofPlayers /> : <IndianPlayers />}
    </div>
  );
}

export default App;
```

**EXERCISE : 10 OFFICESPACE RENTAL APP**

App.js

```
// App.js
import React from 'react';
import './App.css';

function App() {
  // Heading JSX
  const heading = <h1>🏢 Office Space Rental App</h1>;

  // Image URL of office space
  const imageUrl = "https://images.unsplash.com/photo-1570129477492-45c003edd2be";

  // Single office object
  const office = {
    name: "TechSpace",
    rent: 55000,
    address: "123, Residency Road, Bangalore"
  };

  // List of offices
  const officeList = [
    { name: "InnovateHub", rent: 45000, address: "Koramangala, Bangalore" },
    { name: "WorkNest", rent: 65000, address: "Indiranagar, Bangalore" },
    { name: "StartX", rent: 30000, address: "HSR Layout, Bangalore" },
    { name: "ScaleUp HQ", rent: 78000, address: "MG Road, Bangalore" }
  ];

  // Style function for rent color
  const getRentStyle = (rent) => ({
    color: rent < 60000 ? 'red' : 'green',
    fontWeight: 'bold'
  });

  return (
    <div className="App">
      {heading}
```

```
    <img src={imageUrl} alt="Office Space" width="400" style={{ borderRadius: "10px", marginBottom: "20px"
}} />

    <h2>Featured Office</h2>
    <p><strong>Name:</strong> {office.name}</p>
    <p><strong>Rent:</strong> <span style={getRentStyle(office.rent)}>{office.rent}</span></p>
    <p><strong>Address:</strong> {office.address}</p>

    <h2>Available Offices</h2>
    <ul>
     {officeList.map((item, index) => (
       <li key={index}>
         <strong>{item.name}</strong> -
         <span style={getRentStyle(item.rent)}> ₹{item.rent}</span> -
         {item.address}
       </li>
     ))}
    </ul>
   </div>
  );
}

export default App;
```

**EXERCISE : 11 CURRENCY CONVERTER**

```
// App.js
import React, { Component } from 'react';
import './App.css';

class CurrencyConvertor extends Component {
  constructor(props) {
    super(props);
    this.state = {
      rupees: '',
      euro: '',
    };
  }

  handleSubmit = (e) => {
    e.preventDefault();
    const euro = (this.state.rupees / 89.6).toFixed(2); // Sample conversion rate
    this.setState({ euro });
  };

  handleChange = (e) => {
    this.setState({ rupees: e.target.value });
  };
```

```
  render() {
    return (
      <div>
        <h2>💱 Currency Convertor</h2>
        <form onSubmit={this.handleSubmit}>
          <input
            type="number"
            placeholder="Enter INR"
            value={this.state.rupees}
            onChange={this.handleChange}
          />
          <button type="submit">Convert</button>
        </form>
        {this.state.euro && (
          <p>Euro: <strong>€{this.state.euro}</strong></p>
        )}
      </div>
    );
  }
}

class App extends Component {
  constructor(props) {
    super(props);
    this.state = {
      count: 0,
      message: ''
    };
  }

  increment = () => {
    this.setState({ count: this.state.count + 1 });
    this.sayHello(); // calling another method
  };

  decrement = () => {
    this.setState({ count: this.state.count - 1 });
  };

  sayHello = () => {
    this.setState({ message: "Hello! This is a static message after increment." });
  };

  sayWelcome = (msg) => {
    this.setState({ message: msg });
  };
```

```
  handleClick = (event) => {
    this.setState({ message: "I was clicked (Synthetic Event)" });
    console.log(event); // Synthetic Event
  };

  render() {
    return (
      <div className="App">
        <h1>🎯 React Event Handling Assignment</h1>

        <h2>Counter: {this.state.count}</h2>
        <button onClick={this.increment}>Increment</button>{' '}
        <button onClick={this.decrement}>Decrement</button>

        <br /><br />
        <button onClick={() => this.sayWelcome("Welcome to React Event Handling!")}>Say Welcome</button>

        <br /><br />
        <button onClick={this.handleClick}>Click Me (Synthetic Event)</button>

        <br /><br />
        <p style={{ fontWeight: "bold", color: "#444" }}>{this.state.message}</p>

        <hr />

        <CurrencyConvertor />
      </div>
    );
  }
}

export default App;
```

**EXERCISE : 12 TICKET BOOKING APP**

```
// App.js
import React, { useState } from 'react';
import './App.css';

function GuestPage() {
  return (
    <div>
      <h2>🛬 Welcome, Guest!</h2>
      <p>You can only view available flight details. Please login to book tickets.</p>
      <ul>
        <li>Flight: Air India - Bangalore to Delhi - ₹5000</li>
        <li>Flight: Indigo - Chennai to Mumbai - ₹4500</li>
      </ul>
    </div>
```

```
  );
}

function UserPage({ onLogout }) {
  return (
    <div>
      <h2>👨‍🦱 Welcome, User!</h2>
      <p>You can book your tickets here:</p>
      <ul>
        <li>
          Flight: Air India - ₹5000
          <button style={{ marginLeft: '10px' }}>Book</button>
        </li>
        <li>
          Flight: Indigo - ₹4500
          <button style={{ marginLeft: '10px' }}>Book</button>
        </li>
      </ul>
      <button onClick={onLogout}>Logout</button>
    </div>
  );
}

function App() {
  const [isLoggedIn, setIsLoggedIn] = useState(false);

  const handleLogin = () => {
    setIsLoggedIn(true);
  };

  const handleLogout = () => {
    setIsLoggedIn(false);
  };

  let page;

  if (isLoggedIn) {
    page = <UserPage onLogout={handleLogout} />;
  } else {
    page = <GuestPage />;
  }

  return (
    <div className="App">
      <h1>🎫 Ticket Booking App</h1>
      {isLoggedIn ? null : <button onClick={handleLogin}>Login</button>}
      {page}
    </div>
```

```
  );
}

export default App;
```

**EXERCISE : 13 BLOGGER APP**

```
// App.js
import React, { useState } from 'react';
import './App.css';

// BookDetails Component
function BookDetails() {
  const books = [
    { id: 1, title: "React Explained", author: "Zac Gordon" },
    { id: 2, title: "Learning JavaScript", author: "Ethan Brown" },
    { id: 3, title: "You Don’t Know JS", author: "Kyle Simpson" }
  ];

  return (
    <div>
      <h2>📚 Book Details</h2>
      <ul>
        {books.map(book => (
          <li key={book.id}><strong>{book.title}</strong> by {book.author}</li>
        ))}
      </ul>
    </div>
  );
}

// BlogDetails Component
function BlogDetails() {
  const blogs = [
    { id: 101, topic: "React Hooks", writer: "Alice" },
    { id: 102, topic: "State vs Props", writer: "Bob" },
  ];

  return (
    <div>
      <h2>📝 Blog Details</h2>
      <ul>
        {blogs.map(blog => (
          <li key={blog.id}>{blog.topic} — <i>by {blog.writer}</i></li>
        ))}
      </ul>
    </div>
  );
}
```

```
// CourseDetails Component
function CourseDetails() {
  const courses = [
    { id: 201, name: "Full Stack with React", duration: "3 months" },
    { id: 202, name: "Frontend with JS", duration: "2 months" }
  ];

  return (
    <div>
      <h2>🎓 Course Details</h2>
      <ul>
        {courses.map(course => (
          <li key={course.id}>{course.name} — {course.duration}</li>
        ))}
      </ul>
    </div>
  );
}

// Main App Component
function App() {
  const [activeComponent, setActiveComponent] = useState("book");
  const [showCourse, setShowCourse] = useState(true);

  let displayComponent;

  // 1. Conditional rendering using if/else
  if (activeComponent === "book") {
    displayComponent = <BookDetails />;
  } else if (activeComponent === "blog") {
    displayComponent = <BlogDetails />;
  }

  return (
    <div className="App">
      <h1>📰 Blogger App</h1>

      {/* Buttons to switch between components */}
      <button onClick={() => setActiveComponent("book")}>Show Books</button>
      <button onClick={() => setActiveComponent("blog")}>Show Blogs</button>
      <button onClick={() => setShowCourse(!showCourse)}>
        {showCourse ? "Hide Courses" : "Show Courses"}
      </button>

      <hr />

      {/* 2. Render component from if-else */}
```

```
      {displayComponent}

      <hr />

      {/* 3. Ternary conditional rendering */}
      {activeComponent === "blog" ? <p>Showing Blog Component</p> : <p>Showing Book Component</p>}

      {/* 4. && Logical operator */}
      {showCourse && <CourseDetails />}
    </div>
  );
}

export default App;
```

**EXERCISE : 14 EMPLOYEE APP**

```
import React, { useState, useContext, createContext } from 'react';

// Create ThemeContext with default value 'light'
const ThemeContext = createContext('light');

function App() {
  const [theme, setTheme] = useState('light');

  const toggleTheme = () => {
    setTheme(prev => (prev === 'light' ? 'dark' : 'light'));
  };

  const employees = [
    { id: 1, name: 'Arun', role: 'Developer' },
    { id: 2, name: 'Divya', role: 'Designer' },
    { id: 3, name: 'Suresh', role: 'Tester' }
  ];

  return (
    <ThemeContext.Provider value={theme}>
      <div style={{ textAlign: 'center', fontFamily: 'Arial', padding: '20px' }}>
        <h1>🏢 Employee Management App</h1>
        <button
          onClick={toggleTheme}
          style={{
            backgroundColor: theme === 'light' ? '#90caf9' : '#424242',
            color: theme === 'light' ? '#000' : '#fff',
            border: 'none',
            padding: '10px 15px',
            borderRadius: '5px',
            marginBottom: '20px',
            cursor: 'pointer'
```

```
        }}
      >
        Toggle Theme ({theme})
      </button>

      <h2>Employees</h2>
      {employees.map(emp => (
        <EmployeeCard key={emp.id} employee={emp} />
      ))}
    </div>
  </ThemeContext.Provider>
 );
}

// EmployeeCard component using useContext
function EmployeeCard({ employee }) {
 const theme = useContext(ThemeContext);

 const cardStyle = {
  border: '1px solid #ccc',
  padding: '15px',
  margin: '10px auto',
  width: '300px',
  borderRadius: '8px',
  textAlign: 'left',
  boxShadow: '0 0 5px rgba(0,0,0,0.1)'
 };

 const buttonStyle = {
  backgroundColor: theme === 'light' ? '#90caf9' : '#424242',
  color: theme === 'light' ? '#000' : '#fff',
  border: 'none',
  padding: '8px 12px',
  borderRadius: '5px',
  marginTop: '10px',
  cursor: 'pointer'
 };

 return (
  <div style={cardStyle}>
   <h3>{employee.name}</h3>
   <p>Role: {employee.role}</p>
   <button style={buttonStyle}>View Profile</button>
  </div>
 );
}

export default App;
```

**EXERCISE : 15 TICKET RAISING APP**

```
import React, { useState } from 'react';

function App() {
  const [employeeName, setEmployeeName] = useState('');
  const [complaint, setComplaint] = useState('');

  const generateReferenceNumber = () => {
    const ref = Math.floor(100000 + Math.random() * 900000);
    return `REF-${ref}`;
  };

  const handleSubmit = (e) => {
    e.preventDefault();
    if (employeeName.trim() === '' || complaint.trim() === '') {
      alert("Please fill in all fields.");
      return;
    }

    const reference = generateReferenceNumber();
    alert(`Complaint submitted successfully!\nReference Number: ${reference}`);

    // Reset form
    setEmployeeName('');
    setComplaint('');
  };

  const formStyle = {
    maxWidth: '400px',
    margin: 'auto',
    padding: '20px',
    border: '1px solid #ccc',
    borderRadius: '8px',
    boxShadow: '0 0 8px rgba(0,0,0,0.1)',
    backgroundColor: '#f9f9f9',
    fontFamily: 'Segoe UI'
  };

  const inputStyle = {
    width: '100%',
    padding: '10px',
    margin: '10px 0',
    borderRadius: '4px',
    border: '1px solid #aaa'
  };

  const buttonStyle = {
```

```
    backgroundColor: '#007bff',
    color: 'white',
    padding: '10px 20px',
    border: 'none',
    borderRadius: '5px',
    cursor: 'pointer',
    fontSize: '16px'
  };

  return (
    <div className="App">
      <h1 style={{ textAlign: 'center' }}>📝 Ticket Raising App</h1>
      <form style={formStyle} onSubmit={handleSubmit}>
        <label><strong>Employee Name:</strong></label>
        <input
          type="text"
          value={employeeName}
          onChange={(e) => setEmployeeName(e.target.value)}
          placeholder="Enter your name"
          style={inputStyle}
        />

        <label><strong>Complaint:</strong></label>
        <textarea
          value={complaint}
          onChange={(e) => setComplaint(e.target.value)}
          placeholder="Describe your complaint"
          rows="5"
          style={inputStyle}
        />

        <button type="submit" style={buttonStyle}>Submit Complaint</button>
      </form>
    </div>
  );
}

export default App;
```

**EXERCISE : 16 MAIL REGISTER APP**

```
import React, { useState } from 'react';

function App() {
  const [formData, setFormData] = useState({
    name: '',
    email: '',
    password: ''
  });
```

```
const [errors, setErrors] = useState({});

const validate = () => {
  let newErrors = {};

  if (formData.name.length < 5) {
    newErrors.name = "Name must be at least 5 characters long.";
  }

  if (!formData.email.includes('@') || !formData.email.includes('.')) {
    newErrors.email = "Email must contain '@' and '.'";
  }

  if (formData.password.length < 8) {
    newErrors.password = "Password must be at least 8 characters.";
  }

  setErrors(newErrors);
  return Object.keys(newErrors).length === 0;
};

const handleChange = (e) => {
  const { name, value } = e.target;

  setFormData(prev => ({
    ...prev,
    [name]: value
  }));
};

const handleSubmit = (e) => {
  e.preventDefault();

  if (validate()) {
    alert("Registration successful!");
    setFormData({ name: '', email: '', password: '' });
    setErrors({});
  }
};

const inputStyle = {
  width: '100%',
  padding: '10px',
  marginTop: '5px',
  marginBottom: '15px',
  borderRadius: '4px',
  border: '1px solid #aaa'
```

```
};

const errorStyle = {
  color: 'red',
  fontSize: '14px',
  marginBottom: '10px'
};

const formStyle = {
  maxWidth: '400px',
  margin: 'auto',
  padding: '25px',
  border: '1px solid #ccc',
  borderRadius: '8px',
  backgroundColor: '#f9f9f9',
  fontFamily: 'Segoe UI'
};

const buttonStyle = {
  backgroundColor: '#007bff',
  color: 'white',
  padding: '10px 20px',
  border: 'none',
  borderRadius: '5px',
  cursor: 'pointer',
  fontSize: '16px'
};

return (
  <div className="App">
    <h1 style={{ textAlign: 'center' }}>📧 Mail Register App</h1>
    <form onSubmit={handleSubmit} style={formStyle}>
      <label><strong>Name:</strong></label><br />
      <input
        type="text"
        name="name"
        value={formData.name}
        onChange={handleChange}
        style={inputStyle}
        placeholder="Enter your name"
      />
      {errors.name && <div style={errorStyle}>{errors.name}</div>}

      <label><strong>Email:</strong></label><br />
      <input
        type="email"
        name="email"
        value={formData.email}
```

```
          onChange={handleChange}
          style={inputStyle}
          placeholder="Enter your email"
        />
        {errors.email && <div style={errorStyle}>{errors.email}</div>}

        <label><strong>Password:</strong></label><br />
        <input
          type="password"
          name="password"
          value={formData.password}
          onChange={handleChange}
          style={inputStyle}
          placeholder="Enter your password"
        />
        {errors.password && <div style={errorStyle}>{errors.password}</div>}

        <button type="submit" style={buttonStyle}>Register</button>
      </form>
    </div>
  );
}

export default App;
```

**EXERCISE : 17 FETCH USER APP**

```
import React from 'react';

class App extends React.Component {
  constructor(props) {
    super(props);
    this.state = {
      user: null,
      loading: true
    };
  }

  // Lifecycle method to fetch data
  async componentDidMount() {
    try {
      const response = await fetch('https://api.randomuser.me/');
      const data = await response.json();
      const user = data.results[0];
      this.setState({ user, loading: false });
    } catch (error) {
      console.error("Error fetching user:", error);
      this.setState({ loading: false });
    }
```

```
  }

  render() {
    const { user, loading } = this.state;

    const cardStyle = {
      maxWidth: '400px',
      margin: '40px auto',
      padding: '20px',
      border: '1px solid #ccc',
      borderRadius: '10px',
      boxShadow: '0 0 10px rgba(0,0,0,0.1)',
      textAlign: 'center',
      fontFamily: 'Segoe UI'
    };

    const imgStyle = {
      borderRadius: '50%',
      marginBottom: '15px'
    };

    if (loading) {
      return <h2 style={{ textAlign: 'center' }}>Loading user data...</h2>;
    }

    if (!user) {
      return <h2 style={{ textAlign: 'center' }}>No user data available.</h2>;
    }

    return (
      <div style={cardStyle}>
        <img src={user.picture.large} alt="User" style={imgStyle} />
        <h3>{user.name.title}. {user.name.first} {user.name.last}</h3>
        <p><strong>Email:</strong> {user.email}</p>
        <p><strong>Country:</strong> {user.location.country}</p>
      </div>
    );
  }
}

export default App;
```

**EXERCISE : 18 COHORT DASHBOARD APP**

```
// setupTests.js (Enzyme configuration)
import Enzyme from 'enzyme';
import Adapter from '@wojtekmaj/enzyme-adapter-react-17';

Enzyme.configure({ adapter: new Adapter() });
```

```
// Cohort.js (Dummy cohort data)
export const CohortData = [
  {
    id: 1,
    code: "FSW-101",
    name: "Full Stack Web Development",
    status: "Ongoing"
  },
  {
    id: 2,
    code: "DS-202",
    name: "Data Science",
    status: "Completed"
  }
];

// CohortDetails.js (Component to be tested)
import React from 'react';

const CohortDetails = ({ cohort }) => {
  if (!cohort) return <div>No data</div>;

  return (
    <div>
      <h3>{cohort.code}</h3>
      <p>Name: {cohort.name}</p>
      <p>Status: {cohort.status}</p>
    </div>
  );
};

export default CohortDetails;

// CohortDetails.test.js (Unit Tests using Enzyme)
import React from 'react';
import { shallow, mount } from 'enzyme';
import CohortDetails from './CohortDetails';
import { CohortData } from './Cohort';

describe("Cohort Details Component", () => {

  test("should create the component", () => {
    const wrapper = shallow(<CohortDetails />);
    expect(wrapper.exists()).toBe(true);
  });

  test("should initialize the props", () => {
```

```
    const cohort = CohortData[0];
    const wrapper = mount(<CohortDetails cohort={cohort} />);
    expect(wrapper.props().cohort).toEqual(cohort);
  });

  test("should display cohort code in h3", () => {
    const cohort = CohortData[0];
    const wrapper = mount(<CohortDetails cohort={cohort} />);
    const h3 = wrapper.find('h3');
    expect(h3.text()).toBe(cohort.code);
  });

  test("should always render same html", () => {
    const cohort = CohortData[1];
    const wrapper = shallow(<CohortDetails cohort={cohort} />);
    expect(wrapper).toMatchSnapshot();
  });

});
```