SAP-Introduction

Q. What is SAP? How is it used in industries?

1. SAP is the most popular enterprise resource planning (ERP) software application used to provide enterprise business solutions. It was first introduced in 1972 in Mannheim, Germany. SAP stands for Systems, Applications, and Products in Data Processing.

2. SAP provides complete business solutions by integrating various business tasks such as sales, purchase, and production. SAP takes information from one business process and incorporates it into another business process, thereby speeding up all business processes. For example, information about the raw material in stock is used by the production department to determine how to prepare products.

3. SAP is widely used in various industries because as it updates and processes important data very quickly, it can automate business processes and provide real-time solutions for businesses.

Q. Briefly describe the history of the SAP software?

The SAP software was developed by a company of the same name. SAP (the company) was founded in 1972 by five former IBM employees: Dietmar Hopp, Hans-Werner Hector, Hasso Plattner, Klaus Tschira, and Claus Wellenreuther. SAP released its mainframe product, called SAP R/2, in 1979. The client/server version of the SAP software, called SAP R/3, was released in 1992. Today, SAP is the largest vendor of standard business-application software. SAP constantly delivers scalable solutions to its customers, allowing them to respond to dynamic market conditions and helping them to maintain an advantage over their competitors. Some of the major SAP applications presently available are defined in question 4 and include SAP R/3, SAP ERP, SAP Customer Relationship Management (CRM), SAP Supplier Relationship Management (SRM),SAP Supply Chain Management (SCM), and SAP Product Lifecycle Management (PLM), to name a few.

Q. Why is SAP so popular? What are some of the other ERP applications available in the market?

SAP is the most popular ERP software available because it updates and processes business data in real time. Available ERP software can be divided into two categories: open-source ERP software and proprietary ERP software. Some of the most commonly used ERP applications are listed in the following table.

Q. What is SAP ERP? What business components can it be classified into?

SAP ERP is the next-generation ERP application from SAP AG in Germany, and was first launched in 2003. The SAP ERP application has all the features of previously released SAP ERP software, such as SAP R/3 and SAP Strategic Enterprise Management (SEM), along with its own extensions. The SAP ERP application provides e-commerce solutions by using Web technology. The SAP ERP application has the following advantages:

1. Mobile infrastructure, which improves workforce mobility
2. Transparency through a business intelligence framework
3. Delivery of people-centric services
4. Faster access to information, which facilitates quick decision making
5. Seamless integration of processes throughout the business

SAP ERP includes the following products:

1. SAP Enterprise Resource Planning (ERP)
2. SAP Supply Chain Management (SCM)
3. SAP Supplier Relationship Management (SRM)
4. SAP Customer Relationship Management (CRM)
5. SAP Product Life Cycle Management (PLM)

SAP R/3 can be classified into the following business components:

1. Financial applications
2. Human resource applications
3. Logistics
4. Sales and distribution applications

Q. What are the industry-specific solutions available in SAP?

The SAP ERP application provides business solutions for almost every industry, including automotive, chemical, and media. Various industry-specific solutions available in SAP include the following:

1. SAP Automotive
2. SAP Aerospace and Defense
3. SAP Consumer Products
4. SAP Banking

5. SAP Chemicals
6. SAP High Tech
7. SAP Engineering and Construction
8. SAP Healthcare
9. SAP Higher Education and Research
10. SAP Insurance
11. SAP Media
12. SAP Oil and Gas
13. SAP Mill Products
14. SAP Mining
15. SAP Public Sector
16. SAP Pharmaceuticals
17. SAP Service Providers
18. SAP Retail
19. SAP Telecommunications
20. SAP Utilities

Q. What is SAP R/3?

SAP R/3 is ERP software that was officially launched in 1992. It is a replacement for the SAP R/2 mainframe computing-based ERP software and is based on client-server computing. With the advent of client-server computing, SAP AG in Germany (founder of the SAP ERP software) launched SAP R/3 to provide client-server-based real-time business solutions. The letter "R" in SAP R/3 represents the real-time business data processing, while the number "3" represents the three tiers in client-server computing.

1. The three tiers in client-server computing are: presentation (client), application (business logic), and database (stores the actual business data).
2. SAP R/3 integrates various business areas, such as sales, purchase, and procurement, by using different functional modules, such as Materials Management (MM), Sales and Distribution (SD), Financial (FI), Controlling (CO), and Human Resource (HR).
3. Different versions of SAP R/3 include 3.1i, 4.0b, 4.5b, 4.6b, and 4.6c; the latest version is 4.70.

Q. How did different versions of SAP evolve?

Since its inception, SAP has continued to support changing business processes and to adapt itself to the needs of organizations. In order to support the most current business strategies, SAP has evolved over time and progressed through the following versions:

1. SAP R/1—This was the first version of SAP and was developed for financial accounting systems. This version is no longer available.
2. SAP R/2—This was the second version of SAP. It replaced the R/1 version in the 1970s and was a mainframe-based business application. SAP R/2 supported multiple currencies and languages to help internationalize business management. This version is also no longer available.
3. SAP R/3—This version replaced SAP R/2, adding support for client-server-based distributed systems. This new version of SAP is multi-plat formed, meaning it can be installed and used on multiple platforms, such as Windows or UNIX.

Q. Why are industry-specific solutions used in SAP R/3? Industry-specific solutions are used in the SAP R/3 ERP application in order to automate various business processes for almost every industry, including automotive, oil and gas, and chemical. By automating business processes, the SAP R/3 application helps organizations meet the following challenges:

1. *Emerging markets*—Earning revenue in emerging markets
2. *Competition*—Maintaining successful business operations in a world of fierce competition
3. *Increasing demands*—Handling increasing and varying customer demands
4. *Labor issues*—Solving the problems that arise for business operations requiring efficient skilled labor
5. *Workforce shortages*—Solving the problem of a shortage of skilled personnel

- The importance of industry-specific solutions comes from a very basic foundation of thought: every type of business is unique and therefore needs to be catered to accordingly. The same philosophy may not be applicable for automotive businesses and integrated steel plants, because both require entirely different approaches to business planning. The automotive industry is based on the assembling of equipment and parts–discrete manufacturing, whereas the integrated steel plant is a continuous manufacturing unit. Therefore, each business's functionalities are different in areas such as production and inventory management.

Q. What benefits will be realized after implementing SAP in any organization?

After the installation of SAP R/3 in an organization, the following changes will occur:

1. Improvement in project management and project execution capabilities
2. Integration of suppliers and subcontractors
3. Optimization of sales-order capabilities
4. Comprehensive business support specific to a particular industry type
5. Minimal cost of ownership
6. Uniformity of business processes
7. Ability to make safe strategic choices

Q. What are the different modules in SAP R/3?

and CO. These modules are further grouped into various business-functional areas. The functional areas and the SAP R/3 modules in those functional areas are as follows:

- *Financial applications*—Deals with an organization's financial matters, such as preparing and analyzing financial documents and reporting the document output to the appropriate authorities for further processing. To manage all these concerns, the following SAP R/3 modules are grouped in this functional area:

- FI—Financial Accounting
- CO—Controlling
- EC—Enterprise Controlling
- IM—Investment Management
- TR—Treasury

Human resources—Deals with documents related to an organization's human resources department. The SAP R/3 modules grouped in this area help an organization to manage processes such as salary creation and distribution, employees' payroll across the organization, and transferring data to other relevant departments, such as finance. This area consists of the following modules:

- Personnel Management
- Time Management

- Payroll
- Training and Event Management
- Organizational Management

Logistics applications— This is the largest area covered by SAP R/3. This area helps manage broad-level business processes such as sales and distribution of products, materials management, production planning, and quality management. This area consists of the following modules:

- MM—Materials Management
- SD—Sales and Distribution
- PP—Production Planning
- PM—Plant Maintenance
- LO—Logistics
- QM—Quality Management
- PS—Project System
- WM—Warehouse Management

Q. What are the core functionalities of the SAP system?
The core functionalities of the SAP system are Sales and Distribution (SD), Materials Management (MM), Financial Accounting (FI), and Production Planning (PP). In the first phase, companies implement the SAP software with these core functionalities. Later, in the second and third phases, they may also introduce other functionalities, such as Controlling (CO), Warehouse Management (WM), and Human Resource (HR). However, the types of modules and the phasing of implementation depends solely on the type of industry in which the client works, as well as the organization's readiness and the urgency with which the integrated enterprise system, such as SAP, must be adopted.

Q. How can we define an MM module? What is its importance in SAP R/3?
MM stands for Materials Management and is a part of the Logistics functional area of SAP R/3. It is an important SAP R/3 module because it helps manage broad-level business activities, such as procurement, valuation and assignment, batch management, and materials storage. Since

materials are the most precious resource of an organization, extreme care needs to be taken in all the processes related to materials management. Efficient materials management is the essence of the MM module of SAP R/3.

Q. How is the MM module integrated with other modules of SAP?

- The MM module deals with materials procurement on the basis of the production required; therefore, it is linked with the PP module.
- The SD module is proportionally related to the MM module, because it uses information about the quantity of material sent for production.
- The WM module is related to the MM module, because the MM module maintains information about materials storage and materials transfers inside an organization.
- The FI module is also related to the MM module, because every operation performed in the MM module directly impacts the financial processes of the organization.

Q. What are the main components of the MM module? How are these components used in SAP?

The MM module of SAP R/3 is used for materials procurement and management. This is the largest of all the SAP modules and is divided into the following subcomponents:

- *Purchasing*—Allows users to control the entire purchasing process.
- *Inventory management*—Allows users to keep track of the materials in stock. It also helps users to perform operations, such as goods receipts, goods issues, and physical stock transfers.
- *Invoice verification*—Allows users to verify invoices from vendors. The invoices are compared with the purchase order and the goods receipts in the following three ways:

- Content
- Price
- Quantity

Physical inventory—Allows users to keep track of the materials stored in an organization. Inventory is taken on the basis of measurement units, such as number or weight of items, at a given storage location at a specific time.

- *Valuation*—Allows users to calculate the value of all fixed and current assets, along with all

payables, at a certain time and with the appropriate legal requirements.

- *Materials requirements planning*—Helps users to create a materials procurement plan for a plant or company.
- *Materials master*—Helps users to manage all of the materials-related data.
- *Service master*—Helps an organization keep records of the services that it procures.
- *Foreign trade/customs*—Allows users to manage the export and import of merchandise among different customs territories.

ORGANIZATIONAL STRUCTURE

Q. What is the organizational structure in the materials management (MM) module? The organizational structure in the MM module is a hierarchy in which various organizational units are arranged according to their tasks and functions. The different organizational units that constitute the organizational structure of the company are as follows:

- *Client*—A self-contained unit in the SAP system with separate master records and its own set of tables.
- *Company code*—The smallest organizational unit. You can create an independent set of accounts for this unit for the purpose of external reporting.
- *Plant*—An organizational unit where materials are produced or goods and services are provided. You can divide an enterprise into various plants according to production, procurement, maintenance, and materials planning.
- *Storage location*—An organizational unit where the goods produced in the plant are stored.
- *Warehouse number*—An alphanumeric key that represents a warehousing system, which is made up of different organizational and technical storage areas.
- *Storage type*—An area such as a goods receipt area, goods issue area, or picking area. Also the physical or logical division of a complex warehouse.
- *Purchasing organization*—An organizational unit that procures materials and services and negotiates with vendors to purchase materials or goods.

- *Purchasing group*—An alphanumeric key for a buyer or a group of buyers who are involved in purchasing activities. The purchasing group is responsible for materials procurement and dealing with vendors.

Q. What are the levels of organizational units in Enterprise Structure in SAP R/3?
The client is the highest level unit of the organizational units in Enterprise Structure in SAP R/3. The client is followed by the company code, which represents a unit with its own accounting, balance, and profit and loss (P&L). The next level of organizational units in Enterprise Structure is the plant, which represents an operational unit of a company.

Q. Define "client." What is its importance in SAP?
A client can be defined as a person, company, or organization that purchases goods from another person, company, or organization. In terms of SAP, a client is defined as a unit that has its own master records and a set of tables. The client is important in SAP because it stores and maintains data about the organization where SAP is implemented.

Q. How do we create a client in the MM module?
You can create a client in the MM module either by using the transaction code SCC4 or by performing the following steps:

- Select *SAP Menu > Tools > Administration > Administration > Client Administration*.
- Double click *SCC4–Client Maintenance*. The display view *Clients: Overview* screen appears.
- Select *Display > Change*. The information dialog box appears.
- Click Continue. The change view Clients: Overview screen appears where you can create a new client.

Q. Define "company." How is it different from a client? What are the data in the MM module that are maintained at the company code level?
A company is an organizational unit for which individual financial statements are drawn per the relevant commercial laws. A company consists of one or more company codes. Within a company, all company codes must use the same transactions in addition to the same fiscal year breakdown; however, company code currencies can vary.
A company is different from a client because a client can itself be a company, or an organization

that has multiple companies. For example, the owner of the entire SAP system is a client. The system will have only one operational client, but the client may further have a group of companies. The following data are held at the company code level:

Q. Explain what is SAP MM?

SAP MM (Material Management) is a functional module in SAP that deals with procurement handling and material management. The MM module contains master data, system configuration and transactions to complete the procure to pay process.

Q. What are the essential components in SAP MM?

- Determine requirements
- Source determination
- Vendor Selection
- Order Processing
- Order follow up
- Goods receipts and Inventory management
- Invoice Verification

Q. List out important field in purchasing view?

The critical fields in purchasing view are

- Base unit of measure
- Order unit
- Purchasing group
- Material group
- Valid from
- Tax indicator for material
- Manufacturer part number
- Manufacturer, etc.

Q. Explain how you can link a document to a vendor master record?

To link the document with the vendor master record by using the XK01 transaction code or by using the following menu path

- SAP Menu > Logistics > Material Management > Purchasing > Master Data > Vendor > Central > XK01- Create.

Q. Mention what is the transaction code used to extend the material view?

To extend the material view transaction, code MM50 is used.

Q. For creating a purchasing info record what are the pre-requisites?

The pre-requisites for creating a purchase info record are

- Material Number
- MPN (Manufacturer Part Number)
- Vendor Number
- Organizational level code

Q. Explain the terms Planned delivery and GR processing time?

Planned delivery means number of calendar days required to obtain the material, and GR processing means number of workdays required after receiving the material for inspection and placement into storage.

Q. What is purchase requisition as related to SAP? Mention the document types that are used in purchase requisition?

Purchase requisition in SAP determines both stock and non-stock items to the purchasing department. It can be done either manually or automatically, the document types used in purchase requisition are

- RFO (Request For Quotation)
- Outline Agreement
- PO (Purchasing Order)

Q. Explain how you can create a vendor account group in SAP?

To create vendor account group in SAP

- Select display IMG > Financial Accounting > Accounts Payable/Receivable >Vendor Accounts > Master Records > Preparation of creating vendor master records > Define Accounts groups with Screen Layout

Q. Explain what MRP (Material Requirement Planning) list is and what is the transaction code to access MRP list?

MRP list is the initial working document from which the MRP controller starts working, and it consists of planning results information for the material. For an individual item, you can access the MRP list by using the transaction code MD05. You can also access the MRP list by navigation path

SAP Menu > Logistics > Materials Management > MRP > Evaluations > MRP List- Material

Q. What are Features of SAP ERP?

SAP is an enterprise resource planning software which is produced by the German corporation. SAP is a enterprise information software that was basically designed to manage resources, information and activities that are required to complete business processes like procurement and managing orders, billing of orders and management of human resources.

Q. What are the organizational levels in SAP R/3?

The top level of the organizational structure is the client, followed by company code, which represents a unit with its own accounting unit. The next level down is plant where procurement activities take place. A plant will produce goods and makes goods available for the company. The purchasing organization is the legally responsible for procurement transactions. This group is further subdivided into purchasing groups.

Q. What is difference between purchase requisition and purchase order?

Purchase requisition is an internal document and it is a request that is made to purchasing organization to procure certain list of material while purchase order is formal document that is given to vendor containing list of items to be procured from vendor.

The purchase requisition process starts with a purchase requisition or purchase request form, a document that is created by the purchaser and submitted to the department that controls finances. Consider this the part of the purchasing process where you get the thumbs up to purchase the goods and services you want. You're not actually ordering anything, you're getting the approval to do so. This serves as the first step in an efficient audit trail for purchasing.

The purchase order (PO) is where the buying happens. Once the purchasing or procurement department has approved the purchase requisition and given you the figurative thumbs up to purchase your desired goods and services, it issues a purchase order to the vendor. Purchase orders are typically created using electronic purchasing systems like Purchase Control, which enable businesses to track POs and submit them electronically. Again, information may vary, but purchase orders generally include the name of the company purchasing the goods or services, the description and quantity of the goods or services, price, a mailing address, payment information and terms, invoice address, and a purchase order number.

Q. What is a RFQ and how it is different from quotation?
A: RFQ is request for quotation and it is a form of invitation that is sent to vendors to submit quotation indicating pricing and their terms and conditions while quotation is a reply by a vendor in response to request for quotation.

In Purchasing, the RFQ and the quotation form a single document. Prices and conditions quoted by vendors are entered in the original RFQ. If you have issued an RFQ to several vendors, you can have the system determine the most favorable quotation submitted and automatically generate letters of rejection to the unsuccessful bidders. You can also store the prices and terms of delivery from certain quotations in an info record for future accessing. RFQs can be subject to a release procedure.

Q. Can you manually create purchase requisition with reference to documents such as purchase order or scheduling agreement?
No, purchase requisition cannot be created with either of these as it is an internal document which is controlled by purchase organization.

Q. Is material and vendor data available at all organizational levels?
Yes, material and vendor data is available at all levels as it is normally created for company and it is valid for the levels below company.

Q. What do you mean by material type?
Materials with some common attributes are grouped together and they are assigned to a material type. This will differentiate materials and allow organization to manage different materials in systematic manner in accordance to company's requirement.

Q. What is a source list?

Source list include list of possible sources of supply for a material over a given framework of time. A particular material can be ordered from different vendors in different time intervals. This information can be maintained in a source list

Q. What is a MRP

Material requirements planning (MRP) is a computer-based inventory management system designed to improve productivity for businesses. Companies use material requirements-planning systems to estimate quantities of raw materials and schedule their deliveries.

MRP is designed to answer three questions: *What* is needed? *How much* is needed? *When* is it needed?" MRP works backward from a production plan for finished goods, which is converted into a list of requirements for the subassemblies, component parts, and raw materials that are needed to produce the final product within the established schedule.

By parsing raw data—like bills of lading and shelf life of stored materials—this technology provides meaningful information to managers about their need for labor and supplies, which can help companies improve their production efficiency.

The data that must be considered in an MRP scheme include:

- Name of the final product that's being created. This is sometimes called independent demand or Level "0" on BOM.
- What and when info. How much quantity is required to meet demand? When is it needed?
- The shelf life of stored materials.
- Inventory status records. Records of net materials available for use that are already in stock (on hand) and materials on order from suppliers.
- Bills of materials. Details of the materials, components, and sub-assemblies required to make each product.
- Planning data. This includes all the restraints and directions to produce such items as routing, labor and machine standards, quality and testing standards, lot sizing techniques, and other inputs.

Q. What is a MPS

The master production schedule (also commonly referred to as the MPS) is effectively the plan that the company has developed for production, staffing, inventory, etc.

It has as input a variety of data, e.g. forecast demand, production costs, inventory costs, etc and as output a production plan detailing amounts to be produced, staffing levels, etc for each of a number of time periods.

This production plan:

- operates at an aggregate level (that is it does not usually go into great detail about parts to be used, etc - hence the name aggregate planning); and
- is cost driven, that is it attempts to meet the specified requirements at minimum cost.