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JRS ENTERPRISE AND DEVELOPMENT SOLUTION

SAP Transportation Management (SAP TM) Syllabus

1. Introduction to SAP and Transportation Management

- **Overview of SAP: Introduction to SAP systems, SAP ERP, and SAP S/4HANA.**
- **SAP TM Evolution: Transition from Logistics Execution – Transportation (LE-TRA) to SAP TM and SAP S/4HANA TM.**
- **Transportation Management Concepts: Understanding TM from a business perspective (shipper, freight forwarder, logistics service provider).**
- **Logistics Scenarios: Less Than Truckload (LTL), Full Truckload (FTL), Less Than Container Load (LCL), Full Container Load (FCL).**
- **SAP TM vs. Other TMS: Comparison with other transportation management systems (e.g., Oracle TMS, JDA TMS).**

2. SAP TM Architecture and Integration

- **Technical Architecture: Overview of SAP TM architecture, including standalone and integrated SAP TM (with SAP ERP or S/4HANA).**
- **Integration with SAP Modules: Integration with SAP ERP, SAP Extended Warehouse Management (EWM), SAP Global Trade Services (GTS), and SAP Business Network for Logistics.**
- **Core Interface (CIF): Master data transmission between SAP ERP and SAP TM (for non-embedded scenarios).**
- **SAP S/4HANA Embedded TM: Elimination of CIF, OTR/DTR documents, and harmonized master data in S/4HANA 1909 and later.**

3. Master Data in SAP TM

- **Transportation-Specific Master Data:**
  - **Business Partners & Locations**
  - **Organizational Master Data**
  - **Transportation Network Master Data**
  - **Resources Master Data (e.g., vehicles, trailers)**
  - **Charges Master Data (rate tables, calculation sheets)**
- **Carrier Schedules: Management of freight capacities, port schedules, and departure/destination rules.**
- **Master Data Setup: Configuration and maintenance of master data for transportation processes.**

4. Order Management

- **Transportation Requirements:**
  - **Order-Based Transportation Request (OTR)**
  - **Delivery-Based Transportation Request (DTR)**
  - **Forwarding Order Management (for Logistics Service Providers)**
- **Document Types: Sales orders, purchase orders, stock transport orders, and deliveries.**
- **Order Entry: Manual and electronic order entry processes.**
- **Document Number Ranges: Configuration for OTR/DTR and forwarding orders.**

5. Transportation Planning

- **Planning Basics:**
  - **Manual planning, optimizer planning, and semi-automated planning (transportation proposals).**
  - **Freight Unit Management: Creation and assignment of freight units from orders.**
- **Transportation Cockpit: Tools for planning, selection profiles, and planning profiles.**
- **Means and Modes of Transport: Selection of road, rail, air, or ocean transport.**
- **Load Optimization: 3D load planning for container/truck utilization.**
- **Carrier Selection: Based on service level agreements, pricing, and performance.**
- **Vehicle Scheduling and Routing (VSR) Optimization: Automated route and load optimization.**

6. Freight Order Management and Execution

- **Freight Orders: Creation for road/rail transport.**
- **Freight Bookings: Creation for air/sea transport.**
- **Execution and Monitoring:**
  - **Transportation execution and control.**
  - **Real-time tracking and tracing (event management integration).**
  - **Document creation (e.g., waybills, electronic documents).**
- **Subcontracting: Carrier tendering, freight agreements, and responses.**
- **Warehouse Integration: Integration with SAP Extended Warehouse Management (EWM) for delivery creation.**

7. Charge Calculation and Freight Settlement

- **Freight Agreements: Setting up contracts, rate tables, and calculation sheets.**
- **Charge Calculation: Accurate freight cost calculation during planning and execution.**
- **Freight Settlement: Invoice creation, cost distribution, and settlement with carriers.**
- **Cost Optimization: Reducing expedites and overhead through data-driven rate negotiation.**

8. Analytics and Reporting

- **Embedded Analytics: Real-time operational data for decision-making.**
- **Reporting Tools: Flexible reporting for end-to-end visibility.**
- **Key Performance Indicators (KPIs): Monitoring transportation efficiency, costs, and service levels.**

9. Advanced Topics

- **Strategic Freight Management: Long-term agreements with carriers and subcontractors.**
- **Global Trade Management: Handling regulations, tariffs, and dangerous goods.**
- **Product Safety and Stewardship: Managing dangerous goods within SAP TM.**
- **Advanced Shipping and Receiving (ASR): Integration with SAP TM, EWM, and logistics execution.**
- **SAP Fiori Interface: Navigation and usability in the new SAP TM module (post-LE-TRA).**

Advance Level

SAP Transportation Management (SAP TM) is a comprehensive solution designed to optimize transportation logistics, streamline processes, and enhance supply chain efficiency. Below is an overview of SAP TM and a detailed syllabus for its implementation, based on industry-standard training and certification resources, such as those from SAP Learning, ERPPrep, and other reputable sources. The syllabus is structured to cover the key aspects of SAP TM implementation, including configuration, integration, and practical application, tailored for consultants, business users, and IT professionals.

Overview of SAP Transportation Management (SAP TM)

SAP TM is a module within SAP S/4HANA that supports the planning, execution, and optimization of physical goods transportation across various modes (road, rail, air, sea). It integrates with SAP ERP, SAP S/4HANA, SAP Extended Warehouse Management (EWM), and other systems to provide end-to-end visibility, reduce transportation costs, and improve operational efficiency. Key functionalities include:

- **Order Management: Managing transportation requirements from sales orders, purchase orders, or forwarding orders.**
- **Transportation Planning: Manual and automated planning, carrier selection, and load optimization.**
- **Freight Execution and Monitoring: Real-time tracking, event management, and document creation.**
- **Freight Costing and Settlement: Managing freight agreements, charge calculation, and financial settlement.**
- **Analytics and Reporting: Providing real-time insights for decision-making.**

SAP TM can be deployed as an embedded solution within SAP S/4HANA or as a standalone (side-by-side) system, with basic and advanced versions to suit different business needs.

SAP TM Implementation Syllabus

This syllabus is designed to prepare individuals for implementing SAP TM, covering both technical and functional aspects. It aligns with certification exams like C_S4TM_2023 (SAP S/4HANA Cloud Private Edition, Transportation Management) and is based on resources from SAP Learning, ERPPrep, Udemy, and other industry insights.

1. Introduction to SAP TM and Logistics

- **Topics:**
  - **Overview of SAP and SAP S/4HANA.**
  - **Evolution of SAP TM from Logistics Execution – Transportation (LE-TRA) to S/4HANA TM.**
  - **Role of SAP TM in supply chain management.**
  - **Key concepts: Shipper, Freight Forwarder, Logistics Service Provider (LSP).**
  - **Transportation scenarios: Less-than-Truckload (LTL), Full-Truckload (FTL), Less-than-Containerload (LCL), Full-Containerload (FCL).**
  - **Strategic importance of transitioning to SAP S/4HANA for transportation management.**
- **Learning Outcomes:**
  - **Understand the scope and purpose of SAP TM.**
  - **Differentiate between legacy LE-TRA and modern SAP TM functionalities.**

2. SAP TM Architecture and Integration

- **Topics:**
  - **Technical architecture of SAP TM (embedded vs. side-by-side deployment).**
  - **Integration with SAP ERP, SAP S/4HANA, SAP EWM, SAP Global Trade Services (GTS), and SAP Business Network for Logistics.**
  - **Overview of SAP HANA database and its role in real-time data processing.**
  - **SAP Fiori interface for TM operations.**
  - **Core Interface (CIF) for master data transfer in side-by-side scenarios.**
- **Learning Outcomes:**
  - **Understand deployment options (in-stack/embedded vs. extra-stack/side-by-side).**
  - **Configure integration points with other SAP modules.**

3. Master Data Management

- **Topics:**
  - **Business Partners and Locations: Customers, vendors, and carriers.**
  - **Organizational Master Data: Defining organizational units and their functions.**
  - **Transportation Network Master Data: Routes, zones, and locations.**
  - **Resources Master Data: Vehicles, trailers, and drivers.**
  - **Charges Master Data: Freight agreements, rate tables, and calculation sheets.**
- **Learning Outcomes:**
  - **Set up and maintain master data for SAP TM.**
  - **Configure transportation network and resource data for planning and execution.**

4. Order Management

- **Topics:**
  - **Creating transportation requirements: Order-Based Transportation Request (OTR), Delivery-Based Transportation Request (DTR), Forwarding Orders.**
  - **Order entry processes for shippers and LSPs.**
  - **Document number ranges and determination conditions.**
  - **Integration with order-to-cash and procure-to-pay processes.**
- **Learning Outcomes:**
  - **Configure order management processes in SAP TM.**
  - **Manage transportation demands from sales, purchase, or stock transport orders.**

5. Transportation Planning

- **Topics:**
  - **Freight unit creation and management.**
  - **Manual, semi-automated, and optimizer-based planning.**
  - **Transportation Cockpit: Selection and planning profiles.**
  - **Carrier selection based on rates, routes, and constraints.**
  - **Load planning: 3D load optimization, vehicle space utilization.**
  - **Incompatibilities: Handling restrictions (e.g., refrigerated goods, hazardous materials).**
- **Learning Outcomes:**
  - **Perform transportation planning using SAP TM tools.**
  - **Optimize load and route planning for cost efficiency.**

6. Freight Execution and Monitoring

- **Topics:**
  - **Execution processes: Delivery creation, document generation (e.g., waybills).**
  - **Real-time tracking and tracing using SAP Event Management (optional).**
  - **Integration with SAP EWM for warehouse processes.**
  - **Transportation Cockpit for monitoring freight order status.**
  - **Handling disruptions and delays.**
- **Learning Outcomes:**
  - **Execute and monitor transportation processes.**
  - **Implement real-time visibility and event tracking.**

7. Freight Costing and Settlement

- **Topics:**
  - **Setting up freight agreements and rate tables.**
  - **Charge calculation and cost allocation.**
  - **Freight settlement with carriers and financial accounting integration.**
  - **Managing templates for calculation sheets and scales.**

- **Learning Outcomes:**
    - **Configure freight costing and settlement processes.**
    - **Integrate financial processes with SAP TM.**

8. Carrier Management and Tendering

- **Topics:**
    - **Carrier determination and selection criteria.**
    - **Tendering processes: Peer-to-peer, freight order subcontracting.**
    - **Collaboration Portal for external carrier access.**
    - **Managing carrier schedules, port schedules, and departure/destination rules.**
- **Learning Outcomes:**
    - **Implement carrier selection and tendering processes.**
    - **Enable collaboration with external partners via SAP TM.**

9. Analytics and Reporting

- **Topics:**
    - **Embedded analytics for real-time insights.**
    - **Key Performance Indicators (KPIs): Transport duration, timeliness, carrier performance.**
    - **Visualization tools: SAP Analytics Cloud integration, drill-down maps.**
    - **Reporting on freight costs, execution status, and operational efficiency.**
- **Learning Outcomes:**
    - **Configure and use analytics tools for transportation insights.**
    - **Monitor and report on transportation performance.**

10. Implementation Methodologies and Best Practices

- **Topics:**
    - **SAP Activate methodology: Phases (Discover, Prepare, Explore, Realize, Deploy, Run).**
    - **Current processes evaluation and gap analysis.**

  - **Defining technical and functional requirements.**
  - **Project team assembly and role definition.**
  - **Migration from SAP TM 9.x or LE-TRA to SAP S/4HANA TM.**
  - **Best practices for basic and advanced shipping scenarios.**
- **Learning Outcomes:**
  - **Apply SAP Activate methodology for TM implementation.**
  - **Plan and execute a successful SAP TM project.**

11. Advanced Features and Customization

- **Topics:**
  - **SAP Fiori-based user interfaces for enhanced usability.**
  - **Customizing transport modes (e.g., sea transport with main and pre-leg segments).**
  - **Integration with IoT, machine learning, and blockchain for advanced logistics.**
  - **Using SAP-recommended tools (e.g., DataLark) for data migration.**
  - **Extending SAP TM with add-ons for industry-specific needs.**
- **Learning Outcomes:**
  - **Customize SAP TM to meet specific business requirements.**
  - **Leverage advanced technologies for logistics innovation.**