

The given code demonstrates the usage of collections in Spring framework. Let's break down the code and understand its components.

The `'Employee'` class represents an employee object with various properties. Here's a description of its properties:

- `'name'`: A string representing the name of the employee.
- `'phones'`: A list of strings representing the phone numbers of the employee.
- `'addresses'`: A set of strings representing the addresses of the employee.
- `'courses'`: A map with key-value pairs representing the courses taken by the employee, where the key is the course name and the value is the duration.
- `'addressProps'`: A `'Properties'` object representing additional address properties of the employee.

The class provides getters and setters for each property.

The `'TestClass'` class is the entry point of the program. It loads the Spring application context using the XML configuration file `'collectionconfig.xml'` located in the `'com.springcore.collections'` package. Then, it retrieves an instance of the `'Employee'` bean with the bean name "Emp1" from the application context and prints out the values of its properties.

The `'collectionconfig.xml'` file is an XML configuration file that defines the bean with the name "Emp1" and its properties. Here's a breakdown of its contents:

- The `'<beans>'` element is the root element of the Spring XML configuration.
- The `'xmlns'` attribute specifies the XML namespace for the configuration.
- The `'<bean>'` element defines the bean with the name "Emp1" and the class `'com.springcore.collections.Employee'`.
- The `'<property>'` elements define the properties of the bean.
  - The `'name'` attribute specifies the name of the property.
  - The `'<value>'` element is used to set a single value property. In this case, the `'name'` property is set to "Radhe".
  - The `'<list>'` element is used to set a property with a list value. It contains multiple `'<value>'` elements, each representing a phone number.
  - The `'<set>'` element is used to set a property with a set value. It contains multiple `'<value>'` elements, each representing an address.
  - The `'<map>'` element is used to set a property with a map value. It contains multiple `'<entry>'` elements, where each `'<entry>'` represents a key-value pair in the map.
  - The `'<props>'` element is used to set a property with a `'Properties'` object. It contains multiple `'<prop>'` elements, where each `'<prop>'` represents a key-value pair in the `'Properties'` object.

In summary, the code demonstrates the usage of various collection types (list, set, map, and Properties) in a Spring bean configuration. It shows how to define and initialize these collection properties using XML configuration, and how to retrieve and use the bean from the Spring application context.

## Employee Class:

```
package com.springcore.collections;

import java.util.List;
import java.util.Map;
import java.util.Properties;
import java.util.Set;

public class Employee {

    private String name;
    private List<String> phones;
    private Set<String> addresses;
    private Map<String,String> courses;
    private Properties addressProps;

    public String getName() {
        return name;
    }
    public void setName(String name) {
        this.name = name;
    }
    public List<String> getPhones() {
        return phones;
    }
    public void setPhones(List<String> phones) {
        this.phones = phones;
    }
    public Set<String> getAddresses() {
        return addresses;
    }
    public void setAddresses(Set<String> addresses) {
        this.addresses = addresses;
    }
    public Map<String, String> getCourses() {
        return courses;
    }
    public void setCourses(Map<String, String> courses) {
        this.courses = courses;
    }

    public Properties getAddressProps() {
        return addressProps;
    }

    public void setAddressProps(Properties addressProps) {
        this.addressProps = addressProps;
    }

    public Employee(String name, List<String> phones, Set<String> addresses, Map<String, String> courses) {
        super();
        this.name = name;
        this.phones = phones;
        this.addresses = addresses;
        this.courses = courses;
    }

    public Employee() {
        super();
        // TODO Auto-generated constructor stub
    }

    @Override
    public String toString() {
        return "Employee [name=" + name + ", phones=" + phones + ", addresses=" + addresses + ", courses=" + courses
            + ", addressProps=" + addressProps + "]";
    }
}
```

## Config.xml

```
<?xml version="1.0" encoding="UTF-8"?>

<beans xmlns="http://www.springframework.org/schema/beans"
       xmlns:context="http://www.springframework.org/schema/context"
       xmlns:p="http://www.springframework.org/schema/p"
       xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
       xsi:schemaLocation="http://www.springframework.org/schema/beans
       https://www.springframework.org/schema/beans/spring-beans.xsd">

    <bean name="Emp1" class="com.springcore.collections.Employee">
        <property name="name" value="Radhe"/>
        <property name="phones">
            <!-- If only one element -->
            <!-- <value>1234567890</value> -->
            <list>
                <value>8638370510</value>
                <value>1234567890</value>
            </list>
        </property>

        <property name="addresses">
            <set>
                <value>Delhi</value>
                <value>Guwahati</value>
            </set>
        </property>

        <property name="courses">
            <map>
                <entry key="java" value="2month"/>
                <entry key="Python" value="1month"/>
            </map>
        </property>

        <property name="addressProps">
            <props>
                <prop key="one">INDIA</prop>
                <prop key="two">AFRICA</prop>
            </props>
        </property>
    </bean>
</beans>
```

## Main class:

```
package com.springcore.collections;

import org.springframework.context.ApplicationContext;
import org.springframework.context.support.ClassPathXmlApplicationContext;

public class TestClass {

    public static void main(String[] args) {
        // TODO Auto-generated method stub

        ApplicationContext context = new ClassPathXmlApplicationContext("com/springcore/collections/collectionconfig.xml");
        Employee e1 = (Employee) context.getBean("Emp1");

        System.out.println(e1.getName());
        System.out.println(e1.getPhones());
        System.out.println(e1.getAddresses());
        System.out.println(e1.getCourses());
        System.out.println(e1.getAddressProps());
    }
}
```