# Case Study 2: Annotation-Based Configuration
## Project Title: Smart Home Automation System

**User.java**

```java
package com.example.annotationBasedConfiguration;
import org.springframework.stereotype.Component;
@Component
public class User {
        public String name = "Alex";
        public String homeId = "H-1";

        public String getName() {
                return name;
        }
        public String getHomeId() {
                return homeId;
        }

}
```

**Device.java**

```java
package com.example.annotationBasedConfiguration;
import org.springframework.stereotype.Component;
@Component
public class Device {
        private String deviceType = "TV";
        private boolean status = false;

        public void turnDeviceOn() {
                status = true;
                System.out.println(deviceType + " is turned ON");
        }

        public void turnDeviceOff() {
                status = false;
                System.out.println(deviceType + " is turned OFF");
        }

        public boolean getStatus() {
                return status;
        }

        public String getDeviceType() {
                return deviceType;
        }
```

```
}
```

**AutomationService.java**
```java
package com.example.annotationBasedConfiguration;
import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.stereotype.Service;
@Service
public class AutomationService {
        @Autowired
        private User user;

        @Autowired
        private Device device;

        public void deviceControl() {
                System.out.println("User: "+ user.getName() + "\nHome Id: "+
user.getHomeId()+"\nDevice: "+device.getDeviceType());
                device.turnDeviceOn();
                device.turnDeviceOff();
        }
}
```

**AppConfig.java**
```java
package com.example.annotationBasedConfiguration;
import org.springframework.context.annotation.ComponentScan;
import org.springframework.context.annotation.Configuration;
@Configuration
@ComponentScan("com.example.annotationBasedConfiguration")
public class AppConfig {
}
```

**MainApp.java**
```java
package com.example.annotationBasedConfiguration;
import org.springframework.context.ApplicationContext;
import org.springframework.context.annotation.AnnotationConfigApplicationContext;
public class MainApp {
        public static void main(String[] args) {
                ApplicationContext context = new
AnnotationConfigApplicationContext(AppConfig.class);
                AutomationService service = context.getBean(AutomationService.class);
                service.deviceControl();
        }
}
```