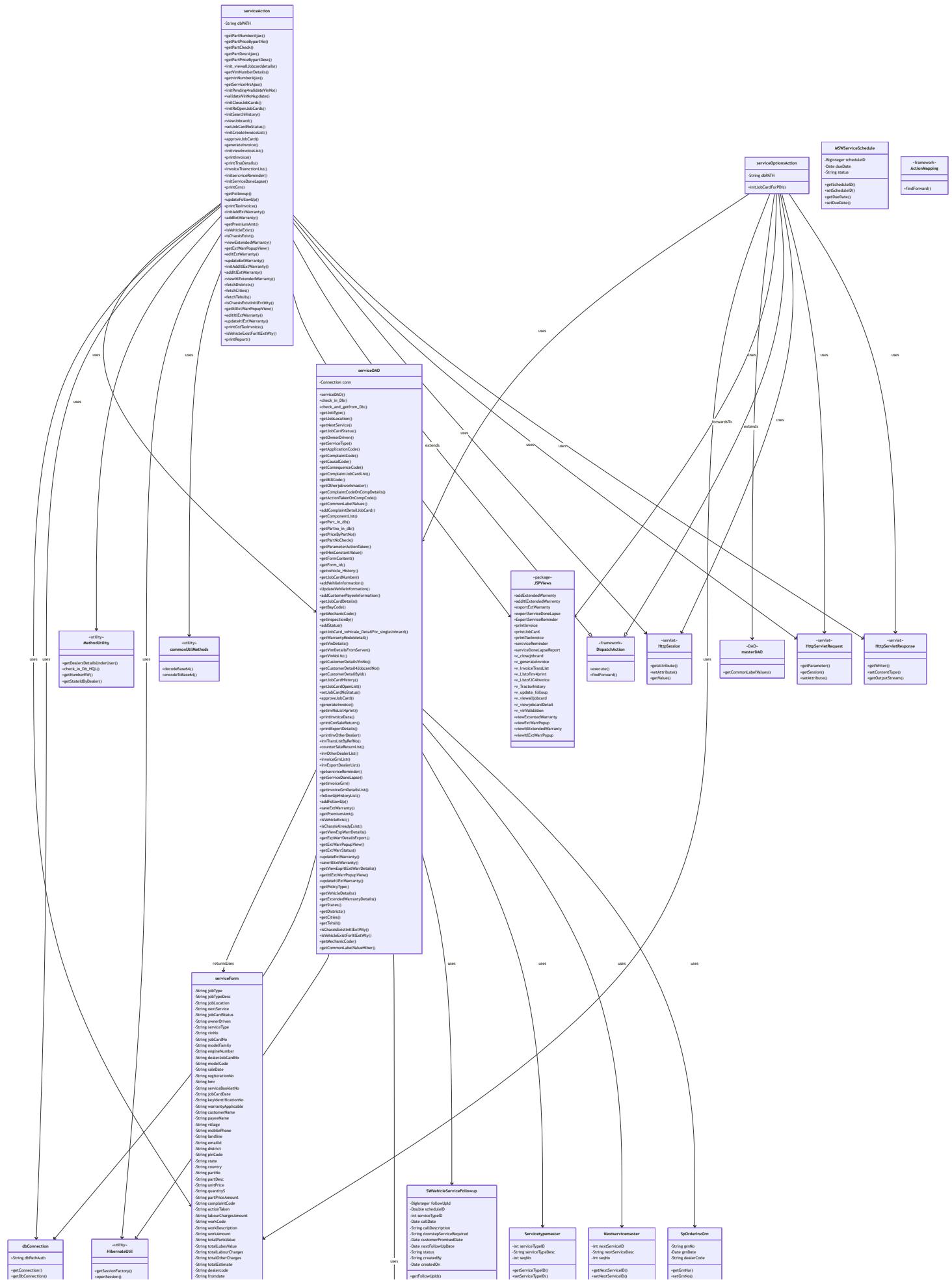
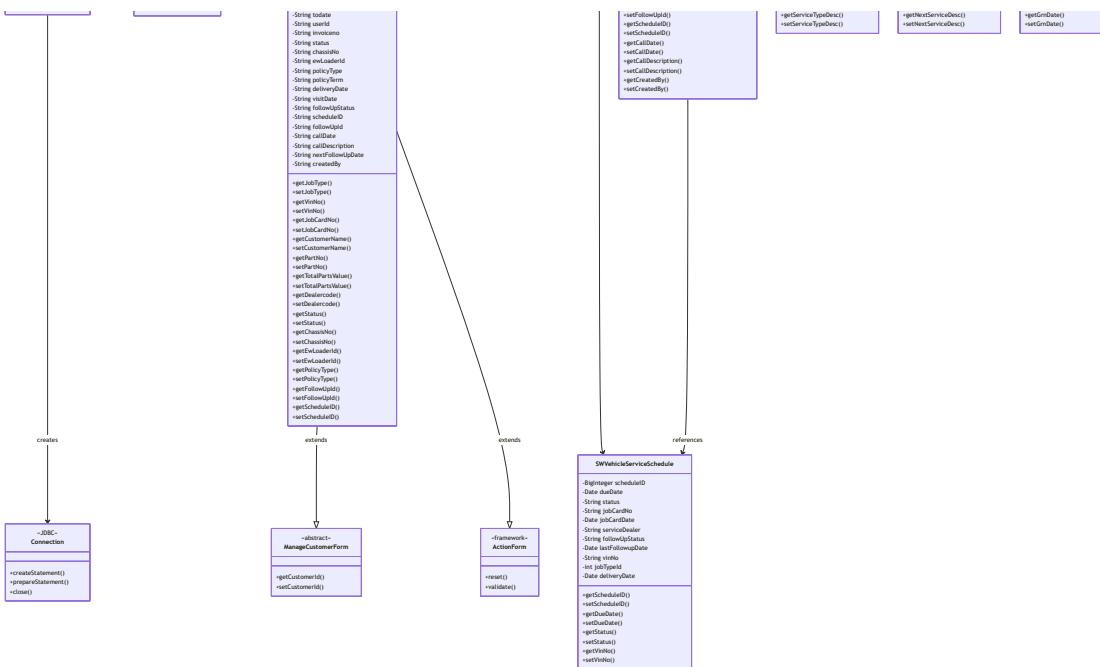


# **ITLDIS Service Module - UML Class**

# Diagram





# Module Overview

The **Service Module** is a comprehensive module in the ITLDIS application that handles:

## Core Functionalities:

### 1. Job Card Management

- Create, view, update, and close job cards
- Job card approval workflow
- Job card history tracking
- VIN number validation

### 2. Invoice Management

- Generate invoices from job cards
- Print invoices (regular and tax invoices)
- View invoice lists
- Invoice transaction management

### 3. Service Scheduling & Follow-up

- Service reminders
- Service follow-up tracking
- Service done lapse reporting
- Service schedule management

### 4. Extended Warranty

- Add extended warranty (EW and ITL EW)
- View extended warranty details
- Update extended warranty information

- Premium amount calculation

## 5. Parts & Pricing

- Part number lookup
- Part price retrieval
- Component list management
- Part validation

## 6. Reports & Exports

- Service reminder reports
- Service done lapse reports
- Invoice transaction reports
- Export functionality (Excel)

# Key Components:

- **serviceAction**: Main controller with 50+ action methods
- **serviceDAO**: Data access layer with 80+ methods for database operations
- **serviceForm**: Form bean with 200+ properties for data transfer
- **Hibernate Entities**: 6+ entity classes for database mapping
- **JSP Views**: 37+ JSP pages for user interface

# Technology Stack:

- **Framework**: Apache Struts 1.x (DispatchAction pattern)
- **ORM**: Hibernate
- **Database**: SQL Server
- **View Layer**: JSP
- **Reporting**: JasperReports

# Data Flow:

1. **Request Flow**: HTTP Request → Action Class → DAO → Database
2. **Response Flow**: Database → DAO → Form Bean → Action → JSP View
3. **Session Management**: Uses HttpSession for user context
4. **Transaction Management**: Database transactions handled at DAO level