CHAPTER

1 ERP OVERVIEW

LEARNING OBJECTIVES

- What is ERP concept?
- Business functions and Business processes
- Business Modeling
- ERP and Related Technologies
- Enterprise Resource Planning using Web 2.0
- Open Source ERP Products

1.1 What is ERP Concept?

An enterprise is a group of people with a common goal, having certain resources at its disposal to achieve this goal. In an enterprise way, the entire organization is considered as one system and all the departments are its sub-systems. Information regarding all aspects of the organization is stored centrally and is available to all departments. Resources include money, manpower, materials, machines, technologies etc.

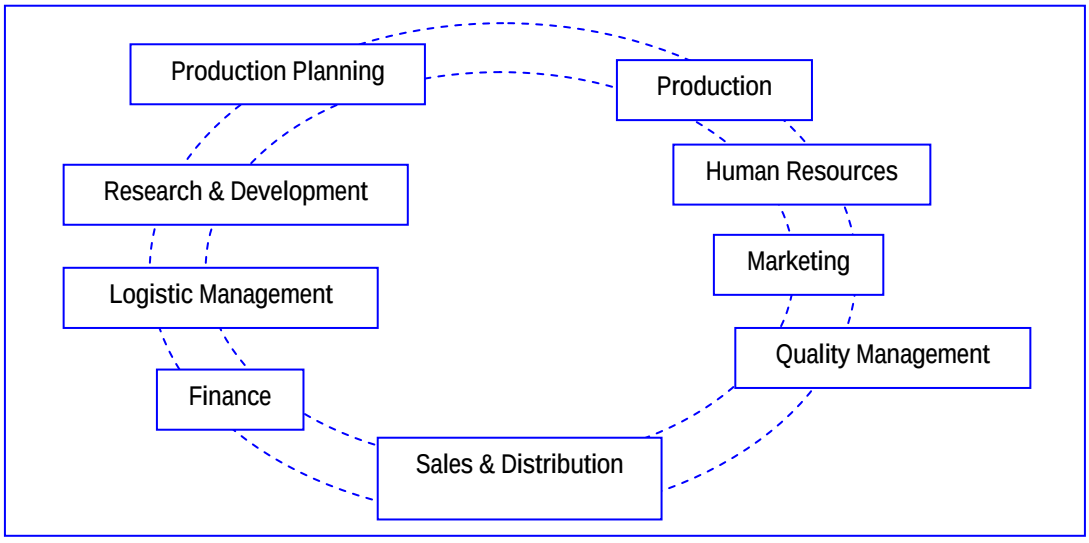


Fig. 1.1.1 An enterprise wherein there are stand alone *Systems with no communication*

As shown in Fig. 1.1.1, each department will maintain separate databases and design applications as per their functionalities. As shown in Fig. 1.1.2, ERP combines all the business requirements of the company together into a single, integrated software program that runs off a single database so that the various departments can

more easily share information and communicate with each other. This transparency and information access ensures that the departments no longer work in isolation pursuing their own independent goals.

Each sub-system knows what others are doing, why they are doing it and what should be done to move the company towards the common goal. The ERP systems help to make this task easier by integrating the information systems, enabling smooth and seamless flow of information across departmental barriers, automating business processes and functions, and thus helping the organization to work and move forward as a single entity.

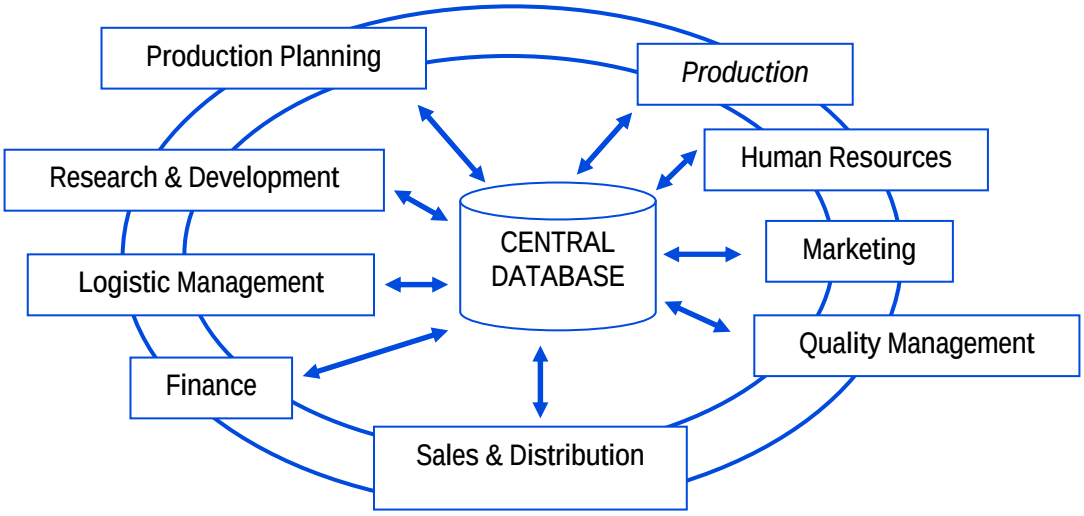


Fig. 1.1.2 Enterprise where all Departmens communicate to each other in an ERP System

1.2 Business Functions and Business Processes

Organizations have different functional areas of operation – marketing and sales, production and materials management, accounting and finance, human resources etc. Each functional area comprises a variety of business functions and business activities.

A business process is a collection of activities that make one or more kinds of input and creates an output that is of value to the customer. A business process cuts across more than one business function to get a task done. For example – One of the business functions of the customer service department is to accept the damaged item and to replace or repair it depending upon the severity of the damage, whereas actual repair or replacement of the car is a business process that involves several functional areas and functions within those areas.

Sharing data effectively and efficiently between and within functional areas leads to more efficient business processes. Information systems can be designed so that accurate and timely data are shared between functional areas. These systems are called Integrated Information Systems.

1.3 Business Modeling

The approach to ERP is to first develop a business model comprising the business processes or activities that are the essence of the business. A business model is not a mathematical model, but a representation of the business as one large system showing the interconnections and interdependencies of the various sub-systems and business processes.

In business modeling, the business is modeled as an integrated system, and the processes managing in facilities and materials are the resources. Information, though not described as a resource, is vital in managing all the resources and can, therefore be added as a resource while showing the concept of a business. Thus the business model is a representation of the actual business, the various business functions of the organization, how they are related, their interdependencies, and so on. The business model is represented in the graphical form using flowcharts and flow diagrams. The data model of the system is created from the business model.

1.3.1 Integrated Data Model

ERP systems provide an access to the integrated data, to all the employees from the different departments. With the implementation of ERP systems, all the data has to-be-from the integrated database and not from the isolated databases, thus reducing the data redundancy and providing updated and upto the minute information about the entire organization to all the employees.

Thus while designing the data model for the ERP system the most important thing is the information integration and the process/procedure automation. The data model should reflect the entire organization and should successfully depict an integrated data structure of the entire organization.

Fig. 1.3.1 depicts the data model and its relationship with the Real World.

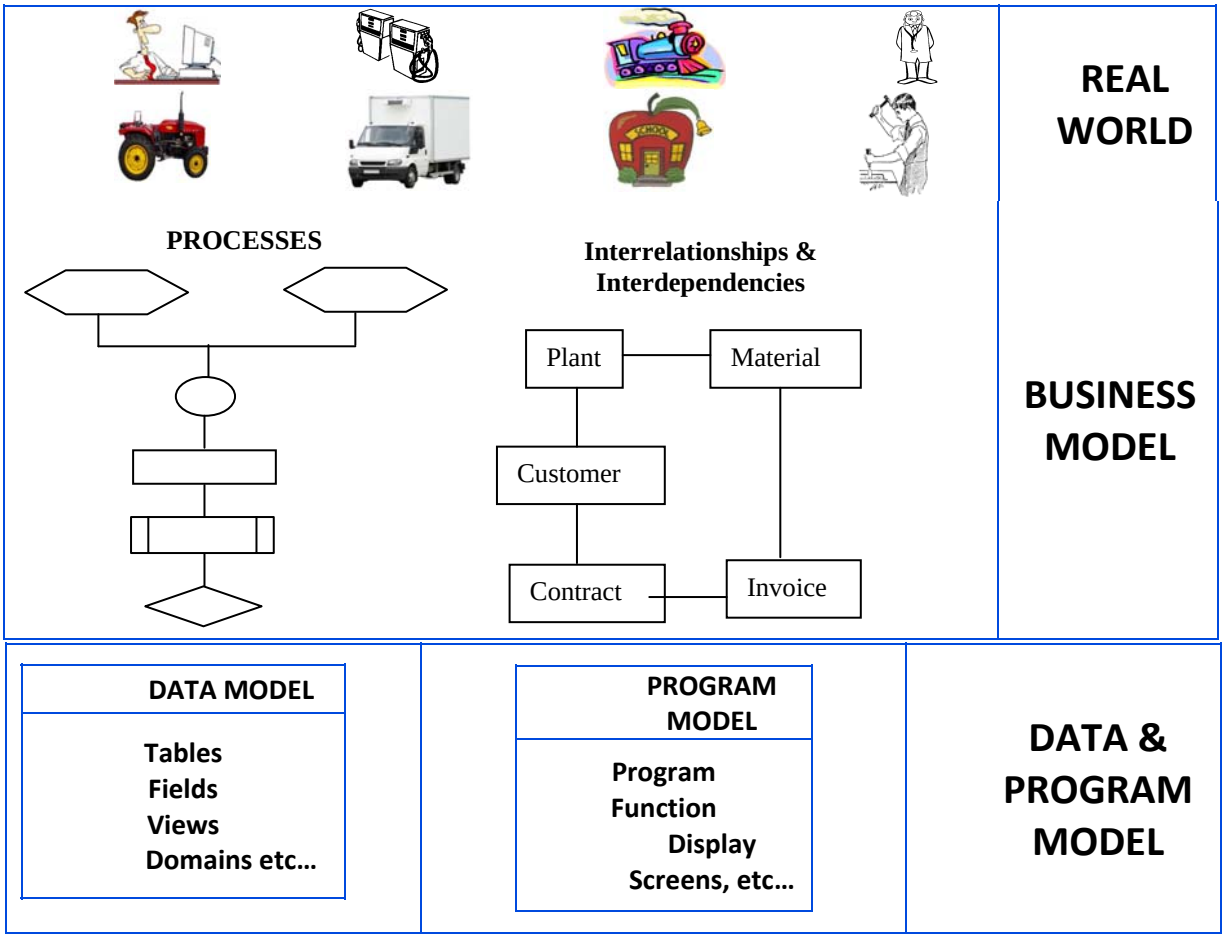


Fig. 1.3.1 Interrelationship between Models

1.4. ERP and Related Technologies

1. Business Intelligence
2. Online Analytical Processing (OLAP)
3. Product Life Cycle Management (PLM)
4. Supply Chain Management (SCM)
5. Customer Relationship Management (CRM)

1.4.1 Business Intelligence

Business Intelligence (BI) is a tool that refers to skills, processes, technologies, applications and practices used to facilitate better, accurate and quicker decision making. Business intelligence systems are data-driven Decision Support Systems. In modern businesses, the use of standards, automation and specialized software. Including analytical tools, allows large volumes of data to be extracted, transformed, loaded and warehoused to greatly increase the speed at which information becomes available for decision-making.

To maximize the value of the information stored in ERP systems, it is necessary to extend the ERP architectures to include more advanced reporting, analytical and decision support capabilities. This is best accomplished through the application of data warehousing, data mining, OLAP and other analysis, reporting and business intelligence tools and techniques.

1.4.2 Data Warehousing

If operational data is kept in the database of the ERP system, it can create lot of problems. As time passes, the amount of data will increase and this will affect the performance of the ERP system. As the volume of the data in the database increases, the performance of the database and the related application degrades. Thus, archiving the operational data once its use is over is a better option.

Data warehousing technology is the process of creating and utilizing the company's historical data i.e. separating the operational data from non-operational data. The primary concept of data warehousing is that the data stored for business analysis can most effectively be accessed by separating it from the data in the operational systems.

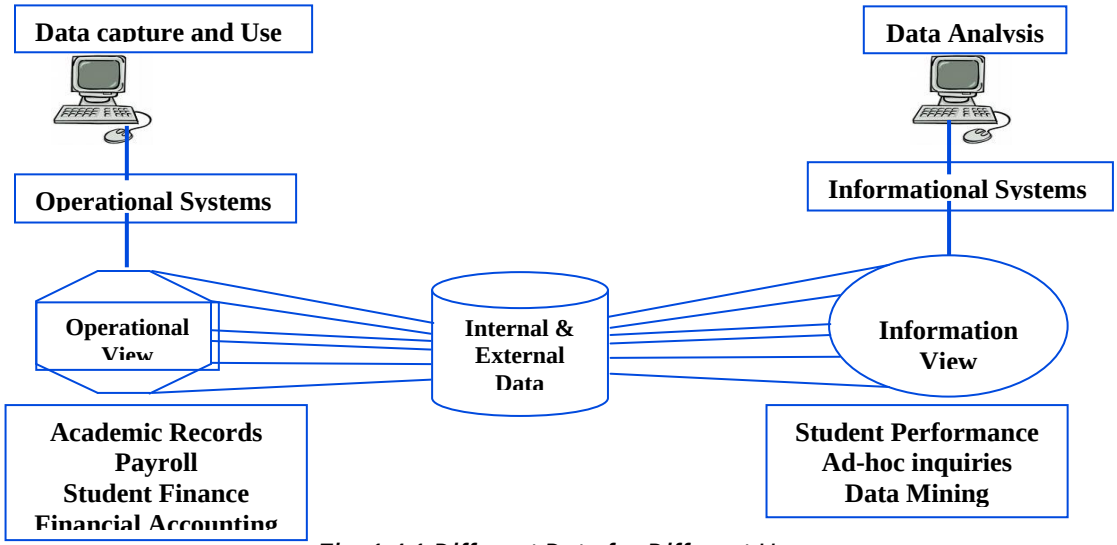


Fig. 1.4.1 Different Data for Different Uses

Data Warehouses can be defined as subject-oriented, integrated, time-variant, non-volatile collections of data used to support analytical decision making. The data in the Warehouse comes from the operational environment and external sources.

Subject Orientation

Data Warehouses are designed around the major subject areas of the enterprise; the operational environment is designed around applications and functions. Data Warehouses do not contain information that will not be used for informational or analytical processing; operational databases contain detailed data that is needed to satisfy processing requirements but which has no relevance to management or analysis.

Integration and Transformation

The data within the Data Warehouse is integrated which means that there is consistency among naming conventions, measurements of variables, encoding structures, physical attributes, and other salient data characteristics. As the data is moved to the warehouse, it is transformed into a consistent representation as required.

Time Variance

Data in Data Warehouse is accurate as of some moment in time, providing an historical perspective. This differs from the operational environment in which data is intended to be accurate as of the moment of access.

Non-Volatility

Data in the warehouse is static, not dynamic. The only operation that occur in Data Warehouse applications are the initial loading of data, access of data, and refresh of data. For these reasons, the physical design of a Data Warehouse optimizes the access of data, rather than focusing on the requirements of data update and delete processing.

In the Data Warehouse model, operational databases are not accessed directly to perform information processing. Rather, they act as the source of data for the Data Warehouse, which is the information repository and point of access for information processing. An Operational Data Store ("ODS") is a database designed to integrate data from multiple sources to make analysis and reporting easier. Because the data originates from multiple sources, the integration often involves cleaning, resolving redundancy and checking against business rules for integrity. There are sound reasons for separating operational and informational databases, as described below.

- The users of informational and operational data are different. Users of informational data are generally managers and analysts; users of operational data tend to be clerical, operational and administrative staff. Fig. 1.4.1 illustrates the fact that different sets of users access the data, using different sets of applications and for different purposes.
- Operational data differs from informational data in context and currency. Informational data contains an historical perspective that is not generally used by operational systems.
- The technology used for operational processing frequently differs from the technology required to support informational needs.
- The processing characteristics for the operational environment and the informational environment are fundamentally different.

1.4.2.1 Data Warehousing Activities

Data Warehousing requires both business and technical expertise and involves the following activities:

- Accurately identifying the business information that must be stored in the warehouse
- Identifying and prioritizing subject areas to be included in the Data Warehouse.
- Managing the scope of each subject area which will be implemented into the Warehouse on an iterative basis.
- Developing a scalable architecture to serve as the warehouse's technical and application foundation, and identifying and selecting the hardware /software/ middleware components to implement it.
- Extracting, cleansing, aggregating, transforming and validating the data to ensure accuracy and consistency.
- Defining the correct level of summarization to support business decision making.
- Establishing a refresh program that is consistent with business needs, timing and cycles.
- Providing user-friendly, powerful tools at the desktop to access the data in the Warehouse.
- Educating the business community about the realm of possibilities that are available to them through Data Warehousing.
- Establishing a data warehouse help desk and training users to effectively utilize the desktop tools.
- Establishing processes for maintaining, enhancing and ensuring the ongoing success and applicability of the warehouse.

1.4.2.2 Data Warehousing Functions

Fig. 1.4.2 illustrates the flow of data from originating sources to the user, and includes management and implementation aspects. It starts with access mechanisms for retrieving data from heterogeneous operational data sources. That data is replicated via a transformation model and stored in the data warehouse.

The definition of data elements in the data warehouse and in the data sources, and the transformation rules that relate them, are referred to as 'metadata'. Metadata is "data about data" and is the means by which the end-user finds and understands the data in the warehouse.

The data transformation and movement processes are executed whenever an update to the warehouse data is desired.

Different parts of the warehouse may require updates at different times, some at regular intervals such as weekly or monthly, and some on specified dates. There should be a capability to manage and automate the processes required to perform these functions.

Particularly in a multi-vendor environment, adopting architecture with open interfaces would facilitate the integration of the products that implement these functions.

Quality consulting services can be an important factor in assuring a successful and cost effective implementation.

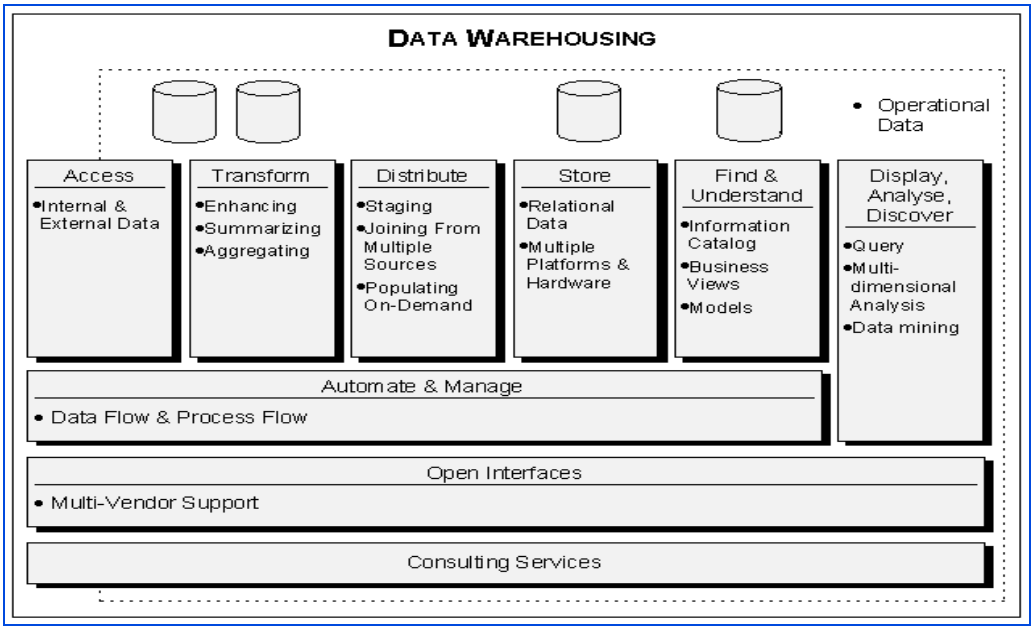


Fig. 1.4.2 Data Warehousing Functions

Benefits

- A data warehouse provides a common data model for all data of interest regardless of the data's source. This makes it easier to report and analyze information than it would be if multiple data models were used to retrieve information such as sales invoices, order receipts, general ledger charges, etc.
- Prior to loading data into the data warehouse, inconsistencies are identified and resolved. This greatly simplifies reporting and analysis.
- Information in the data warehouse is under the control of data warehouse users so that, even if the source system data is purged over time, the information in the warehouse can be stored safely for extended periods of time.
- Because they are separate from operational systems, data warehouses provide retrieval of data without slowing down operational systems.
- Data warehouses can work in conjunction with and, hence, enhance the value of operational business applications, notably customer relationship management (CRM) systems.
- Data warehouses facilitate DSS applications such as trend reports (e.g., the items with the most sales in a particular area within the last two years), exception reports, and reports that show actual performance versus goals.

Disadvantages

- Data warehouses are not the optimal environment for unstructured data.
- Because data must be extracted, transformed and loaded into the warehouse, there is an element of latency in data warehouse data.

- Over their life, data warehouses can have high costs. Maintenance costs are high.
- Data warehouses can get outdated relatively quickly. There is a cost of delivering suboptimal information to the organization.

Application Areas

Some of the applications data warehousing can be used for are:

- Credit card churn analysis
- Insurance fraud analysis
- Call record analysis
- Logistics management.

1.4.3 Data Mining

Data Mining is the process of identifying valid, novel, potentially useful and ultimately comprehensible knowledge from databases that is used to make crucial business decisions. Data mining is the process of extracting patterns from data. As more data are gathered, data mining is becoming an increasingly important tool to transform these data into information. It is commonly used in a wide range of profiling practices, such as marketing, surveillance, fraud detection and scientific discovery.

Data mining in relation to Enterprise Resource Planning is the statistical and logical analysis of large sets of transaction data, looking for patterns that can aid decision making.

The main reason for the necessity of automated computer systems for intelligent data analysis is the enormous volume of existing and newly appearing data, accumulated each day by various businesses, scientific and governmental organizations around the world that requires processing.

Further, automated data mining systems has a much lower cost than hiring an army of highly trained and professional statisticians. While data mining does not eliminate human participation in solving the task completely, it significantly simplifies the job and allows an analyst who is not a professional in statistics and programming to manage the process of extracting knowledge from data.

1.4.4 Online Analytical Processing (OLAP)

Online Analytical Processing, or OLAP, is an approach to quickly answer multi-dimensional analytical queries. OLAP is part of the broader category of business intelligence, which also encompasses relational reporting and data mining. The typical applications of OLAP are in business reporting for sales, marketing, management reporting, Business Process Management (BPM), budgeting and forecasting, financial reporting and similar areas.

Databases configured for OLAP use a multidimensional data model, allowing for complex analytical and ad-hoc queries with a rapid execution time. OLAP systems use concept of OLAP cube called a multidimensional cube or a hypercube consisting of numeric facts called measures which are categorized by dimensions. The cube metadata is typically created from a set of tables (Facts and Dimensional) in a relational database. Measures are derived from the records in the fact table and dimensions are derived from the dimension tables.

The output of an OLAP query is typically displayed in a matrix (or pivot) format. The dimensions form the rows and columns of the matrix; the measures form the values.

1.4.4.1 Characteristics of OLAP

1. Fast: Means that the system is targeted to deliver most responses to users within no time.
2. Analysis: Means that the system can cope with any business logic and statistical analysis that is relevant for the application and the user, and keep it easy enough for the target user.
3. Shared: Means that the system implements all the security requirements for confidentiality and if multiple write access is needed, concurrent update locking at an appropriate level.
4. Multi-Dimensional: Means that the system must provide a multi-dimensional conceptual view of the data, including full support for hierarchies and multiple hierarchies.
5. Information: Is all of the data and derived information needed, wherever it is and however much is relevant for the application.

OLAP technology is most commonly applied for sales and marketing analysis, financial reporting and consolidation, budgeting and planning, product profitability and pricing analysis, activity based costing, manpower planning and quality analysis.

1.4.5 Product Life cycle Management (PLM)

The conditions under which a product is sold will change over time. The product life cycle refers to the succession of stages a product goes through. Product Life cycle Management is the succession of strategies used by management as a product goes through its life cycle.

In other words, PLM is the process of managing the entire lifecycle of a product from its conception, through design and manufacture, to service and disposal. PLM integrates people, data, processes and business systems and provides a product information backbone for companies and their extended enterprise.

PLM helps organizations in the following areas:

- Reduce time-to-market through faster design and validation.
- Optimally deploy CAD and prototyping resources to complete critical projects.
- Reduce product development and manufacturing costs.
- Reduce levels of obsolete component inventory at multiple locations.
- Get product design changes into productivity quickly.

1.4.6 Supply Chain Management

A supply chain is a network of facilities and distribution options that performs the functions of procurement of materials, transformations of these materials into intermediate and finished products and the distribution of these finished products to customers. Supply chain management (SCM) is the management of a network of interconnected businesses involved in the ultimate provision of product and service packages required by end customers. It is defined as the process of planning, implementing and controlling the operations of the Supply

chain as efficiently as possible. SCM includes movement and storage of raw materials, work-in-process inventory, and finished goods from point-of-origin to point-of-consumption. In essence, SCM integrates supply and demand management within and across companies.

SCM can be grouped into strategic, tactical and operational levels of activities.

1.4.6.1 Strategic

- Strategic network optimization, including the number, location, and size of warehousing, distribution centers, and facilities.
- Strategic partnerships with suppliers, distributors, and customers, creating communication channels for critical information and operational improvements such as cross docking, direct shipping, and third-party logistics.
- Product life cycle management, so that new and existing products can be optimally integrated into the supply chain and capacity management activities.
- Information technology infrastructure to support supply chain operations.
- Where-to-make and what-to-make-or-buy decisions.
- Aligning overall organizational strategy with supply strategy.

1.4.6.2 Tactical

- Sourcing contracts and other purchasing decisions.
- Production decisions, including contracting, scheduling, and planning process definition.
- Inventory decisions, including quantity, location, and quality of inventory.
- Transportation strategy, including frequency, routes, and contracting.
- Benchmarking of all operations against competitors and implementation of best practices throughout the enterprise.
- Milestone payments.
- Focus on customer demand.

1.4.6.3 Operational

- Daily production and distribution planning, including all nodes in the supply chain.
- Production scheduling for each manufacturing facility in the supply chain (minute by minute).
- Demand planning and forecasting, coordinating the demand forecast of all customers and sharing the forecast with all suppliers.
- Sourcing planning, including current inventory and forecast demand, in collaboration with all suppliers.
- Inbound operations, including transportation from suppliers and receiving inventory.
- Production operations, including the consumption of materials and flow of finished goods.

- Outbound operations, including all fulfillment activities, warehousing and transportation to customers.
- Order promising, accounting for all constraints in the supply chain, including all suppliers, manufacturing facilities, distribution centers, and other customers.

SCM addresses our clients' challenges through seven service areas as shown in Fig 1.4.3

- Supply Chain Strategy
- Supply Chain Planning
- Logistics
- Procurement
- Product Lifecycle Management
- Supply Chain Enterprise Applications
- Asset management

Fig. 1.4.3 Data Warehousing Functions

1.4.7 Customer Relationship Management (CRM)

Customer Relationship Management is a corporate level strategy, focusing on creating and maintaining relationships with customers. It covers methods and technologies used by companies to manage their relationships with clients.

There are several different approaches to CRM, with different software packages focusing on different aspects:

1. Operational CRM

Operational CRM provides support to "front office" business processes, e.g. to sales, marketing and service staff. Interactions with customers are generally stored in customers' contact histories, and staff can retrieve customer information as required.

The contact history provides staff members with immediate access to important information on the customer (products owned, prior support calls etc.), eliminating the need to individually obtain this information directly from the customer. Reaching to the customer at right time at right place is preferable.

Operational CRM processes customer data for a variety of purposes:

- Managing campaigns
- Enterprise Marketing Automation
- Sales Force Automation
- Sales Management System

2. Analytical CRM

Analytical CRM analyzes customer data for a variety of purposes:

- Designing and executing targeted marketing campaigns
- Designing and executing campaigns, e.g. customer acquisition, cross-selling, up-selling, add on-selling
- Analyzing customer behavior in order to make decisions relating to products and services (e.g. pricing, product development)
- Management information system (e.g. financial forecasting and customer profitability analysis)

Analytical CRM generally makes heavy use of data mining and other techniques to produce useful results for decision-making. It is at the analytical stage that the importance of fully integrated CRM software becomes most apparent - the more information available to analytical software, the better its predictions and recommendations will be.

3. Sales Intelligence CRM

Sales Intelligence CRM is similar to Analytical CRM, but is intended as a more direct sales tool. Features include alerts sent to sales staff regarding:

- Cross-selling/Up-selling/Switch-selling opportunities
- Customer drift
- Sales performance
- Customer trends
- Customer margins
- Customer alignment

4. Campaign Management

Campaign management combines elements of Operational and Analytical CRM. Campaign management functions include:

- Targeting groups formed from the client base according to selected criteria
- Sending campaign-related material (e.g. on special offers) to selected recipients using various channels (e.g. e-mail, telephone, SMS, post)
- Tracking, storing, and analyzing campaign statistics, including tracking responses and analyzing trends

5. Collaborative CRM

Collaborative CRM covers aspects of a company's dealings with customers that are handled by various departments within a company, such as sales, technical support and marketing. Staff members from different departments can share information collected when interacting with customers. For example, feedback received by customer support agents can provide other staff members with information on the services and features requested by customers. Collaborative CRM's ultimate goal is to use information collected by all departments to improve the quality of services provided by the company. Producers can use CRM information to develop products or find new market. CRM facilitates communication between customers, suppliers and partner.

6. Consumer Relationship CRM

Consumer Relationship System (CRS) covers aspects of a company's dealing with customers handled by the Consumer Affairs and Customer Relations contact centers within a company. Representatives handle in-bound contact from anonymous consumers and customers. Early warnings can be issued regarding product issues (e.g. item recalls) and current consumer sentiment can be tracked (voice of the customer).

7. Simple CRM

It is a relatively new spinoff of the traditional CRM model first appearing in 2006. At their core, CRM tools are designed to manage customer relationships. As described above there are countless supplemental features and capabilities. Simple CRM systems breakdown the traditional CRM system to focus on the core values, i.e managing contacts and activities with customers and prospects. These systems are designed to create the most value for the immediate end user rather than the organization as a whole. They often focus on satisfying the needs of a particular marketplace niche, organizational unit, or type of user rather than an entire organization.

8. Social CRM

Beginning in 2007, the rapid growth in social media and social networking forced CRM product companies to integrate "social" features into their traditional CRM systems. Some of the first features added were social network monitoring feeds (e.g. Twitter timeline). Other emerging features include messaging, sentiment analysis, and other analytics. CRM experts agree that online social communities and conversations have significant consequences for companies, and must be monitored for real-time marketplace feedback and trends.

1.5 Enterprise Resource Planning using Web 2.0

Enterprise systems of today cater to technologies and business practices that liberate the workforce from the constraints of legacy communication and productivity tools like email. They are perceived as critical tools expected to provide business managers with access to the right information at the right time through a web of inter-connected applications, services and devices.

In the global dynamic and vibrant market space, the need arise for an effective collaboration for virtual integration and interaction between partners, customers, suppliers, stakeholders, professionals and employees. Enterprises look forward to strategic investment in new innovative, novel business models engraved on new robust technologies that make accessible the collective intelligence of many, translating to a huge competitive advantage in the form of increased innovation, productivity and agility.

An Enterprise Resource Planning (ERP) system for an enterprise aims to provide optimized solutions to enterprises in leveraging their business process management activities at reduced cost and maximum operational efficiency. The ERP systems are on the outlook for quick return on investment (ROI) through new efficient and strategic business enabling technologies. The big focus is on partnering in the marketplace over the network (customer communities, cloud sourcing, and crowd sourcing), looking for major new opportunities for low cost growth, and to do more with less.

Web 2.0 techniques as coined by Andrew McAfee with the acronym SLATES as:

- Search: the ease of finding information through keyword search which makes the platform valuable.
- Links: guides to important pieces of information. The best pages are the most frequently linked to.
- Authoring: the ability to create constantly updating content over a platform that is shifted from being the creation of a few to being the constantly updated, interlinked work.
- Wikis- the content is iterative in the sense that the people undo and redo each other's work.
- Blogs- the content is cumulative in that posts and comments of individuals are accumulated over time.
- Tags: categorization of content by creating tags that are simple, one-word descriptions to facilitate searching and avoid rigid, pre-made categories.
- Extensions: automation of some of the work and pattern matching by using algorithms for recommendations.
- Signals: the use of RSS (Really Simple Syndication) technology to notify users with any changes of the content by sending e-mails to them.

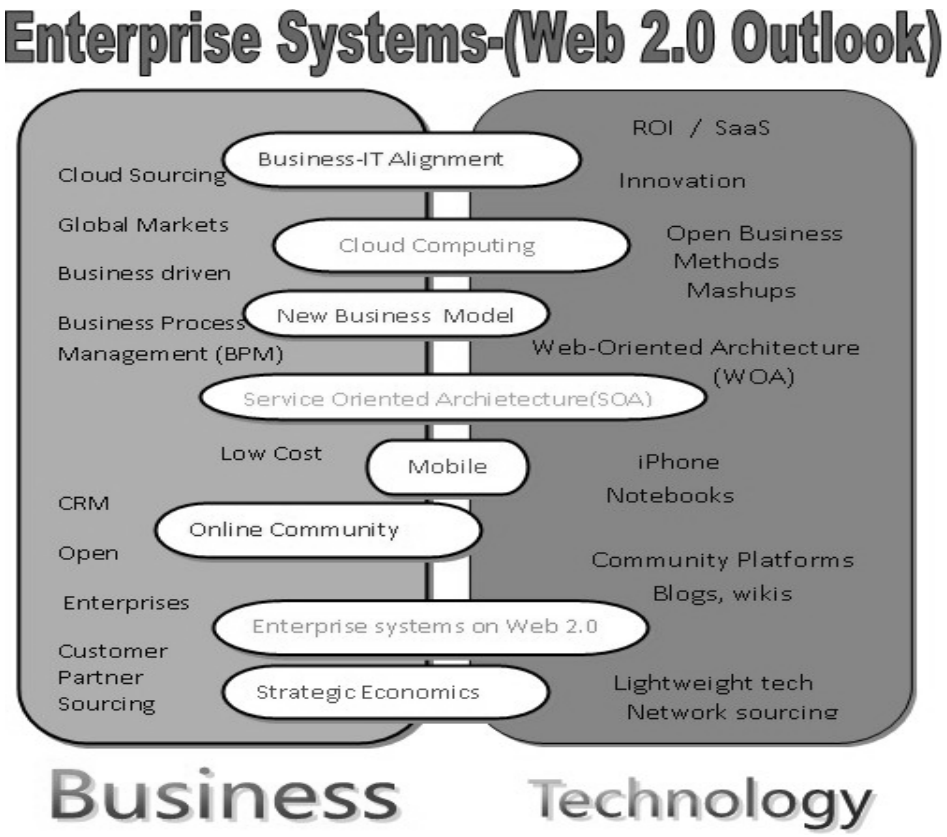


Fig. 1.5.1 Business Technology

Adapted from: blogs.zdnet.com/Hinchcliffe/images/ew2_outlook_2009.png.

The Web 2.0 technology framework integration into an Enterprise Resource Planning system enables using services built around Service Oriented Architecture (SOA) and Web Oriented Architecture (WOA). The technical Impacts of upgrading legacy application to Web are; web as a platform, harnessing collective intelligence, data as the core, end of the software release cycle, light weight programming models, and software as a service(SaaS) along with rich user experience(RIA). The two decisive features of the framework are "Network as platform" and "Architecture of participation".

(a) Network as platform: is used for computing, allowing users to run software-applications entirely through a browser, own the data and exercise control over that data. The enterprise of today is not to meet the demands of twelve markets of millions but to a million markets of twelve.

(b) Architecture of participation: that encourages users to add value to the application as they use it. The concept of Web-as-participation-platform captures these characteristics; rich user experience, user participation, dynamic content, metadata, web standards and scalability with openness, freedom and collective intelligence. The companies have recognized that user interaction, in and of itself, represents value to their services. The service's users are a network and can leverage that network to significantly strengthen the service.

The benefits and value additions on its ERP systems using web 2.0 characteristics are:

- Low cost investment.
- Increased customer satisfaction.
- Rich and user-friendly interface.
- Reduced re-investment cost.
- Solutions and services using new advanced technologies.
- Faster turn-around time by using latest and fastest technologies.
- Faster and timely data updates and data refreshes.
- Easy access for customers and users from any remote place through web.

(i) Revenue and growth- New revenue streams can be built and present revenue streams enhanced through community and social networking. In particular, the cost containment of the last few years has given way to business-side interest in innovation-based growth and revenue. The rapid growth and innovation in the Web space is seen as something that companies need to emulate.

(ii) Web-based economies of scale- Companies realize that they can dramatically cut the cost of capital equipment and people by using a Web-based delivery model to communities of their customers. Business to Consumer (B2C) companies is planning to support tens of millions of customers with just hundreds of employees.

(iii) Flexible employment models- The use of contract and agency staff for delivery allows flexibility and agility. Agency and contract staff can be thought of as another, specialized community and can be supported with Web 2.0 techniques, similar to customers.

Community creation as evangelism and support- Customers are a business's best sales, marketing, support and development organization. The creation of communities effectively outsources these cost centres, at zero cost. Indeed, with the inclusion of targeted advertising to the community, many of the present cost centres may become profit centres.

(iv) Community leader advantage- Community dynamics are such that the first successful community is by far the most powerful and the organization that owns this community is the one which controls the space. If an organization's competitors are first in the community space they will have very significant competitive advantage.

These are five areas in which Web 2.0 techniques can be used in working with customer communities to provide Business to Community.

To summarize the technology features of an enterprise system on time

Today's Enterprise(Web 2.0)	Yesterday's Enterprise
Flat Organization	Hierarchy
Ease of Organization Flow	Friction
Agility	Bureaucracy
Flexibility	Inflexibility
User-driven technology	IT-driven technology / Lack of user control
Bottom up	Top down
Distributed	Centralized
Teams are global	Teams are in one building / one time zone
Fuzzy boundaries, open borders	Tailored and boundaries
Transparency	Need to know Information systems are structured and dictated Taxonomies
Information systems are emergent	Overly complex
Folksonomies	Closed/ proprietary standards
Simple	Scheduled Long time-to-market cycles
Open	
On Demand	
Short time-to-market cycles	

Source: msdn.microsoft.com/en-us/library/bb735306.aspx

Despite a more-challenging economic environment, more small and midsize businesses (SMBs) are obtaining the benefits of efficiency and the information advantage that ERP suites can deliver. A survey by Dataquest insight on ERP suite trends and characteristics recommends the following:

- Differentiate go-to-market strategies by addressing more-focused line-of-business and vertical-market requirements of SMBs. Focus on the vertical markets with the highest concentration of users. Investigate complementary areas and invest in partnerships and/or development funds to seed further revenue opportunities.
- Address subtle distinctions in ERP systems across small, lower- mid- and upper-midmarket businesses in go-to-market strategies to maximize revenue opportunity.
- Incorporate SaaS, Web 2.0 and service-oriented architecture (SOA) enablement into product plans, which have grown in their influence and awareness within the SMB market.
- SMB ERP suite should take note of business model migration from product-centric to service-centric initiatives and evaluate new delivery models that can achieve quicker and more-tailored deployments.
- Proactively engage users being targeted across the SMB spectrum via user groups and feedback mechanisms (focus groups, advisory committees, and so forth) to do a better job segmenting and targeting distinctive submarkets and their requirements, as well as understanding the nuances in servicing SMBs.
- Emphasize clear direct communication with users with respect to updated product road maps and persist partners to update on an annual basis.

1.6 Open Source ERP Products

Companies availing ERP services always face the hassle of paying a large sum of money for license fees, implementation, modification and deployment. However ERP open source helps to remove this drawback. The companies can download the software programs at free of cost and use them.

Some of the features of Open Source ERP are as follows:

1. Cutting down the costs.
2. Reducing dependence on the vendors.

1.6.1 Limitations of Open Source ERP

1. Increased complexities
2. Legal complexities
3. Unsuitable for conventional applications

Selected List of Open ERP Software's are:

Title	Functionalities	Technical / Platform	Website
Openbravo ERP Software	Openbravo ERP encompasses a broad range of functionalities such as finance, supply chain & manufacturing.	Openbravo ERP is a Web based ERP for SME built on proven MVC & MDD framework. Built on Java and Javascript, SQL and PL/SQL and XML.	http://www.openbravo.com/
SQL-Ledger ERP Software	Accounting/ERP system for manufacturers, retail and service businesses. SQL-Ledger® ERP is a double entry accounting/ERP system. Accounting data is stored in a SQL database server. The entire system is linked through a chart of accounts. Each item in inventory is linked to income, expense, and inventory and tax accounts.	SQL-Ledger is platform independent and runs on any Mac or Windows computer	http://www.sql-ledger.org
PostBooks ERP Software	Accounting, CRM package for small to midsized businesses. 1. Accounting (general ledger, accounts receivable and payable, bank reconciliation, financial reporting) 2. Sales (quotes, order entry, sales reporting, shipping) 3. CRM (universal address book, incident management, opportunity management, to-do lists, project	Built with the open source PostgreSQL database, and the open source Qt framework for C++. ERP client runs on Linux, Mac, and Windows (built with open source Qt framework).	http://www.xtuple.com/postbooks

	management) 4. Purchasing (purchase orders, receiving, vendor reporting) 5. Product Definition (items, infinite-level bills of material) 6. Inventory (multiple locations, other advanced warehouse features) 7. Light Manufacturing (work orders, strong support for make-to-order) 8. OpenRPT open source report writer		
OpenERP Software	OpenERP is a modular system and has modules for Accounting and Finance, CRM, Human Resources, Inventory (Stock) Manufacturing, Purchase and procurement Sales and Marketing. The latest version of Ubuntu (8.04) has version 4.2 called TinyERP.	OpenERP has a server and client install for Windows, Mac and Linux variations. The main Linux distributions have OpenERP in their repositories ready for an easy install. Platform: Windows, Linux, FreeBSD, OpenSolaris Database: PostgreSQL	http://www.opensourceaccountingsoftware.com
FireERP Software	Powerful and free ERP, CRM, eBusiness and SCM /SRM solution for business enterprises.	JFire is entirely free/open-source software, uses the latest technologies (J2EE 1.4, JDO 2.0, Eclipse RCP 3.3) and is designed to be highly customizable. Current Versions: Tough Trader (0.9.4-beta)	https://www.jfire.org
ERP5ERP Software	ERP5 Finance is a complete accounting and finance solution designed with and certified by chartered accountants. ERP5 is suitable for small to large multinational organizations in the private or public sector.	It is mainly developed in the Python programming language and the source code is freely available under the GNU General Public License.	http://www.erp5.com/solution/erp5-solution-erp
Project-open ERP Software	PO integrates areas such as CRM, sales, project planning, project tracking, collaboration, timesheet, invoicing and payments.	Web-based project management & project portfolio management system for service and consulting companies with 2-200 employees	http://www.project-open.org/

Table 1.6.1 List of Open ERP Software's

CHAPTER

2 ERP IMPLEMENTATION

LEARNING OBJECTIVES

- Implementation Life Cycle
- Issues on ERP Implementation
- ERP Implementation -Traps
- ERP Security Audit

"Enterprise Computing is on the road to operational efficiency on thin budgets."

ERP is the process of integrating all the business functions and processes in an organization to achieve numerous benefits. It is especially important for companies which are "intimately connected" to their vendors and customers, and use electronic data interchange (EDI) to process sales transactions electronically. Therefore, the implementation of ERP is exceptionally beneficial to businesses such as manufacturing plants that mass-produce products with little changes.

2.1 Implementation Life Cycle

The flowchart in the figure below depicts several activities that must be performed before implementing an ERP system.

Step 1: Managers must conduct a feasibility study of the current situation to assess the organization's needs by analyzing the availability of hardware, software, databases, and in-house computer expertise, and make the decision to implement ERP where integration is essential. They must also set goals for improvement and establish objectives for the implementation, and calculate the break-even points and benefits to be received from this expensive IT investment.

Step 2: The second major activity involves educating and recruiting end users to be involved throughout the implementation process.

Step 3: Managers form a project team or steering committee that consists of experts from all functional areas to lead the project.

Step 4: After a decision is made to implement ERP, a team of system consultants will be hired to evaluate the appropriateness of implementing an ERP system, and to help select the best enterprise software provider and the best approach to implementing ERP. In most situations, the consultant team also recommends the modules that are best suited to the company's operations (manufacturing, financials, human resources, logistics, forecasting, etc.), system configurations, and Business-to-Business applications such as supply-chain management, customer relationship management, e-procurement, and e-marketplace.

Step 5: Adequate employee and manager training must be provided to all business, stakeholders, including managers, end users, customers, and vendors, before the system is implemented. Such training is usually customized and can be provided by either internal or outside trainers.

Step 6: The system installation process will address issues such as software configuration, hardware acquisition, and software testing.

Step 7: Data and information in the databases must be converted to the format used in the new ERP system and servers and networks need to be upgraded. A post implementation review is recommended to ensure that all business objectives established during the planning phase are achieved. Needed modifications are tackled during this phase too.

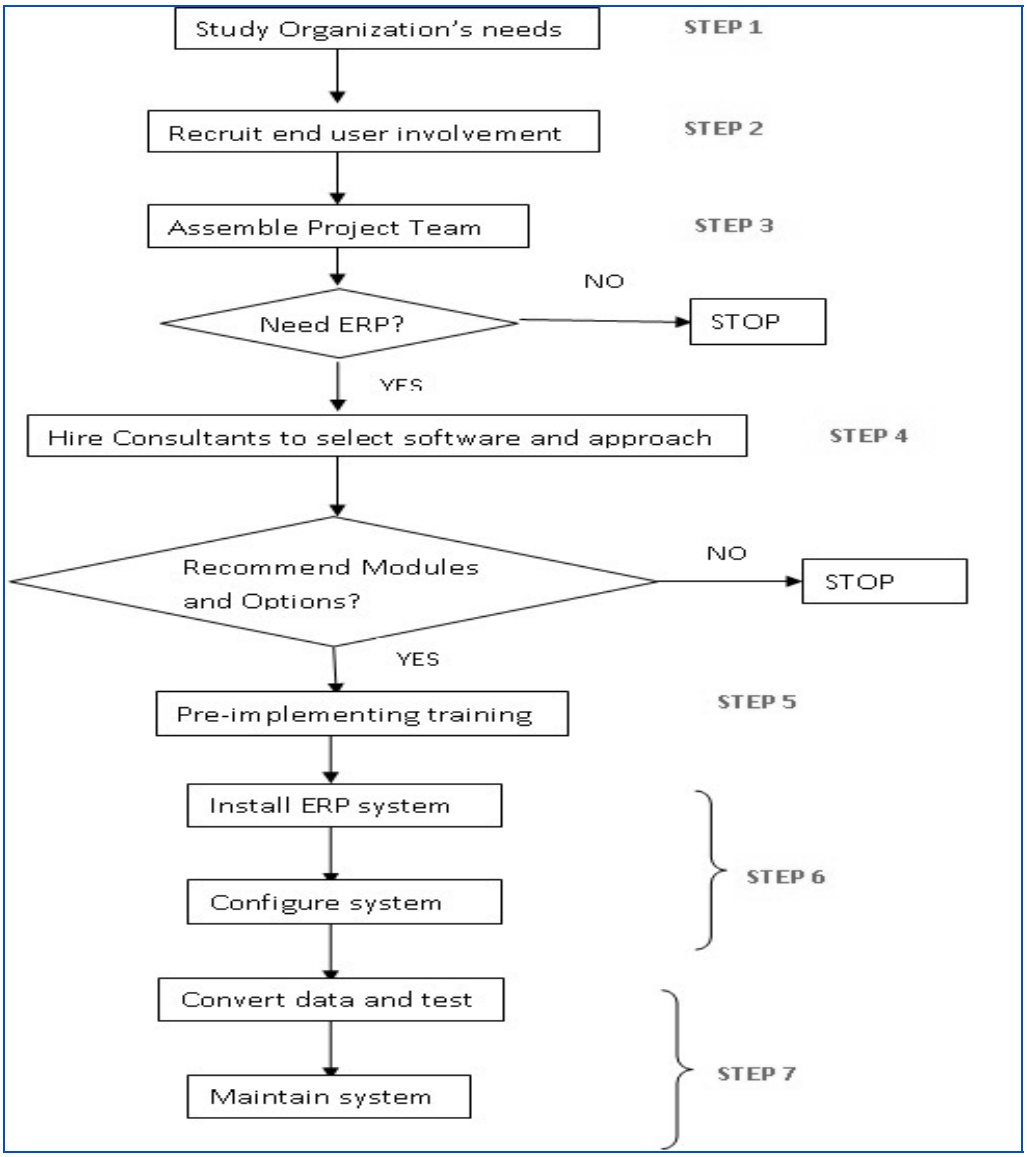


Fig 2.1.1 Activity flowchart before ERP implementation.

2.2 Issues on ERP Implementation

Implementing an ERP causes massive change that needs to be carefully managed to reap the benefits of an ERP solution. Critical issues that must be carefully considered to ensure successful implementation include fundamental issues, organizational change process, people, and implementation cost and time and employee morale. The pertinent issues are:

1. Fundamental Issues

Implementation of an ERP system can be long, costly, and labor-intensive and can affect an organization's bottom line if done incorrectly. To ensure the success of any ERP implementation project, a project team consisting of an ERP consultant, internal auditing, and IT staff familiar with the company's business operations should be established and their role must be defined.

(a) Role of Manager: Managers must consider the fundamental issues of system integration by analyzing the organization's vision and corporate objectives.

- Does management fully understand its current business processes, and can it make implementation decisions in a timely manner?
- Is management ready to undertake drastic business process reengineering efforts to yield dramatic outcomes?
- Is management ready to make any changes in the structure, operations, and cultural environment to accommodate the options configured in the ERP system?
- Is the organization financially and economically prepared to invest heavily in an ERP implementation?

(b) Role of an Auditor: Auditors play a proactive role in helping the organization laying the foundation for an initiative's success with their knowledge of internal control practices, compliance requirements, and business processes. In particular, internal auditors can:

- Document abbreviations and their function.
- Identify documents used in the organization's daily operations.
- Compile a list of the organization's master data sets.
- List the internal controls that are applied and adopted during each business process stage.
- Create a list of currently used and recently generated management information reports.

(c) Top Management Commitment: Management needs to exploit future communication and computing technology issues in order to integrate the ERP system with e-business applications in their organization to decide on the key related implementation and business issues. Due to enormous impact on the competitive advantage of the company, top management must consider the strategic implications of implementing an ERP solution keeping in mind the size of the company and the modules installed. Management must ask several questions before embarking on project.

- Does the ERP system strengthen the company's competitive position? How might it erode the company's competitive position?

- How does ERP affect the organizational structure and the culture? What is the scope of the ERP implementation -- only a few functional units or the entire organization?
- Are there any alternatives that meet the company's needs better than an ERP system?
- If it is a multinational corporation, the management should be concerned about whether it would be better to roll the system out globally or restrict it to certain regional units?

2. Organizational Change Process

ERP implementation requires organizations to reengineer their key business processes reengineering of the existing processes, integration of the ERP with other business information systems, selection of right employees, and training of employees on the new system.

(a) Reengineering of the existing Process: Implementing an ERP system involves reengineering the existing business processes to the best business process standard which at the end must conform to the ERP model. ERP systems are built on best practices that are followed in the industry, though the cost and benefits of aligning with an ERP model and customizing could be very high. The more the customization, the greater the implementation costs.

(b) Integration of ERP with other BIS: The benefits of an ERP application are limited unless it is seamlessly integrated with other information systems. Some of the major concerned areas would be:

- Integration of ERP Modules
- Integration of E-Business Applications
- Integration with Legacy Systems

(c) Selection of Right Employees: Companies intending to implement an ERP system must be willing to dedicate some of their best employees to the project for a successful implementation. Internal resources on the project should exhibit the ability to understand the overall needs of the company and should play an important role in guiding the project efforts in the right direction. Companies should consider comprehensive guidelines while selecting internal resources for the project. Lack of proper understanding of the project needs and the inability to provide leadership and guidance to the project by the company's internal resources is a major reason for the failure of ERP projects.

(d) Training Employees: Training and updating employees on ERP is a major challenge as it is extremely complex and demanding. It is difficult for trainers or consultants to pass on the knowledge of ERP package to the employees in a short period of time. This knowledge transfer gets hard if the employees lack computer literacy or have computer phobia. In addition to being taught ERP technology, employees have to be taught their new responsibilities.

3. Implementation Cost and Time

(a) Implementation Cost: Even though the price of prewritten software is cheap compared with in-house development, the total cost of implementation could be three to five times the purchase price of the software. The implementation costs would increase as the degree of customization increases. After training the selected employees, strategies such as bonus programs, company perks, salary increases, continual training and education, and appeals to company loyalty work to retain them. Other intangible strategies such as flexible

work hours, telecommuting options, and opportunities to work with leading-edge technologies are also being used.

(b) Implementation Time: ERP systems come in modular fashion and do not have to be implemented entirely at once. ERP packages are very general and need to be configured to a specific type of business and may follow a phase-in approach with one module implemented at a time. Some of the most commonly installed modules are Sales and Distribution (SD), Materials Management (MM), Production and Planning, (PP), and Finance and Controlling (FICO) modules. The length of implementation is affected by the number of modules being implemented, the scope of the implementation, the extent of customization, and the number of interfaces with other applications. The more the number of units, the longer the implementation time. Further as the scope of implementation grows from a single business unit to multiple units spread out globally, the duration of implementation increases.

4. Employee Morale

Employees working on an ERP implementation project put in long hours (as much as 20 hours per day) including seven-day weeks and even holidays. Even though the experience is valuable for their career growth, the stress of implementation coupled with regular job duties could decrease their morale rapidly. Leadership from upper management and support and caring acts of project leaders would certainly boost the morale of the team members. Other strategies, such as taking the employees on field trips, could help reduce the stress and improve the morale.

ERP solutions are revolutionizing the way companies produce goods and services. They are a dream come true in integrating different parts of a company and ensuring smooth flow of information across the enterprise quickly. ERP systems bring lot of benefits to organizations by tightly integrating various departments of the organization.

ERP systems are very large and complex and require a careful planning and execution of their implementation. They are not mere software systems; they affect how a business conducts itself. The top contributor for a successful ERP implementation is strong commitment from upper management, as an implementation involves significant alterations to existing business practices as well as an outlay of huge capital investments. The other important factors are the issues related to reengineering the business processes and integrating the other business applications to the ERP backbone. Upper management plays a key role in managing the change an ERP brings into an organization. Organizational commitment is paramount due to possible lengthy implementation and huge costs involved. Integrating different software packages poses a serious challenge, and the integration patchwork is expensive and difficult to maintain.

Selecting and managing consultants pose a continuous challenge due to the shortage of skilled consultants in the market. Organizations could reduce the total cost of implementation if they reduce customization by adapting to the ERP's built in best practices as much as possible. Selecting the right employees to participate in the implementation process and motivating them is critical for the implementation's success. Finally, it is important to train the employees to use the system to ensure the proper working of the system.

An ERP implementation is a huge commitment from the organization, causing several lakhs of rupees and can take up to several years to complete. However, when it is integrated successfully, the benefits can be enormous. A well-designed and properly integrated ERP system allows the most updated information to be shared among various business functions, thereby resulting in tremendous cost savings and increased efficiency.

2.3 ERP Implementation - Traps

Even the most experienced organizations in information technology domain have had futile experiences in the implementation of the Enterprise Resource Planning (ERP) systems. This article highlights some of the issues which are presumed consequential to failures, they are by no means the most important, but they are missed in many implementations.

(a) Change Management and Training. This was mentioned as the major problem with implementations. Changing work practices to fit the system is a major difficulty. Also mentioned were training across modules and starting training sooner.

(b) To Business Process Re-engineering (BPR) or not to BPR. It is difficult to draw the line between changing Business Processes to suit the system or retaining Business Processes and paying the cost, in rupees and time, to change the system. As time and cost squeeze the implementation, the usual path is to not modify the system, but to change the way people work. This feeds back into Change Management and Training.

(c) Poor Planning. Planning covers several areas such as having a strong business case, to the availability of users to make decisions on configuration, to the investing in a plan that captures all the issues associated with implementing it.

(d) Underestimating IT skills. As most people are upgrading from old technology, the skills of the staff need to be upgraded as well. The upgrade is also going to place significant demands on a team who are geared to maintain an old but stable environment. Usually this effort is underestimated.

(e) Poor Project Management. Very few organizations have the experience in house to run such a complex project as implementing a large-scale integrated solution. It usually requires outside contractors to come in and manage such a major exercise. It can be a fine line between abdicating responsibility and sharing responsibility. Many consulting firms do a disservice to their clients by not sharing the responsibility.

(f) Technology Trials. The effort to build interfaces, change reports, customize the software and convert the data is normally underestimated. To collect new data, and clean the data being converted, will also require an effort that is beyond what is normally expected.

(g) Low Executive Buy-in. Implementation projects need senior executive involvement to ensure the right participation mix of business and IT, and to resolve conflicts.

(h) Underestimating Resources. Most common budget blow outs are change management and user training, integration testing, process rework, report customization and consulting fees.

(i) Insufficient Software Evaluation. This involves the surprises that come out after the software is purchased. Organizations' usually do not do enough to understand what, and how the product works before they sign on the bottom line. The Bleeding Edge ERP is so massive and integrated that reporting and linking to other systems (either your own or your customers and suppliers) can be much more difficult than you expect. Companies looking at ERP need to examine how they accept online feeds from a customer, or a customers' customer, and examine the technological enablers as well as the implications of these technologies inside of the Business.

These lead to a list of likely problems with an ERP system.

- The cost is likely to be underestimated
- The time and effort to implement is likely to be underestimated
- The resourcing from both the Business and IT is likely to be higher than anticipated
- The level of outside expertise required will be higher than anticipated
- The changes required to Business Processes will be higher than expected.
- Scope control will be more difficult than expected
- There will never be enough training - particularly across different modules

Most important of all, and the single biggest failure point for ERP implementations, is the need for change management. The need for change management is not likely to be recognized until it is too late. The changes required to corporate culture are likely to be grossly underestimated. It is going to be hard enough to cope with the technical issues without having to address major people issues as well.

2.4 ERP Security Audit

Enterprise Resource Planning (ERP) is an enterprise-wide information system designed to coordinate all the resources, information, and activities needed to complete business processes such as order fulfillment or billing. Many firms rely on ERP systems to implement business processes and integrate financial data across their value chains. This reliance increases the importance of ERP system security in protection of a firm's information assets. In recent years, the audit of ERP security has gained importance and begun receiving an increasing percentage of firms' audit budgets. However, the audit of ERP security remains a complex, lengthy and costly task due to a confluence of factors.

ERP systems are inherently complex systems spanning many functional areas and processes along a firm's value chain. They are designed to provide flexible solutions to business problems. The sheer number of possibilities available for configuring an ERP system implies many potential security configurations. However, ERP systems pay little attention to potential conflicts and problems in those security configurations. Deployment and implementation of ERP systems also pay little attention to security implications, as the main purpose is to solve business problems within time and budget. In post implementation stages, auditors have access to rudimentary ERP tools and capabilities for auditing security configurations. There are also shortages of staff members trained in the ERP security.

Unfortunately, the increased enthusiasm on this subject has been met with complex and costly challenges. Many companies and audit firms are not yet prepared to tackle the need for a rigorous ERP security audit. Major challenges in auditing ERP Security are given as follows:

(a) Complexity of ERP systems: Complexity of ERP systems leads to security vulnerabilities. ERP systems must be able to process a wide array of business transactions and implement a complex security mechanism that provides granular-level access to users. For example, in SAP R/3, hundreds of authorization objects are used to allow access to various actions in the system. A small or medium-sized organization may have 100

transactions that are commonly used, and each transaction typically requires at least two authorization objects. If the company has 200 end users who fill a total of 20 different roles and responsibilities, there are approximately 800,000 (100*2*20*200) ways to configure security in the ERP-and this scenario excludes other complexity factors, such as multiple transactions sharing the same authorization objects, an authorization object having up to 10 fields that can be assigned to various values, and the possibility of using position-based security. The point of this illustration is that the inherent complexity of an ERP system increases the complexity of security configurations and leads to potential security vulnerabilities. Flaws, errors and Segregation-Of-Duty (SOD) conflicts become more likely.

Consider a scenario in which a security administrator has to grant read-only access to transaction X, which requires him/her to assign 10 authorization objects to the role. At a later point in time, management decides to grant write access to transaction Y, which implies assigning five more authorization objects. One of the objects is common to both transactions and determines the write capability. Although these two changes are seemingly independent, due to the shared authorization object granting write privileges, the unintended consequence is a potential SOD conflict.

An ERP system does not automatically check for these kinds of security vulnerabilities. Unless the security administrator is well trained and employs rigorous positive and negative testing, he/she is likely to miss the unintended consequence of allowing write access to both transactions X and Y. As the number of potential configurations and authorization objects increases, it becomes increasingly difficult and costly to analyze the security implications of ERP configurations, such as the unintentional creation of SOD conflicts.

(b) Lack of ERP Tools: ERP tools for security audit are inadequate. Most of the security tools available in ERP packages are not designed to facilitate efficient and effective audit of ERP security. The main emphasis of ERP tools is on security configuration and maintenance. Recently, there has been an increase in the number of third-party product offerings assisting with ERP security and SOD reviews. However, many users complain that those tools often generate false positives and create more work for auditors.

(c) Customization of ERP Systems: The customization of ERP systems to firms inhibits the development of standardized security solutions. Every ERP implementation contains some level of customization specific to the firm undertaking the implementation. However, customization makes it difficult to develop a standard approach or methodology for conducting ERP security audits.

(d) Manpower: There is a shortage of manpower trained in ERP security. Most ERP training programs are designed for implementation efforts. They offer very little on ERP security and audit. Thus, there is a shortage of auditors who are trained in ERP security.

(e) Inadequate attention towards security: Implementers pay inadequate attention to ERP security during deployment. Many companies do not pay adequate attention to security implications of ERP configurations during the deployment and implementation of ERP systems. Implementation teams are usually tasked with finishing the implementation projects on time and within budget. They do not pay adequate attention to security implications since it increases implementation time and budget. Due to limited emphasis on security implications, ERP security becomes too lax, making post implementation problem identification and remediation very costly.

(f) Conventional Approach: Most ERP security audits today are performed using a manual approach.

There is little automation beyond the use of native tools that come standard with ERP packages. Unfortunately, the bottleneck of the manual approach is the limitation of the native security reporting tools found in most ERP products. These native tools are not designed to facilitate a large-scale audit effort, but rather to help security administrators perform occasional validation of the accuracy of security configuration. They allow reporting on only a single transaction per query, which may be adequate for a security administrator who works full time and handles each transaction request individually; however, it is not as practical for an IT auditor who is expected to perform the audit in a limited period of time and must test a large number of transactions. Although some IT auditors are able to utilize technology to perform this process more efficiently than others, as long as the process is based on the same philosophy of manual extraction followed by analysis, it continues to be an incredibly tedious and time-consuming task. The manual method is also prone to human errors.

In today's business life, ERP is recognized as an effective tool which supports most of the business systems that maintain the data needed for a variety of business functions such as Manufacturing, Supply Chain Management, Financials, Projects, Human Resources and Customer Relationship Management in a single database. On the other hand, auditing of ERP security is also a demanding area which requires proper attention. Though many steps have already been taken by various researchers worldwide, but for smooth and efficient functioning of business tasks in a better manner, there is still a need of many more initiatives to be taken in this direction.

2.5 Introduction to Tally.ERP 9

Tally.ERP 9 is the world's one of the fastest and most powerful concurrent multi-lingual business accounting and inventory management software. Tally.ERP 9, designed exclusively to meet the needs of small and medium businesses, is a fully integrated, affordable and comparatively reliable software. Tally.ERP 9 is easy to buy, quick to install, and easy to learn and use. Tally.ERP 9 is designed to automate and integrate all your business operations, such as sales, finance, purchasing, inventory, and manufacturing. With Tally.ERP 9, accurate, up-to date business information is literally at your fingertips anywhere. The powerful new features and blazing speed and power of Tally.ERP 9 combine with enhanced MIS, Multi-lingual, Data Synchronization and Remote capabilities help you simplify all your business processes easily and cost-effectively.

Features of Tally.ERP 9

The Tally.ERP 9 encompasses the following salient features:

- Simplicity: Tally.ERP 9 is simple, easy to setup and use. It also allows easy keyboard operations. It requires basic knowledge of accounts and English to use it.
- Speed: Tally.ERP 9 provides the capability to generate instant and accurate reports, which assists the management to take timely and correct decisions for the overall productivity and growth of the company.
- Power: Tally.ERP 9 allows the user to maintain multiple companies and with unlimited levels of classification & grouping capabilities. It also allows drill down facility from report level to transaction level.
- Flexibility: Tally.ERP 9 provides flexibility to generate instant reports for any given period (month/year) or at any point of time besides providing the facility to toggle between accounting & inventory reports of the same company or between companies.

- Scalability: Tally.ERP 9 suits to any style of business needs and eliminates the necessity for a business to change its style of operation, in order to adapt to the application.
- Concurrent multi-lingual capability: Tally.ERP 9 offers you the exclusive capability of maintaining your accounts in many Indian languages and few international languages, viewing them in another language and printing them in yet another Indian language.
- Real time processing: Immediate posting & updation of books of accounts as soon as the transactions are entered, thereby facilitating instant statements & reports. It also facilitates real-time multi-user environment.
- Accounting without codes: Tally.ERP 9 allows accounting with the regular names (the way you spell them or use in normal parlance) without any account codes.

2.6 Technological Features in Tally.ERP 9

It is a given that businesses grow either from being small / simple to larger / complex. Needing to cope up with scaling up business operations both internally and externally and bringing in much needed flexibility is a key requirement for any business. The enabling technology that makes this possible is detailed as below sections:

2.6.1 Quick and Easy installation

Tally.ERP 9 has a simple, menu-driven installation procedure. The user can install the program files on any drive if the hard disk has partitions. The user can also specify the name and directory location of the program files. Tally.ERP 9 uses minimum hard disk space in the local drive. Its installation on the local disk takes just a few seconds.

2.6.2 Codeless User Interface

As a business user, your vendors or customers are not codes but are entities that have a distinct name and identity. So why add Customer ID/code to them to create uniqueness. Let us take an example of customers who have the same name for their business for instance Ganesh Enterprises. Now while referring to them will you say account no 3456 Ganesh enterprises or account no 3457. What you would actually do is distinguish them by their area of operation, e.g. Ganesh Enterprises New Bazaar Street and Ganesh enterprises Gandhi Nagar. This not only overcomes the issue of speed and human error. Rapid incremental search without the introduction of new data elements is facilitated as well. For instance while typing Ganesh enterprises all business that begins with Ganesh is displayed and you can narrow on the choice very quickly.

2.6.3 Multiple aliases across languages

In business you may refer to the same item differently based on the context be it stocks, ledger accounts, locations, employees, categories, groups and so on. Tally's multi-referential system allows multiple names to refer to the same entity.

2.6.4 Extendible Units of Measure

A stock unit can be purchased, stocked, manufactured or sold in different units of measure. These measures are just simple units or are a derivative of specific units. Translation of units across each definition is easy and

intuitive. There are instances where the stocking unit and the transaction unit are different; this is possible by defining the multiplication factor at the time of at the transaction i.e. time of sale or Physical Stock take.

2.6.5 Unlimited Grouping and Classification

In business recasting accounting data is common place especially when reports are to be generated from a particular view of the business be it a geographical location, a product line, a department a function. This aspect needs to be configured at the time of setting up the COA or the relevant entities and brings in unnecessary rigidity. This rigidity is inherited even in the transactions and imposes restriction on reports that are generated. With Tally the flexibility to sub classify, re-classify entities removes this rigidity that is imposed at the transaction level also at the report really necessary and this aspect of being able to classify, reclassify items, groups & categories, godowns, ledger groups, cost categories, centers, budgets etc.

2.6.6 Unlimited multi-user support

A multi-user version of Tally.ERP 9 can be installed on a network, having any number of computers with different operating systems such as Win 95, 98, NT, 2000, XP, Vista, Windows 7, Windows 8, etc..

2.6.7 Graphical analysis of data

Tally.ERP 9 provides graphical analysis of data which helps the user to perform deeper analysis. The user can generate graphical analysis reports such as Sales Register, Purchase Register, Ledgers, Funds Flow, Cash Flow, Stock Item Registers and so on. This helps the management to quickly judge performance and be better prepared for difficult times.

2.6.8 Flexible and Extendible reporting

This is essentially ensuring that reports are not limited to specified financial years or periods thus allowing, generating total expenses for a particular period extending beyond multiple financial periods. This actually translates into eliminating concepts of day end processing, month end processing or posting to control accounts etc and keeping the accounting data free from such artificial bifurcations. Given this flexibility users are able to generate reports across 2 to 3 financial years an example to illustrate this business need is tracking civil construction project expenses across financial years. You can also track inventory levels, expenses for each project.

2.6.9 Data Reliability and Automatic recovery

Tally provides a high level of reliability of data with several technologies built into it. The data does not get corrupted even if there is a sudden machine shutdown or network breakdown or power cut. This is ensured using the concept of transaction atomicity which is supported by the object oriented storage. Tally uses data integrity checks intensively to detect any change to your data by external means. Any corruption happening in this way will be instantly detected as the program operates the data with a timely warning to you. Besides providing a warning, Tally provides you a unique capability to recover from most corruptions by allowing you to simply rewrite the data. The corrupted data is then discarded and you can continue with normal operations, at the most re-entering the corrupted transactions or masters only.

2.6.10 Internal backup/ restore

Tally.ERP 9 has an in-built, user-friendly 'backup and restore' option. It helps the user to take a backup of one or more companies or all companies, in a single directory, in the local hard disk, or in any external media.

2.6.11 Import/ Export of data

Any transaction can be exported and imported to other software after suitably altering the current structures to accept the Tally.ERP 9 data structure. Data can also be imported to Tally.ERP 9 by writing a Tally Definition Language program. The data which is to be exported from Tally.ERP 9 can be in XML, HTML or ASCII format.

2.6.12 Split Company Data

Tally.ERP 9 allows users to maintain a company for any number of financial years. Once the books of accounts have been completed for the earlier financial years, the user can split the company data into multiple companies as per financial periods required. Tally.ERP 9 also has a feature to split company data. The user can specify the date from which the company has to be split and Tally.ERP 9 will split the company to form two companies as per periods specified. Once the data has been split, the closing balance of the first period (first company) becomes the opening balance for the next period (second company).

2.6.13 HTTP-XML based data interchange

Tally uses a recursive object oriented data structure which can naturally and easily be expressed as XML. Tally can export your data in XML format and can also import data coming in XML format. This is a fundamental capability of the program and can be easily used to extract data for third party applications or to pump in data from third party applications as long as it is compliant with the schema of a voucher or master. The process can be automated since Tally can run as an HTTP (Hyper text transfer protocol) server and can process requests for import or export in HTTP-XML to this server from other applications. Even third party web applications written in ASP, PHP, and Java etc. can talk to your Tally running as an HTTP server and provide real-time information or remote data input. The third party application can send a request to Tally to get any report in XML or even in HTML formats. Even new reports can be added by defining them in TDL (Tally Definition Language). In the same way, a master or a voucher can be created in XML and sent to Tally server as an HTTP-XML request and will be processed and stored by Tally.

2.6.14 References

The concept of a document being correlated to transactions other than its document number is a concept that allows for one to one, many to one, many to many adjustment of payments/receipt against invoices/loans/other transactions. Work may not flow in sequence, for instance

Purchase Order > Advance > Invoice > Receipt of Goods > Goods Return > Payment

What actually happens is material is received, purchase orders are regularized, prices are re-negotiated, goods are received in multiple batches, multiple POs are processed into a single receipt note or multiple debit notes are raised for price adjustments etc. or payments are staggered based on delivery, All of this cannot be referred against a single document number and hence the need to separate reference nos. against document numbers bring about flexibility in the document flow and references at the same time.

2.6.15 Tally Fit Technology

Where names of accounts, party ledger accounts run beyond a certain length you are required to find abbreviations and sometimes these abbreviations that are not intuitive and becomes code based. With Tally fit technology the characters are reduced in breadth and user is allowed to input additional characters which would make the account name, entity complete and readable.

2.6.16 Multi-directory for company management

The user can create multiple directories / folders to store data. The data stored in these directories can be accessed directly in Tally.ERP 9, by specifying the path.

2.6.17 User-defined security levels

Tally.ERP 9 offers high levels of security. Users can define multiple levels of security according to their requirements. Every authorised user in the company can have an individual password, with rights to use specific features only. The user with the administrator level password will have full access and can set controls for other users.

2.6.18 Tally Audit Feature

The Tally.ERP 9 audit feature provides the user with administrator rights and the capability to check the entries made by the authorised users and alter these entries, if necessary. Once the entries are audited, Tally.ERP 9 displays the altered entries, if any, along with the name of the user, who has altered the entry, and the date and time of the alteration.

2.6.19 Tally Vault

Tally.ERP 9 offers a data encryption option called Tally Vault. Without the valid Tally- Vault password, the data cannot be accessed. Tally.ERP 9 follows the DES (Data Encryption Standard) encryption method to safeguard the data.

2.6.20 ODBC data access

Tally provides an ODBC (Open database connectivity) driver natively which allows other applications like MS-Excel (which can use an ODBC data source) to directly pick up data from Tally running as an ODBC server. This data is again real-time data and can be refreshed by such applications any time as long as Tally is running. You can pick and choose the available information and design your own reports in tools like Excel. The type of data available on ODBC from Tally can be extended using TDL (Tally definition Language).

2.6.21 Data Synchronization

Synchronization is the process of exchanging Tally.ERP 9 data between two or more locations. This process enables a branch office to send its data to the head office, over the Internet or a private network. Tally.ERP 9 has the ideal solution for those who have their data in Tally 7.2 and now want to use Tally.ERP 9.

2.6.22 Data Migration Capability

Tally.ERP 9 provides a migration tool which helps the user to migrate the data easily to the latest version and continue with day-to-day transactions. Data of all the previous versions, e.g. Tally 4.5, 5.4, 6.3, 7.2, 8.1, 9 can be migrated to Tally.ERP 9. Data of old version can be migrated to new version, but data of new version cannot be migrated to old version.

2.6.23 Multilingual capability

Tally.ERP 9 is the world's first accounting and inventory software with multilingual capability. Currently, Tally.ERP 9's multilingual capability extends to 12 languages which include nine Indian languages (Hindi, Gujarati, Punjabi, Tamil, Telugu, Marathi, Kannada, Malayalam and Bengali), Bahasa Melayu and Bahasa Indonesia. Tally.ERP 9 enables you to enter data in one language and have it transliterated into different languages. You can generate invoices, purchase orders or delivery notes in the language of your choice after entering data for the same in any of the nine specified languages. Also, the phonetic keyboard allows you to spell the term phonetically based on how it sounds and Tally.ERP 9 displays the data in the language selected after transliteration.

2.6.24 Direct web browser access

While working on Tally.ERP 9, the user can directly log on to the Tally website, provided he/ she have access to the Internet. The website lists details of all the facilities offered by Tally.ERP 9. The user can also download the latest release of Tally.ERP 9 as and whenever it is available. The Tally website also offers Tally Chat, by which a user can communicate with a Tally representative and get required information.

2.6.25 Web Publishing and Email Facility

Companies which want to publish reports and price lists on their website can do so directly from Tally.ERP 9. It also facilitates the mailing of any Tally.ERP 9 report or document.

2.6.26 Tally.NET

Tally.NET is an enabling framework which establishes a connection through which the remote user can access the Client's data without copying / transferring the data. In other words, the remote user can access the company data, provided the Company is open and connected on Tally.NET.

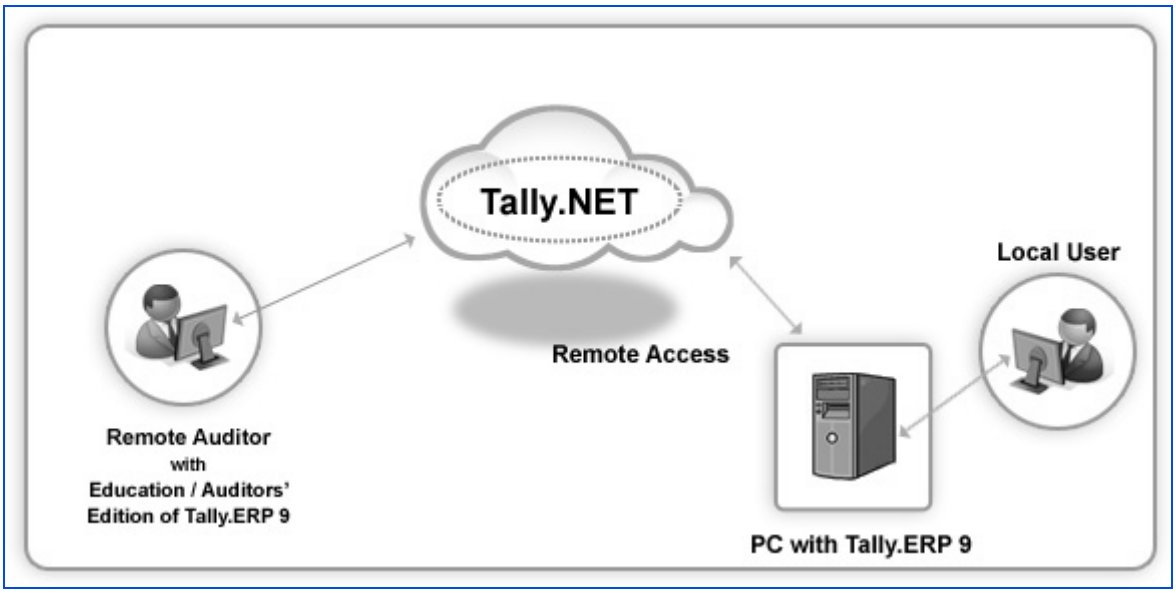


Fig. 2.6.1 Tally.NET

(a) Tally.NET Features

Tally.NET is a default feature available in the product and provides the following host of capabilities.

- Connect companies from Tally.ERP 9
- Create and maintain Remote Users
- Synchronization of data (via Tally.NET)
- Remote access of data by authorised Remote User(s)
- Use online help and support from Tally or the browser
- Use Control Centre for centralised Account Management
- Remote availability of Auditors' Edition of Tally License

2.6.27 Remote Access

Tally.ERP 9 provides remote capabilities to access the data from anywhere and anytime. The account administrator can create user id's, authorise and authenticate them to access data remotely.

The Remote users created under the security level Tally.NET Auditor or Tally.NET User can login, audit and access data from a remote location using another instance of Tally.ERP 9 running in Licensed or Educational mode. The data is transferred between the remote location and the server using a secured mechanism called encryption.

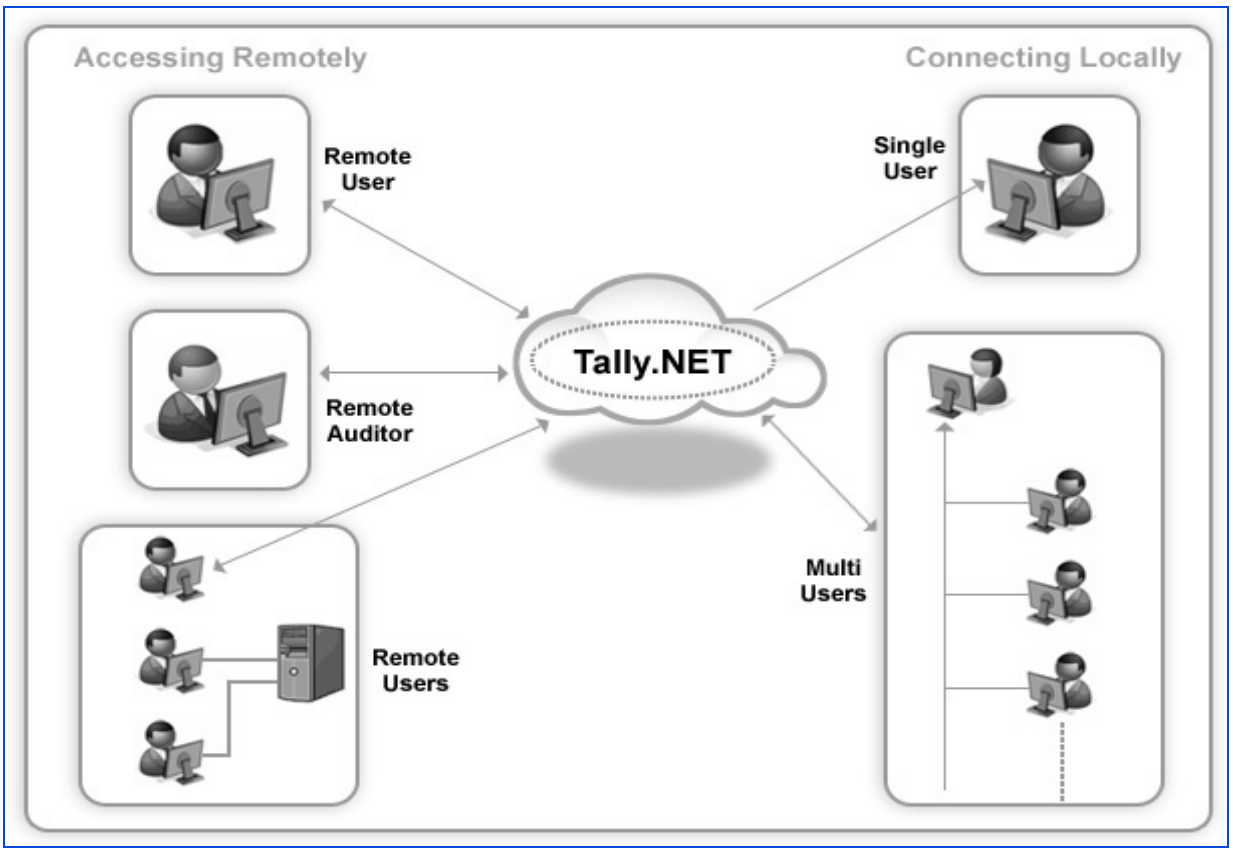


Fig. 2.6.2 Remote Access

2.6.28 Control Centre

Tally.ERP 9 provides a powerful feature named Control Centre to its users, which works as an interface between the user and Tally.ERP 9 installed at different sites, it enables the user to centrally configure and administer Site / User belonging to an account. The Control Centre encompasses the following features

- Manage Licenses
- Central Configuration
- Manage Users
- Manage Company Profile
- Manage Accounts (using My Tally.NET Accounts)
- Change Passwords
- Jobs and Recruitments
- Activity History

Advantages of Control Centre

The Advantages of Control Centre are represented in the following diagram

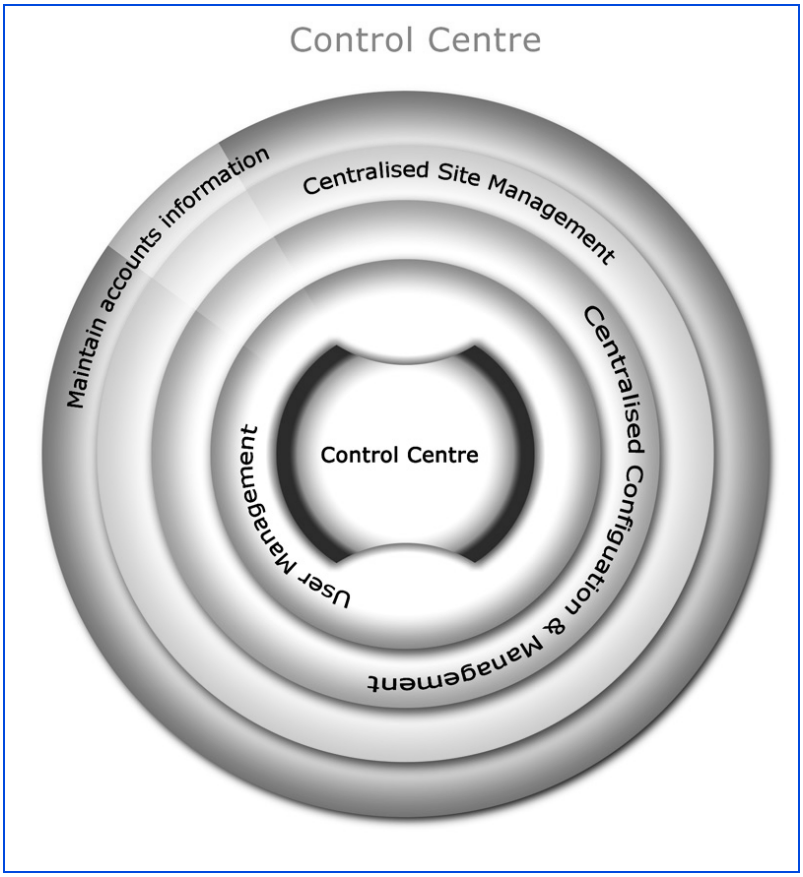


Fig. 2.6.3 Control Centre

The Advantages of Control Centre are:

1. Create users with predefined Security levels
2. Centrally configure and manage your Tally.ERP 9
3. Surrender, Confirm or Reject activation of a Site
4. Maintain Account related information

2.6.29 Auditor's Edition

A developing economy, widening tax net and increasing compliance requirements make an auditor's role critical. A Chartered Accountant as an entrepreneur is exposed to various operational risk factors viz., time, increasing travel & people costs, limited availability of skilled manpower, intense audit periods. This alleviate these circumstances, Tally.ERP 9 offers Auditors' Edition, which provides Audit & Compliance capabilities for Chartered Accountants. The Auditors' Edition provides the Chartered Accountants with Tax Audit and Statutory

Compliance tools which equips him / her to retrieve the required information on the basis on which he form an opinion.

Tally.ERP 9 - Auditors' Edition is designed to help CAs to transform their practice and streamline their client's businesses. The Auditors' Edition also helps to increase audit efficiency, reduce time and effort, and increase opportunity for providing additional bill-able services.

Advantages of Auditors' Edition of Tally.ERP 9

- Secure remote access to client data
- At-a-glance dashboard showing voucher / ledger correctness and verification status
- Easy identification of errors by way of exceptions
- Special audit and compliance menus
- Generate annexure for Tax Audit under Sec 44AB Using Auditors' Edition of Tally.ERP 9, a Chartered Accountant can provide services to their clients in the following scenarios.
    - Audit at CA's office by accessing local data
    - Audit at Client's place by accessing local data
    - Audit Remotely by accessing Client's data from anywhere

CHAPTER

3

ERP CONTROL AND AUDIT

LEARNING OBJECTIVES

- Management and Controls in Tally.ERP 9
- Security Management in Tally.ERP 9
- Data Management in Tally.ERP 9

3.1 Tally.NET and Remote Capabilities

3.1.1 Overview of Tally.NET

Tally.NET is an enabling framework which establishes a connection through which the remote user can access the client's data without copying / transferring the data. In other words, the remote user can access the company data, provided the Company is open and connected on Tally.NET.

Using Tally.NET features, the user can create remote users (IDs), authorize & authenticate them for accessing the connected (available) companies. The remote users can be mapped to a particular user and assigned security controls based upon their security levels (viz., Tax Auditor / Administrator, Standard User etc.). The remote user can further create sub-ids under him to assign tasks based on their security levels.

The user making the company available and a person accessing the data behave as clients to Tally.NET, thereby rendering a secure exchange system.

Tally.NET Features

Tally.NET is a default feature available in the product and provides the following host of capabilities.

- Connect companies from Tally.ERP 9
- Create and maintain Remote Users
- Synchronization of data (via Tally.NET)
- Remote access of data by authorised Remote User(s)
- Use online help and support from Tally or the browser
- Use Control Centre for centralised Account Management
- Remote availability of Auditors' Edition of Tally License

As discussed above, Tally.NET is enabled in Tally.ERP 9 but however, certain configurations are required to be setup for enabling Company data to get connected. Follow the steps given below:

1. Configuring Tally.NET features
2. Creating and Authorizing Remote Users

3.1.2 Configure Tally.NET Features

To configure Tally.NET follow the steps shown:

Go to **Gateway of Tally** > **F11: Features** > **F4: Tally.NET Features**

- The **Tally.NET Features** screen appears.
- In the **Registration Details** section
  - In the **Connect Name** field provide a specific name with which the company is displayed on **Tally.NET** servers.
  - Provide the name of the contact person in the field **Contact Person Name**.
  - Provide the Mobile/Telephone numbers of contact person in the field **Contact Number**
- The name of the contact person and the contact number are published along- with **Company Name**, **Account ID** and **Serial Number** in the **List of Companies** screen.
- In the **Connect for Remote Access** section,
  - **Allow to Connect Company** is set to **Yes**, in case you want the company to be connected for remote access.
  - **Contact on Load** is set to **Yes**, when you want the company to be connected automatically for remote access on loading.
  - Press **Enter** to accept.

The completed **Tally.NET Features** screen is displayed as shown in Fig 3.1.1:

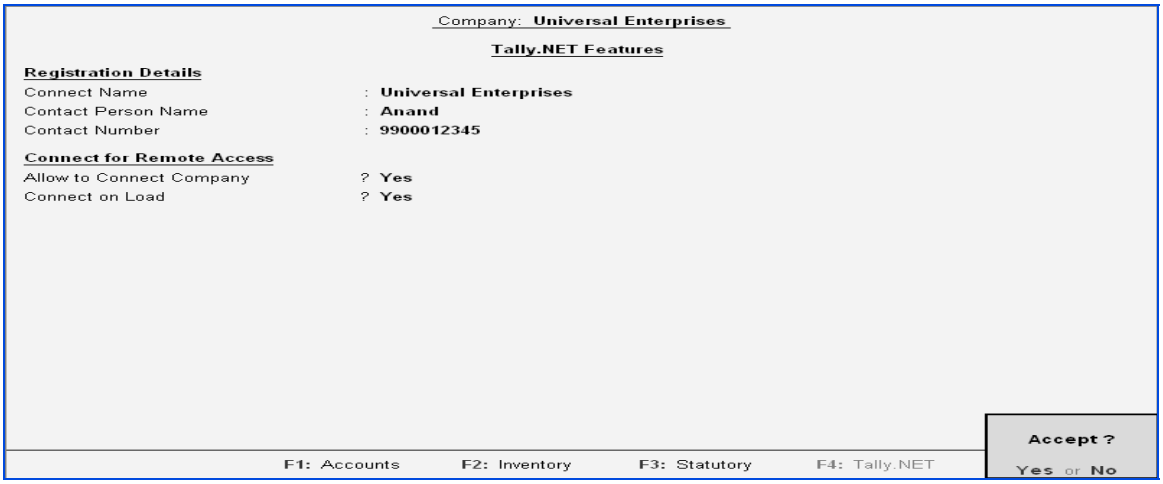


Fig. 3.1.1 Tally.NET Features

- **Accept** to save the Configurations

*You must set **Security Controls** to "**Yes"** while creating/altering a company, in order to enable **Tally.NET** in **Tally.ERP 9**.*

3.1.3 Connect Company on Tally.NET

To connect the company on **Tally.NET**,

Go to **Gateway of Tally** > press **F4: Connect**.

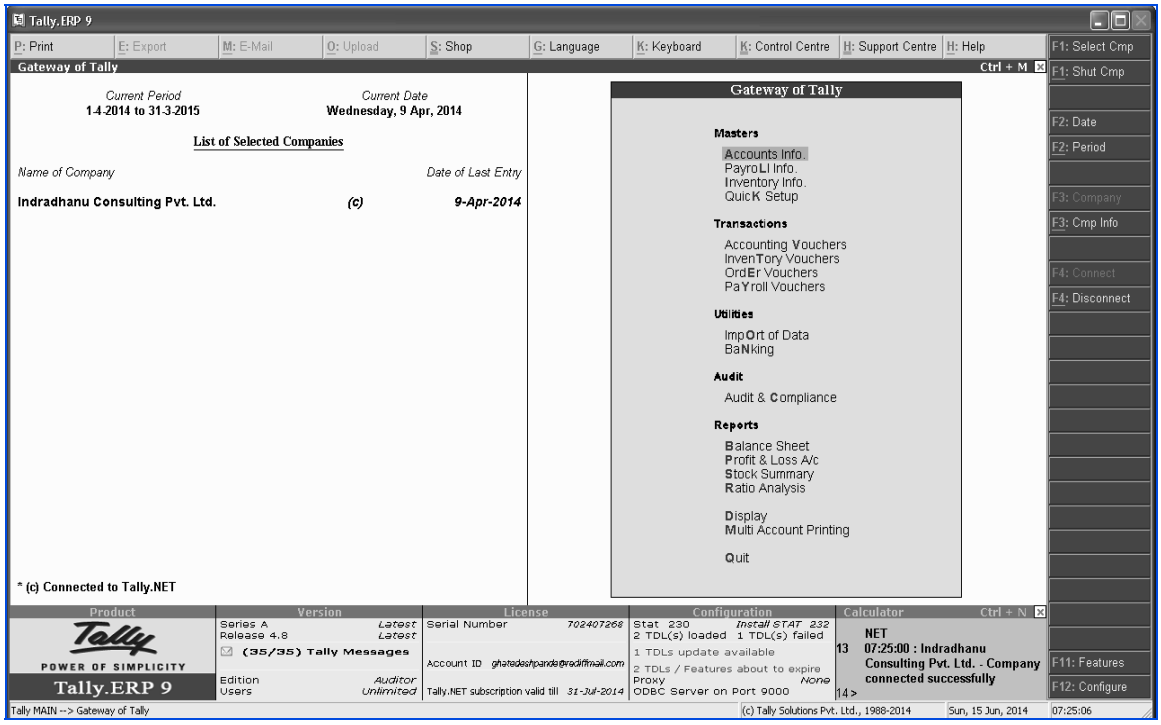


Fig. 3.1.2 Connected to Tally.NET

A message "**Company connected successfully"** is displayed in the **Calculator** panel**.**

In the same way to disconnect a Company from Tally.NET,

Go to **Gateway of Tally**,

- Press **F4: Disconnect**

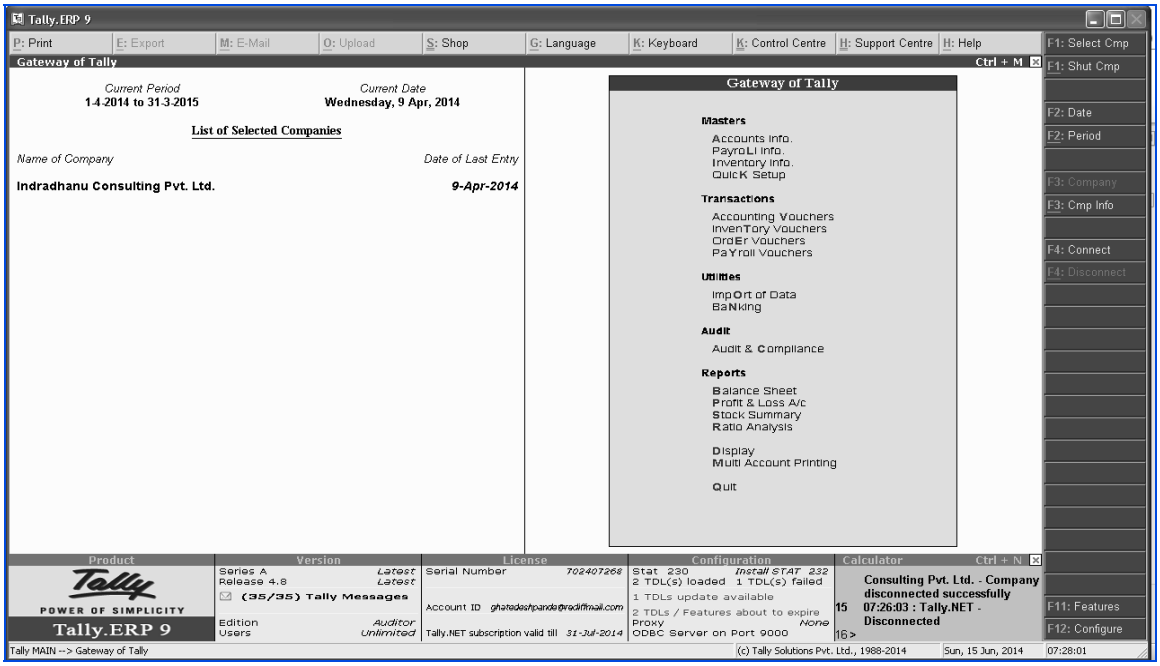


Fig. 3.1.3 Disconnected from Tally.NET

A message "**Company disconnected successfully"** is displayed in the **calculator panel**.

3.1.4 Create Remote Users

Tally.ERP 9 allows you to connect from a remote location and access your data. The Remote users are broadly classified into two security levels, namely:

- **Tally.NET User**: can access data from a remote location.
- **Tally.NET Auditor**: can audit data from a remote location, subject to using Auditor's Edition of **Tally.ERP 9**.

To create the remote users: Go to **Gateway of Tally**

- Click "**K: Control Centre" button** or press **Ctrl + K**.
- The **Login as Remote Tally.NET User** screen is displayed.
- Enter the required **Account ID** in the **Your E-Mail ID** field and Password in **Your Tally.NET Password** field. The password is sent by e-mail separately to the email address provided while activating **Tally.ERP 9**.

Fig. 3.1.4 Login as Tally.NET User

- Press **Enter**
- The **Control Centre** screen appears as shown:

Fig. 3.1.5 Control Centre

- Select **My Tally.NET Accounts**, the **My Tally.NET Accounts**

Screen appears

- Select the required **Account ID** and press **Enter**.
- The **Control Centre** for the selected **Account ID** screen appears
- Select **User Management** and press **Enter**.
- The **User Management** screen appears:

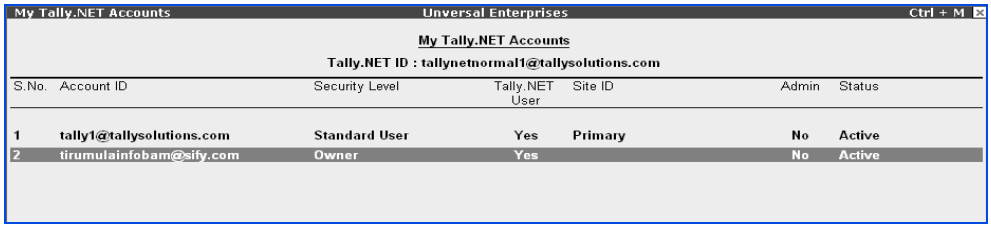


Fig. 3.1.6 User Management - List of Users

To create **Remote Users**, execute the following steps:

- Select **Standard User** from the list of **Security Level**.

- Type **any valid email ID** in the **Tally.NET ID** field and press **Enter**. Please note that a Tally.Net ID has to be a valid email ID only. It cannot be a simple user name like “pankaj”, “swapnil”, “gauri”, etc.
- Set **Yes** to **Tally.NET User** in case you want this user to access data remotely
- Based on your requirement, select the required status from the list of **Status**.
- Similarly you can create the required **Tally.NET User.**

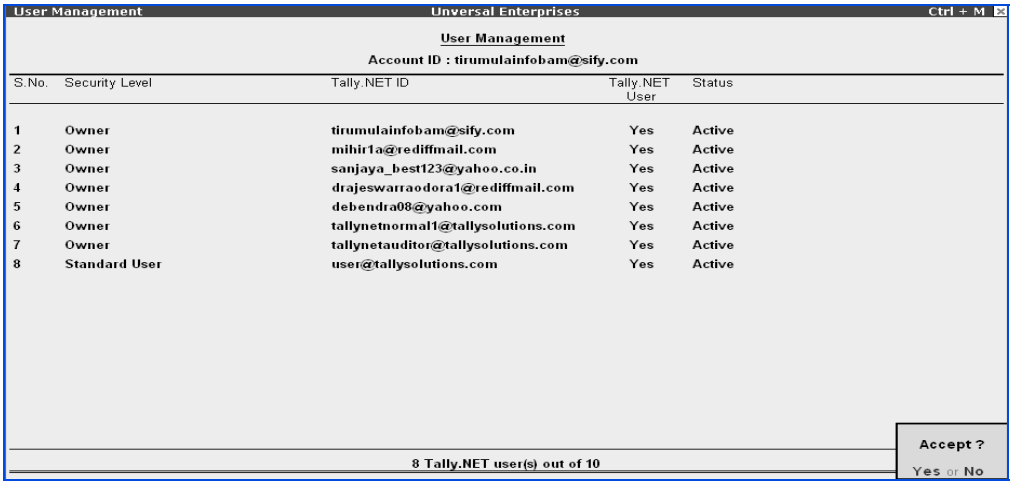


Fig. 3.1.7 User Management

- Accept to save the new **Tally.NET User** that has been created

*The company’s system administrator should authorize **Tally.NET User ID** and connect to **Tally.NET** and allow remote access.*

*A brief write-up about each feature of the **Control Centre** is discussed under the section **Features of the Control Centre***

3.1.5 Authorise Remote Users

Once the Company is registered and connected, the system administrator can authorise users created under **Tally.NET User** security level to access by logging in from a remote location. To authorise the remote users to login follow the steps shown:

Authorise Remote User

Go to **Gateway of Tally** > Press **Alt + F3**

- The Company Info. menu appears
- Select **Security Control > Users and Password**

The **List of Users for Companies** screen is displayed as shown.

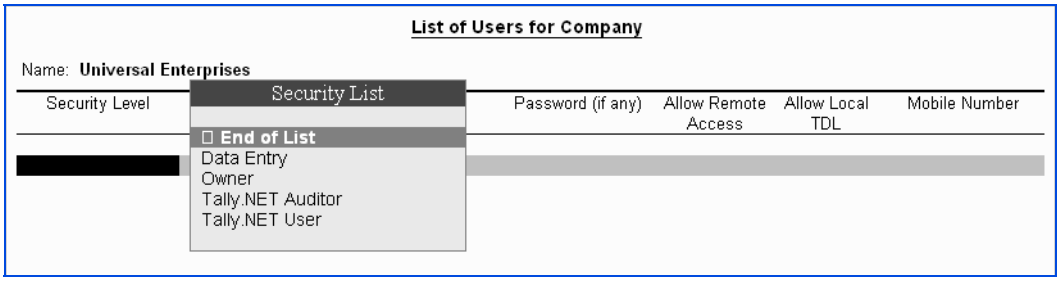


Fig. 3.1.8 List of Users for Company

- Select **Tally.NET User** from the list of **Security List**.
- Enter the same email ID which was typed in remote user creation in control centre e.g. "**tallynetnormal1@tallysolutions.com**" in **Name of User** field. Once the security level is selected as Tally.Net User, the user name field will accept a user name as an email ID only. It will not accept a plain user name like pankaj, swapnil, gauri, as stated above. Set **Allow Remote Access** to **Yes**, in order to allow Tally.NET User created earlier to access data from a remote location
- Set **Allow Local TDLs** to Yes or No as per requirement. If set to No, local TDL available in the remote users machine will not be loaded.
- Type **mobile** number of the respective user in **Mobile Number** field. This mobile number shall be used for sending and receiving sms to and from Tally. Mobile number is optional.
- Select **End of List**.

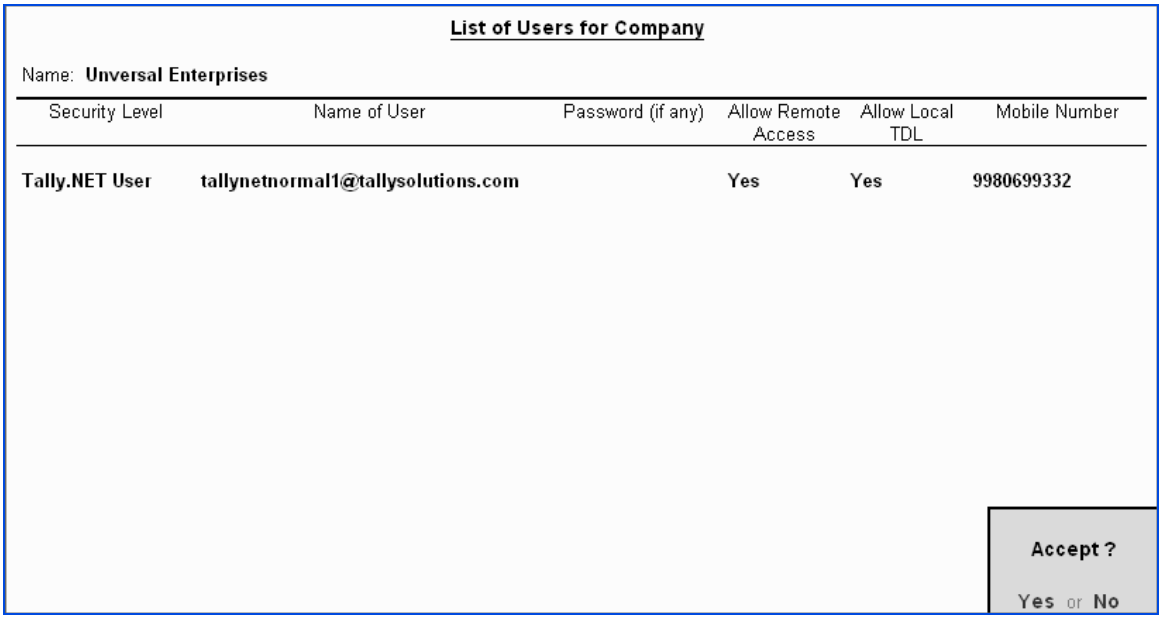


Fig. 3.1.9 Creation of Users

- Accept to **Authorise the Tally.NET User**.

3.1.6 Remote Access

Tally.ERP 9 provides remote capabilities to access the data from anywhere. The account administrator can create user IDs, authorise and authenticate them to access data remotely.

The Remote users created under the security level **Tally.NET Auditor** or **Tally.NET User** can login, audit and access data from a remote location using another instance of **Tally.ERP 9** running in Licensed or Educational mode.

The data transferred between the remote location and the server is transferred using a secured mechanism called encryption.

3.1.6.1 Login as Remote User

- Start **Tally.ERP 9** at the remote location
- In the **Company Info** screen
- Select **Login as Remote User Or**.
- Select **Login as Remote Tally.NET User** in the **Startup** screen.

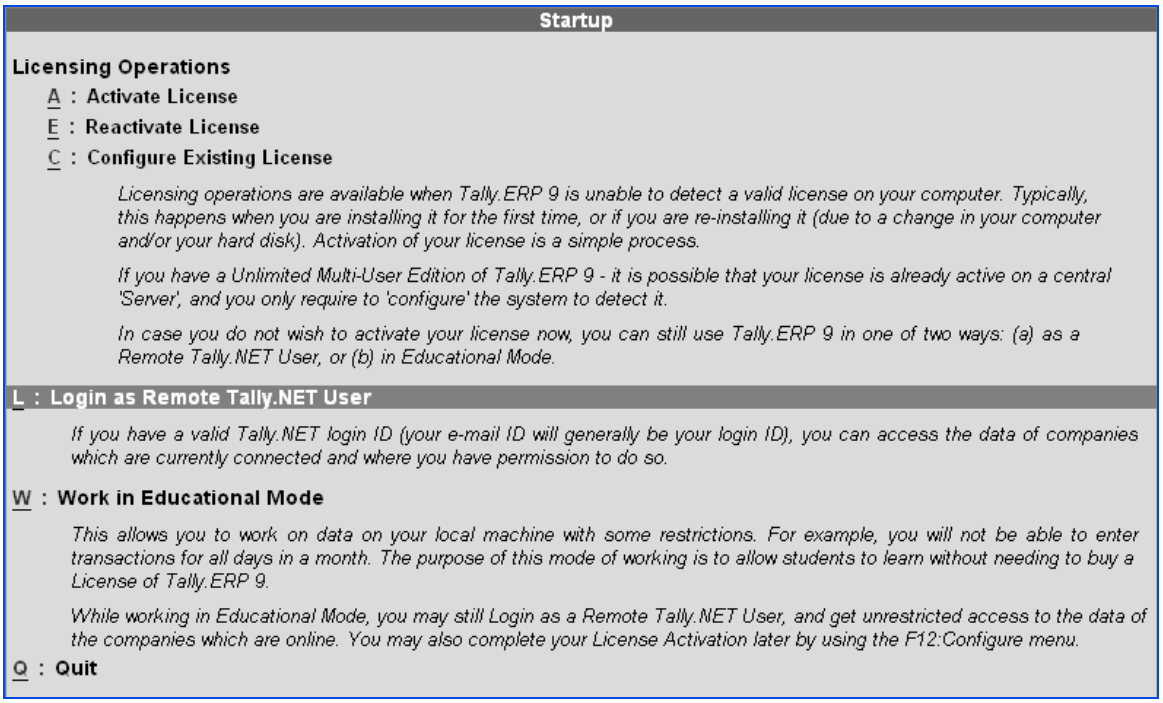
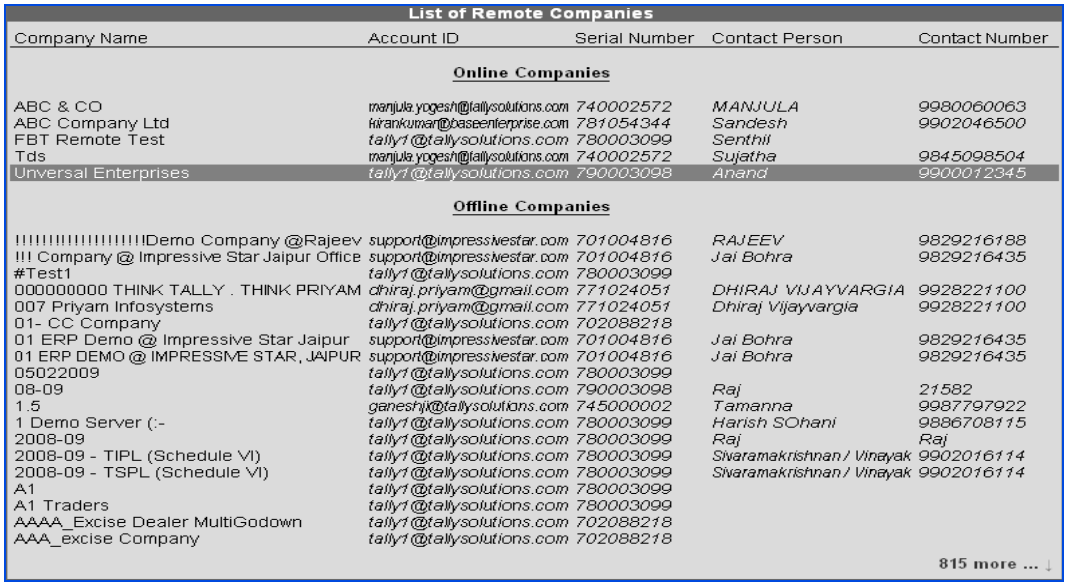


Fig. 3.1.10 Login as Remote Tally.NET User

- Press **Enter**.
- The **Login As Remote Tally.NET User** screen is displayed.

- Enter your user ID, i.e. email address registered with Tally.Net and set in Tally Company, in **Your Email ID** field.
- Enter the password emailed in **Your Tally.NET Password**
- Press **Enter**.
- The **Select Remote Company** screen is displayed, showing the list of remote companies accessible by the remote user.



List of Remote Companies

Company Name	Account ID	Serial Number	Contact Person	Contact Number
Online Companies				
ABC & CO	manjula.yogesh@tallysolutions.com	740002572	MANJULA	9980060063
ABC Company Ltd	kirankumar@baseenterprise.com	781054344	Sandesh	9902046500
FBT Remote Test	tally1@tallysolutions.com	780003099	Senthil	
Tds	manjula.yogesh@tallysolutions.com	740002572	Sujatha	9845098504
Unversal Enterprises	tally1@tallysolutions.com	790003098	Anand	9900012345
Offline Companies				
!!!!!!!!!!!!!!!!!!!!Demo Company @Rajeev	support@impressivestar.com	701004816	RAJEEV	9829216188
!!! Company @ Impressive Star Jaipur Office	support@impressivestar.com	701004816	Jai Bohra	9829216435
#Test1	tally1@tallysolutions.com	780003099		
000000000 THINK TALLY . THINK PRIYAM	dhiraj.priyam@gmail.com	771024051	DHIRAJ VIJAYVARGIA	9928221100
007 Priyam Infosystems	dhiraj.priyam@gmail.com	771024051	Dhiraj Vijayvargia	9928221100
01- CC Company	tally1@tallysolutions.com	702088218		
01 ERP Demo @ Impressive Star Jaipur	support@impressivestar.com	701004816	Jai Bohra	9829216435
01 ERP DEMO @ IMPRESSIVE STAR, JAIPUR	support@impressivestar.com	701004816	Jai Bohra	9829216435
05022009	tally1@tallysolutions.com	780003099		
08-09	tally1@tallysolutions.com	790003098	Raj	21582
1.5	ganeshjk@tallysolutions.com	745000002	Tamanna	9987797922
1 Demo Server (:-	tally1@tallysolutions.com	780003099	Harish SOhani	9886708115
2008-09	tally1@tallysolutions.com	780003099	Raj	Raj
2008-09 - TIPL (Schedule VI)	tally1@tallysolutions.com	780003099	Sivaramakrishnan / Vinayak	9902016114
2008-09 - TSPL (Schedule VI)	tally1@tallysolutions.com	780003099	Sivaramakrishnan / Vinayak	9902016114
A1	tally1@tallysolutions.com	780003099		
A1 Traders	tally1@tallysolutions.com	780003099		
AAAA_Excise Dealer MultiGodown	tally1@tallysolutions.com	702088218		
AAA_excise Company	tally1@tallysolutions.com	702088218		

815 more ... ↓

Fig. 3.1.11 Lists of Remote Companies

- Select the required company and press **Alt+O** or click **O: Open** or press **Enter**.
- The **Gateway of Tally** for the selected company appears displaying the **Remote User Details**

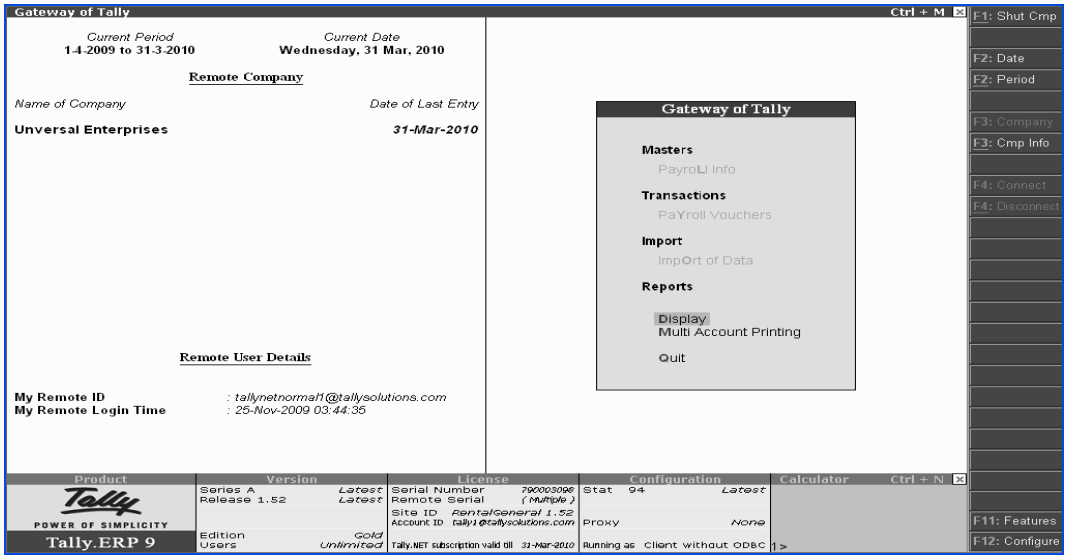


Fig. 3.1.12 Remote Company

To view or print the reports select the required options available.

3.2 Management and Controls

3.2.1 Concept of Control Centre

Tally.ERP 9 provides a powerful feature named **Control Centre** to its users, which works as an interface between the user and Tally.ERP 9 installed at different sites. It enables the user to centrally configure and administer Site / User belonging to an account.

3.2.1.1 Features of Control Centre

The Control Centre encompasses the following features

- Manage Licenses
- Central Configuration
- Manage Users
- Manage Company Profile
- Manage Accounts (using My Tally.NET Accounts)
- Change Passwords
- Jobs and Recruitments
- Activity History

3.2.1.2 Advantages of Control Centre

With the help of Control Centre, you will be able to

- Create users with predefined Security levels
- Centrally Configure & manage your Tally.ERP 9
- Surrender, Confirm or Reject activation of a Site
- Maintain Account related information
- Manage Licenses and Activity History
- Manage Jobs and Recruitments

3.2.2 Create users with predefined Security levels

Using the Control Centre feature, the Account Administrator can create users and map them to a predefined security level and authorise them to access a Site / Location linked to that Account. Further the system administrator can also create Remote users and allow / disallow them to remotely access the data.

The predefined security levels in Tally.ERP 9 are:

- Owner
- Data Entry
- Tally.NET User
- Tally.NET Auditor

3.2.3 Centrally configure and manage your Tally.ERP 9

The Control Centre provides the flexibility to make changes to product configurations in the Tally.ini (Configuration file) and apply them to immediate effect without restarting the application.

The following master configurations set can be made from the Control Centre

- Add / Modify the Tally.ini parameters
- Assign TDL's to a site or all the sites under an account
- Permit or Deny changes to the local configurations

The master configurations set created is applied initially to the account centrally which is inherited by the site(s) on updation of license, based on the site level permissions by the Account Administrator.

3.2.4 Surrender, Confirm or Reject activation of a Site

The Account Administrator is authorised to surrender, confirm a site license or Reject the request received on activation from another site.

3.2.5 Maintain Account related information

Control Centre allows maintain information about the organisation. Based on the requirements, the Account Administrator can merge multiple accounts into one or split an account into multiple accounts for easy and better management.

Before we start using Control Centre in Tally.ERP 9, it is recommended to understand the process of installation of Tally.ERP 9 as explained.

3.2.6 Installing & Activating Tally.ERP 9

Tally.ERP 9 software installation is a simple and one time activity. You can install program files on any drive (if the hard disk has partitions) or specify a directory for installation. You can also specify the location of the data directory.

3.2.6.1 Installing Tally.ERP 9

To install Tally.ERP 9:

- Insert the **Tally.ERP 9 Installation CD** in the computer's CD drive
- Select **My Computer** on Desktop
- Select **CD drive**
- Run **Install.exe** > Specify Path (for Program files and data directory)
- Click **Install**
- After Installation a message **Installation Successful** is displayed. Click **OK**.

On successful installation of Tally.ERP 9, a shortcut is placed on the desktop, a folder titled Tally.ERP 9 is created in the selected drive and all the files required to run Tally.ERP 9 are stored in this default folder.

In the same way, you can install Tally.ERP 9 Multi-User. In Multi-User installation, select the required programs (Tally.ERP 9 / License Server) to install at Server and client locations and specify other required details.

3.2.6.2 Activating Tally.ERP 9 License

On successful installation of Tally.ERP 9, the Licensing Operations Startup screen appears on your computer, once you start Tally.ERP 9.

Step 1: Activate License

To activate license, follow the steps given below:

- Select **Activate License**, the **Activate License** screen appears as below shown in Fig. 3.2.1

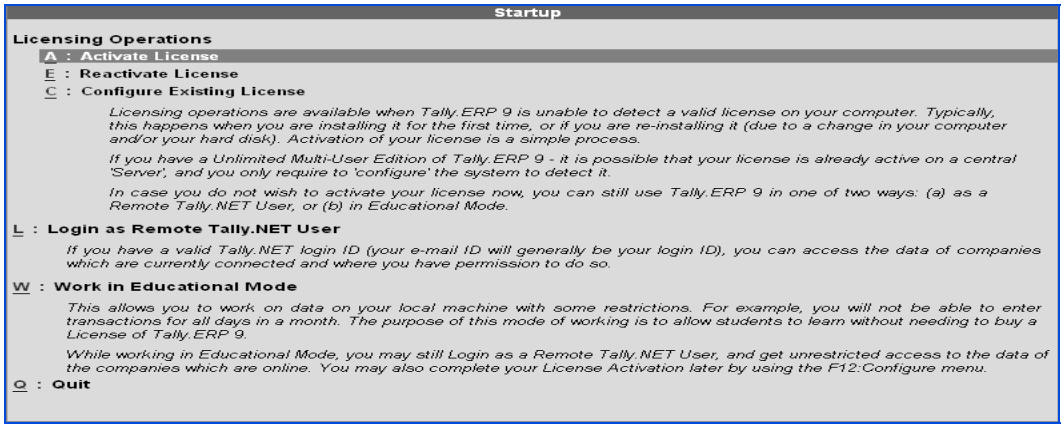


Fig. 3.2.1 Startup screen

The **Activate License** has two options which allow you to activate the license based on your requirements.

- **First time activation for your organization:** allows you to activate a single site license.
- **Activation of an additional Site for your organization:** allows you to activate the next or consecutive site licenses for your organization.

Fig. 3.2.2 Activate License

- Select **First time activation for your organization**
- The **Activate License** Form appears, **Enter** the required **License Serial Number** in the **Serial Number** field
- Enter the required Activation Key in the **Activation Key** field
- Enter your E-Mail ID in the **E-Mail ID of Administrator** field
- Repeat the Email-ID in the **Repeat (E-Mail ID of Administrator)** field

Fig. 3.2.3 Activation Form

Unique account identification is created using this E-Mail Id and the license serial number is linked to this account. The **License Key, Password** and **Account** related information are mailed to the E-Mail Id provided in the activation form.

- Press **Enter**, Tally.ERP 9 searches for the availability of Internet Connectivity on your computer
- If Internet Connection is Available, Tally.ERP 9 displays a message **Congratulation! Your activation Request has been processed**
- The **Tally_lck.lic** file is created and placed in the default **Tally.ERP 9** directory

You can also **Activate License** in Offline Mode, if Internet Connection is not available. To activate License in Offline Mode, generate the License File Offline and paste the license file onto the system where internet is available and Tally.ERP 9 is installed, go to the **licensing menu**, select **send External request**, the license file will be generated, copy the file and paste it where the license is to activated.

Step 2: Unlock License File

- Access your mail and retrieve the unlock key
- In the **Startup** screen, select **Unlock License**
- Type the **Unlock Key** in unlock field and press **Enter**
- On successfully unlocking the license file, Tally.ERP 9 displays the message

Congratulations! Your License is successfully activated.

- Start Tally.ERP 9, the License Serial Number and Account ID are displayed under the Version and Licensing sections of the information panel respectively.

In the same way, you can **activate license** for **Multi-Site**, by selecting **Activation of an Additional Site for your Organisation** in the Activate License screen and providing **Site Name, Site Administrator Email ID** and other related details.

3.2.6.3 Launch Tally.ERP 9

Start **Tally.ERP 9** by choosing any one of the methods discussed earlier. On starting **Tally.ERP 9** the **Gateway of Tally** screen appears displaying the **Edition** and **Users** are under **Version** block, and the **Serial Number** and **Account ID** under **License** block of the Information panel.

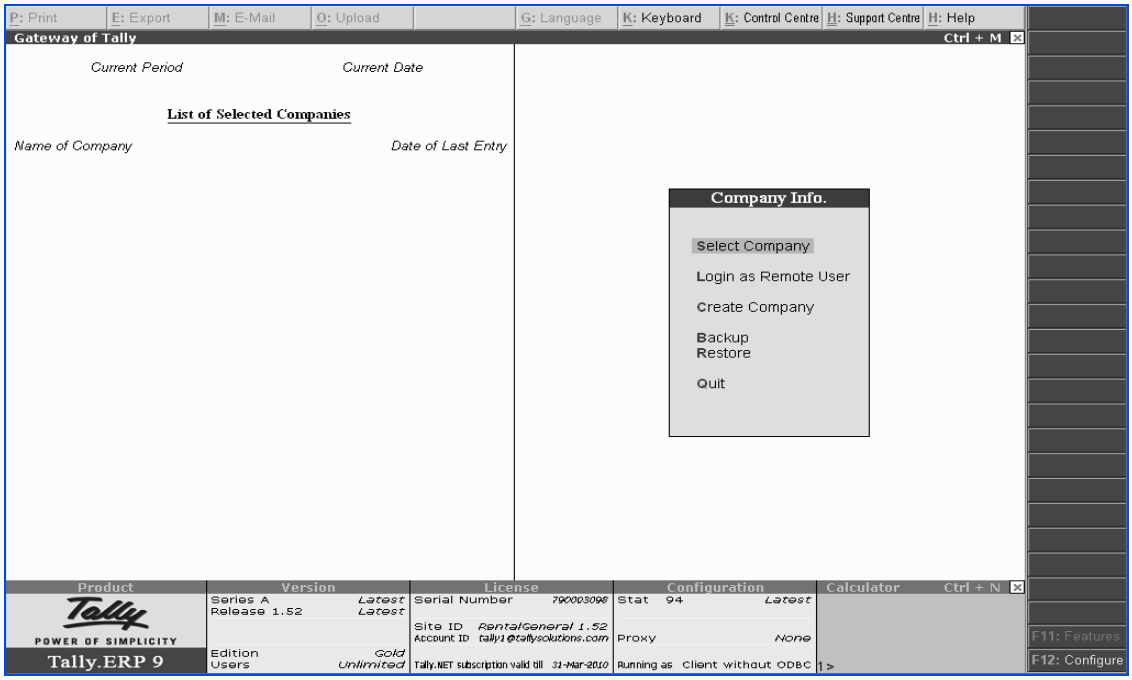


Fig. 3.2.4 Gateway of Tally

3.2.7 Logging to Control Centre

To start Control Centre follows the steps shown: Go to **Company Info menu** or **Gateway of Tally**

1. Press **K: Control Centre** or press **Ctrl + K**

Fig. 3.2.5 Start Control Centre

2. The **Login As Remote Tally.NET** User screen appears as shown in Fig. 3.2.6

- Enter the **User ID** in Your **E-Mail ID** field.
- Enter the password emailed in **Your Tally.NET Password** field.

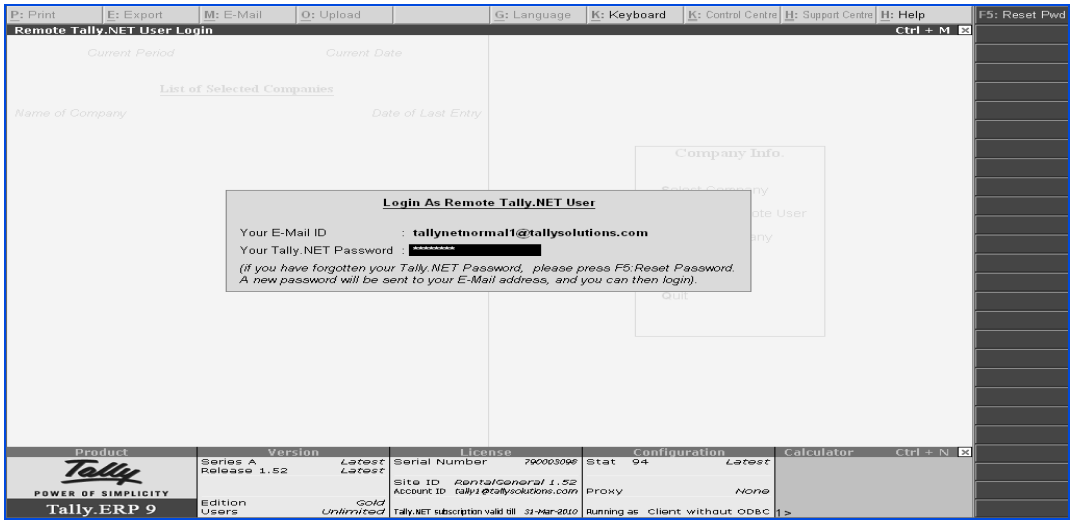


Fig. 3.2.6 Start Control Centre

Based on the authentication received from **Tally.NET** you can access the **Control Centre.**

Depending on the requirement, you can enter the **Account/ Site Administrator's Id** to administer an Account/Site respectively. You can also provide the other User Id to access the support centre and access other areas of the control centre based on the *permissions assigned.*

*In case, you have forgotten the **Password**, provide the **Account/Site/User ID** in Your **E-Mail ID** and press **F5**. The new password will be emailed to the respective **E-Mail ID**.*

3.2.8 Managing Accounts using Control Centre

After logging in, the **Control Centre** screen will appear as shown in Fig. 3.2.7:

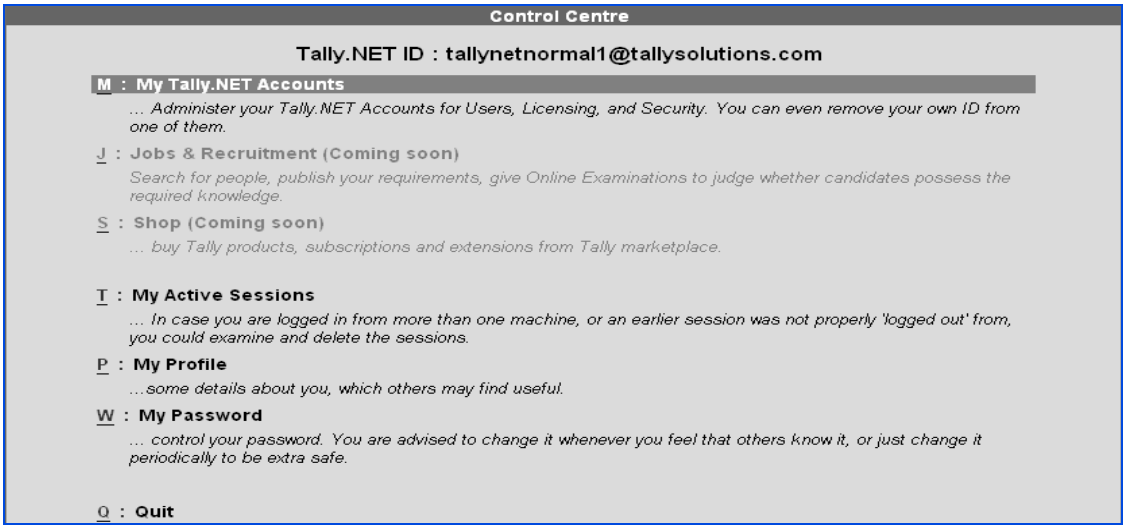


Fig. 3.2.7 Control Centre

The **Control Centre** screen displays the options available which are briefly described below

- **My Tally.NET Account:** Use this option to configure, activate / deactivate sites, create users and assign security levels and manage your Account details. The My Tally.NET Account has the following sub-options:
  - **Licensing & Configuration** enables you to configure and surrender a site belonging to an account. The configuration set can be created for each site by the Account / Site administrator. Further, the Account Administrator may allow or restrain the site administrator from making any changes to the con- figuration set locally.
  - **User Management** enables you to administer users belonging to an account by assign security levels with predefined permissions to enable remote access, assign users to a site and maintain the active users as required.
  - **Profile Management** enables you to enter the essential information related to the **Account/Site ID**.
  - **Change Account Admin** enables you to change the Account Administrator's ID. To change the account ID, the account administrator should provide the existing account ID and the new account ID.
- **Change My Profile** enables you to manage the Tally.NET User's profile by providing the required details for further communications.
- **Change My Password** this option enables you to change password at your convenience.

3.2.8.1 My Tally.NET Accounts

- Select **My Tally.NET Accounts** and press **Enter**
- On selecting **My Tally.NET Accounts**, the **My Tally.NET Accounts** screen appears as shown in Fig.3.2.8

My Tally.NET Accounts Ctrl + M

My Tally.NET Accounts

Tally.NET ID : tallynetnormal1@tallysolutions.com

S.No.	Account ID	Security Level	Tally.NET User	Site ID	Admin	Status
1	tally1@tallysolutions.com	Standard User	Yes	Primary	No	Active
2	tirumulainfobam@sify.com	Owner	Yes		No	Active

Fig. 3.2.8 My Tally.NET Accounts

The **My Tally.NET Accounts** screen displays the **User ID** against **Tally.NET ID** field, the **Account ID**, **Security Level**, permission to access **Tally.NET, Site ID** (for Multi Site only), permission to administer the **Account** and the account **status**. It also displays the **Account IDs** associated with your **Account**, based on your requirement you may disassociate your **Account ID**.

- ***Site ID*** *will not appear when you have a* ***Single Site Account****.*
- *To disassociate from another account, select the required*

o ***Account ID*** *and press* ***Alt+D****.*

- *The* ***Account/Site Administrator ID*** *cannot be disassociated from associated accounts.*

The **My Tally.NET Accounts** screen for **Multi-Site** will appear as shown in Fig. 3.2.9:

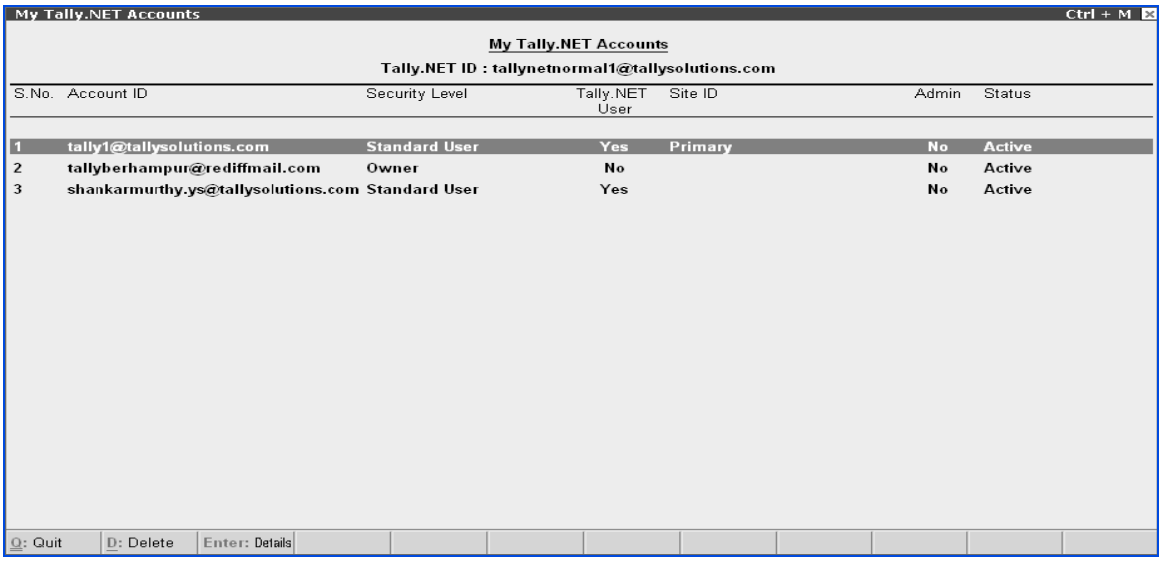


Fig. 3.2.9 My Tally.NET Accounts - Multi Site

▪ Select the required Site **Account ID** and press **Enter**, the **Control Centre** of an **Account** appears as shown in Fig. 3.2.10

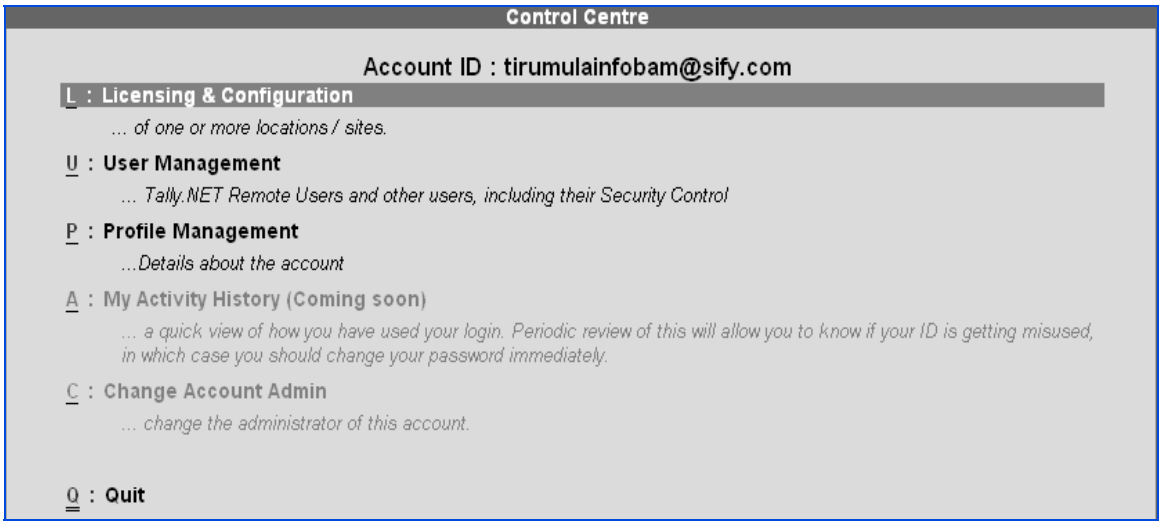


Fig. 3.2.10 Control Centre of an Account

You can use this option to configure, activate / deactivate sites, create users and assign security levels and manage your **Account** details. The options available are briefly explained below:

- **Licensing & Configuration**: Allows you to configure and activate / deactivate a site
- **User Management**: You can create Remote Users and assign security controls
- **Profile Management**: Maintain details related to your account
- **My Activity History**: Display the list of accounts where your ID is used
- **Change Account Admin**: Allows the Account Administrator to change the Account Administrator's User ID.

3. 2.8.2 Licensing & Configuration

The Account administrator can configure and surrender a site belonging to an account. The configuration set can be created for each site by the Account / Site administrator. Further, the Account administrator can allow or restrain the site administrator from making any changes to the configuration set locally.

The **Licensing & Configuration** screen displaying the information related to each site / license serial number and the date on which the site was created.

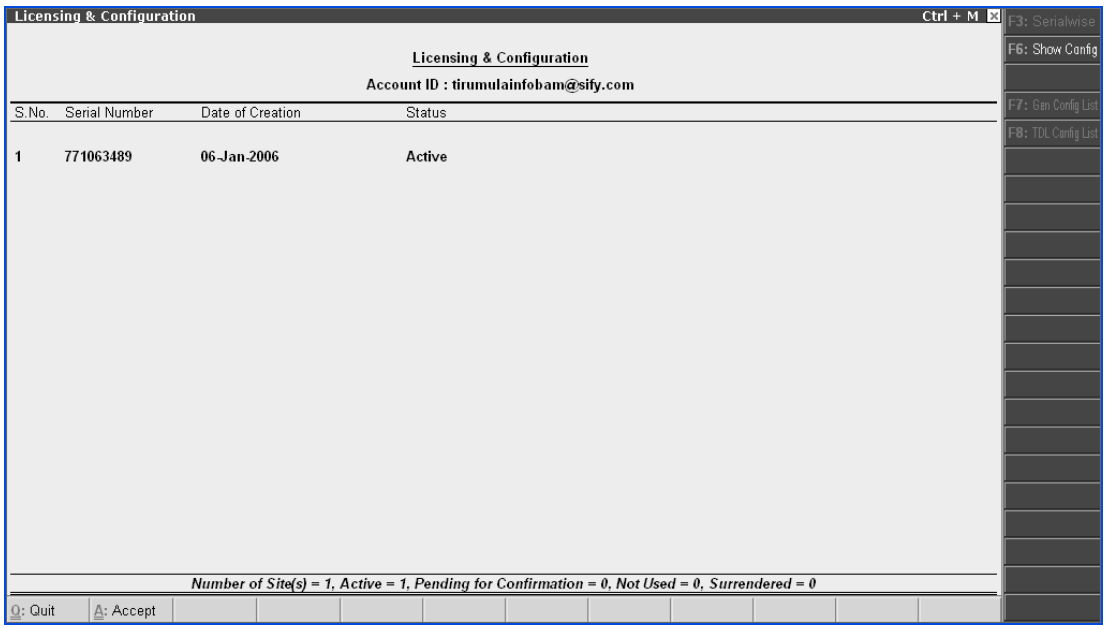


Fig. 3.2.11 Licensing & Configuration

By default, the status is **Active**, based on your requirement you can surrender the license by selecting **Surrender** from the list of Status. The license status is briefly explained for your benefit:

- **Active**: indicates that the site is in operation
- **Surrender**: indicates that the site has been surrendered.

3. 2.8.3 General Configuration

To create configuration set for a Site, follow the steps given below

In the **Licensing & Configuration** screen

- Click on **F6: Show Config** or press **F6**
- The **General Config** and **TDL Config** fields appear as shown in Fig. 3.2.12

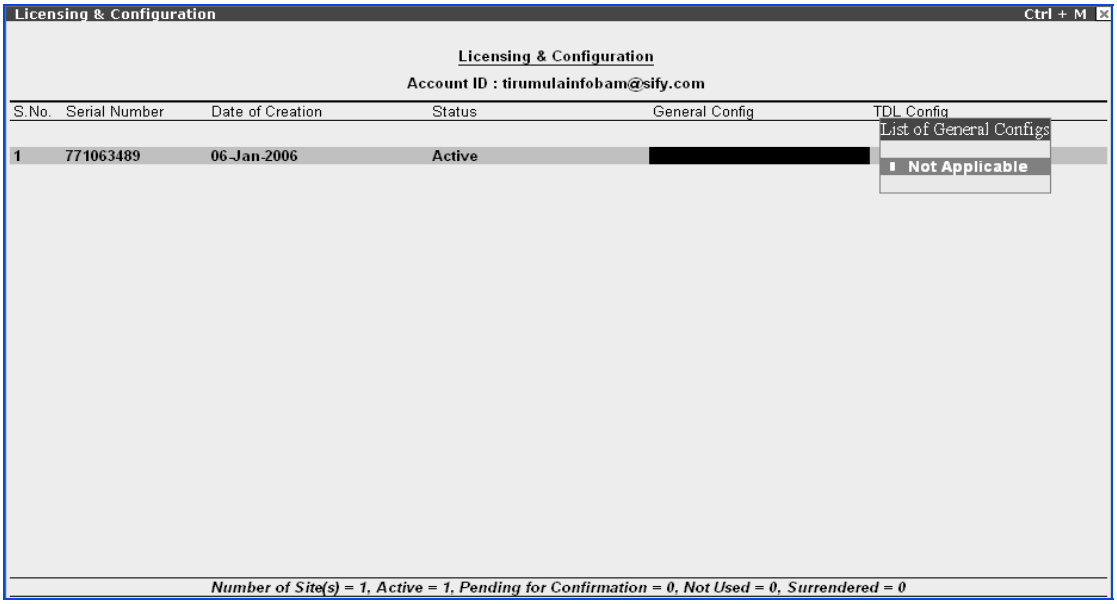


Fig. 3.2.12 Licensing & Configuration

- In the General Config field, press Alt+C to create configuration
  - The **General Configuration Management** screen appears
  - Enter the required configuration name in Name of Configuration field. The configuration parameters are saved with the configuration name provided in the account.
  - Set "Want to set client/server configuration" to "Yes" to create a fresh set of configuration.
  - In "Tally is acting as" field, select the required behaviour from the list of Client / Server list. Tally.ERP 9 will act as Server / Client / Both based on the parameter selected.
  - Set "Enable ODBC server" to "Yes", when you want to transfer data from any third party application to Tally.ERP 9 or Vice Versa.
  - Enter the required port number in Port field.
  - Set "Can be overridden locally" to "Yes", when you want the above parameters to be changed / modified by the site administrator locally.
  - In Disallow Request section, specify the required Server Name/ IP Address/URL in from field to deny a request from the Server/IP Address/ URL.

- Similarly, specify the required Server Name/ IP Address/URL in To field to deny a request to Server/IP Address/URL
- In Allow Request section, specify the required Server Name/ IP Address/ URL in “From” field to allow a request from the Server/IP Address/URL.
- Similarly, specify the required Server Name/ IP Address/URL in “To” field to allow a request to Server/IP Address/URL.

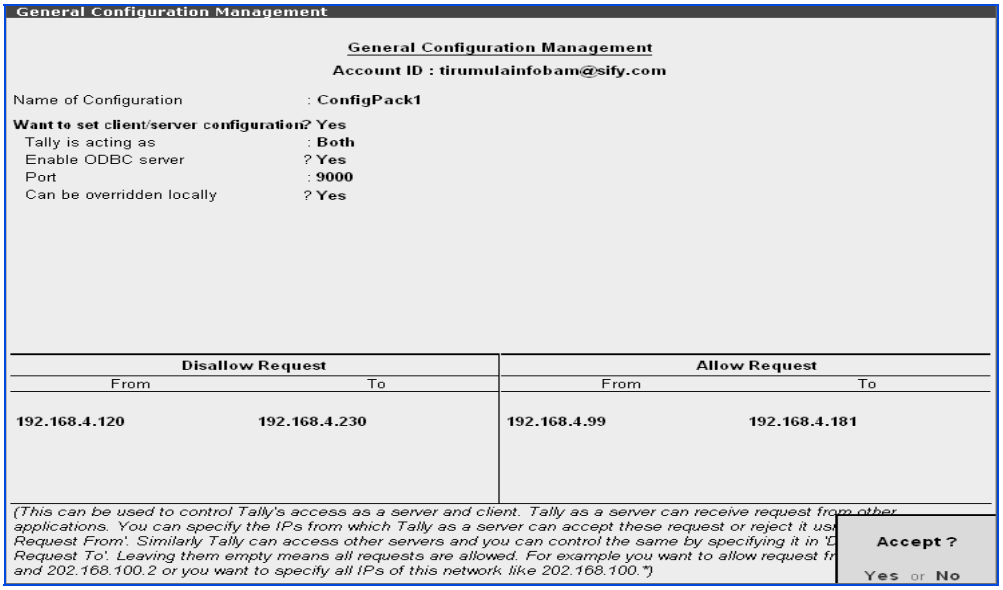


Fig. 3.2.13 Licensing & Configuration

- Press **Enter** to save the **General Configuration**
- Select the specified configuration package in the General Configuration field.

3.2.8.4 To View/Alter General Configuration

In the **Licensing & Configuration** screen

- Click **F7: Gen Config List** or press **F7**
- Select the required configuration from the **List of General Configs**
- The **General Configuration Management** screen will appear, you can make the required changes as per your requirements.

The **Select Item** screen appears

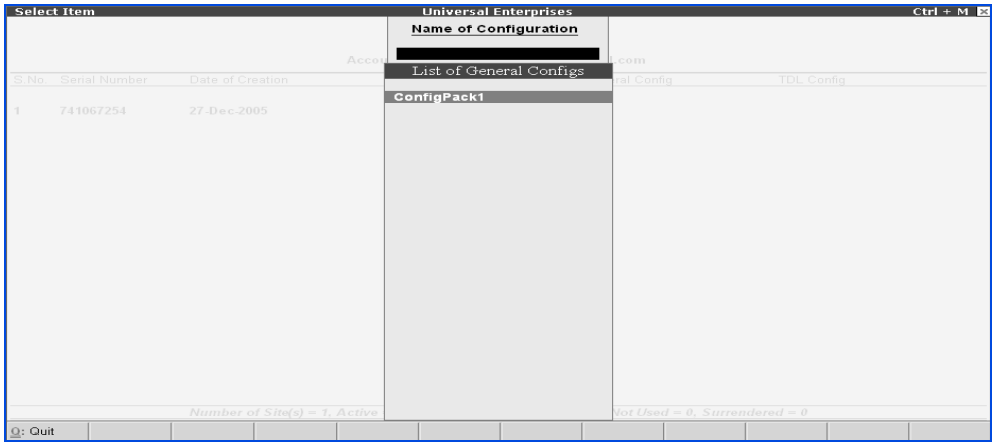


Fig. 3.2.14 Licensing & Configuration

3.2.8.5 User Management

You can administer users belonging to an account by assigning security levels with predefined permissions in order to enable remote access, assign users to a site and maintain the active users as required.

To administer the users within an account follow the steps shown: In the **Control Centre** screen

1. Select **User Management** and press **Enter**
2. By default, the **Security Level** for the **User ID, Permission to access Tally.NET** and the **Status** is displayed.
3. To Create the required user:
   - Select the required **Security Level** from the list of Security Level
   - Enter the required E-Mail ID in the **Tally.NET ID** field.
   - Set **Tally.NET User** field to "**Yes"** when you want the user to access data from a anywhere using **Tally.NET.**
   - In the **Status** field, select the required status from list of **Status** which are explained below
     1. **Active**: Set the status to active when you want the user to be in operational mode.
     2. **Deleted**: Set the status to "Deleted" when you want the user to be removed permanently.
     3. **In-active**: Set the status to "In-Active" when you want the user to be non-operational mode. You can change the status to Active later on as and when required.

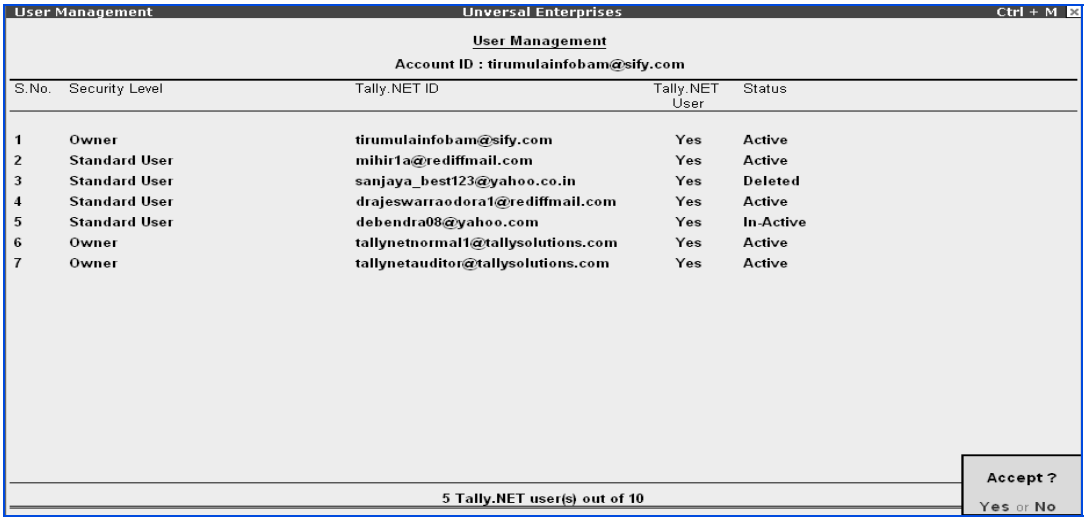


Fig. 3.2.15 User Management

- **Accept** to save the user created.

Default users such as **Account Administrator or**

Site Administrator is assigned the security levels of **Owner**. However, based on the requirements, you can change the security level.

To create a user

Select the required Security Level from list of **Security Level** or press **Alt+C** to create a new security level.

- **Owner**: has the capability to manage **Sites/Users** belonging to an account. The **Owner** is not permitted to change **Account / Site Admin ID, Site Status** and **Account Profile.**
- **Standard User**: Created with predefined permissions. All users other than the **Owner** are created under this security level.
- Enter the required E-Mail ID in the **Tally.NET ID** field. Using the E-Mail ID provided a Tally.NET ID is created and the Password emailed.
- Set **Tally.NET User** field to "**Yes"**, if you want the user to access data from a remote location using **Tally.NET.**
- In the **Status** field, select the required status from list of **Status** which are explained below
  - **Active**: Set the status to "Active" when you want the user to be in operational mode.
  - **Deleted**: Set the status to "Deleted" when you want the user to be removed permanently.
  - **In-active**: Set the status to "In-active" when you want the user to be non- operational mode. You can change the status to Active as and when required.

Similarly, you can create other users as required.

*From the above screen, you can change the **Tally.NET ID** for any user other than **Account/Site Administrators**. However, you will not able to change the status to **Delete** or **In-Active** for **Account/Site Administrator**.*

*To change the **User ID**, type the new user id in the **Tally.NET ID** field.*

The **User Management** screen also displays the number of **Tally.NET Users** created for an account. To view in **Detailed mode**,

In the **User Management** screen

- Click **F1: Detailed** or press **Alt+F1**
- The **User Management** screen appears displaying the user details as shown in Fig. 3.2.16

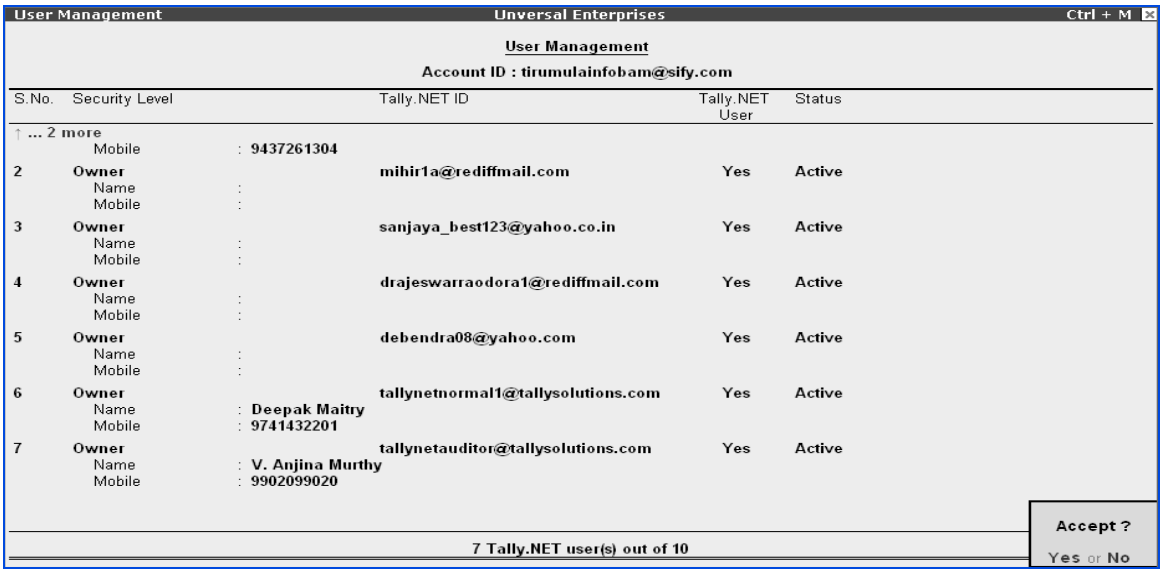


Fig. 3.2.16 User Management Multi Site

To view the Security Level List

In the **User Management** screen

- Click **F8:Sec Level List** or press **F8**
- The **Select Items** screen appears, select the required security level from the **List of Security Levels**

The **Security Levels** screen appears as shown in Fig. 3.2.17

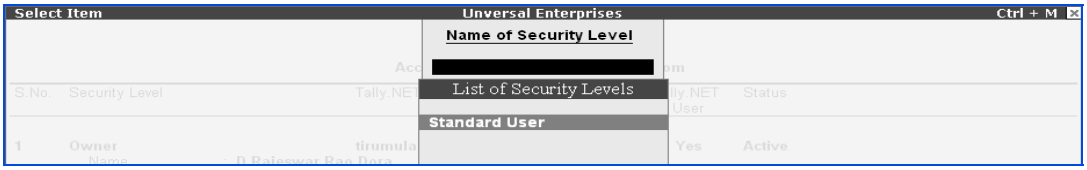


Fig. 3.2.17 User Management Multi Site

- By default, the **Standard User** is authorised to access the **Support Centre** only, based on your requirement select the access controls from the list of **Access Rights** as shown in Fig. 3.2.18

Fig. 3.2.18 User Management Multi Site

- **Accept** to save the access rights assigned to the security level.

3.2.8.6 Create Security Levels

An authorised user can create security levels and assign the Access Rights to the user in order to allow the user to perform certain tasks within the account. The security levels created are then assigned to the users belonging to the account.

To create a security level and assign access controls follow the steps shown:

- Press **Alt+C** in the **Security Level** field, the **Security Level Management** screen appears
- Type the required security level name in the **Name of Security Level**
    - In **Allow the Following Facilities**, select the required access rights from the list of **Access Rights** as shown in Fig. 3.2.19

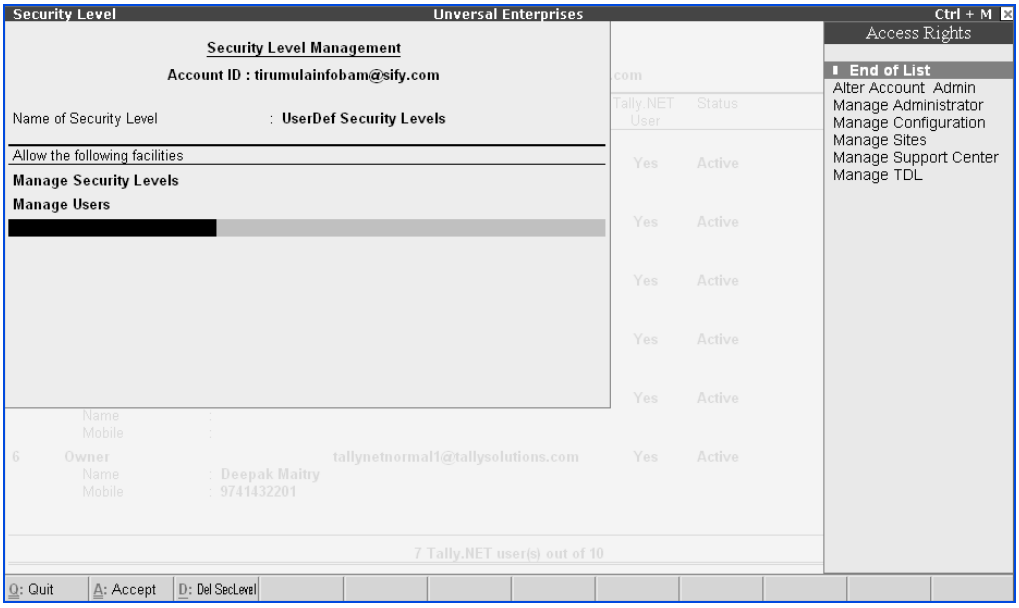


Fig. 3.2.19 Create Security Levels

- **Accept** to save the security level created.

*To alter an existing security level, place the cursor in **Security Level** field and press **Ctrl+Enter** or press **F8: Sec Level List,** select the required security level to make necessary changes.*

*The **Owner** security level is assigned all the access rights and cannot be modified.*

3.2.8.7 Profile Management

The user can enter the essential information related to the Account/Site ID in Profile management. To enter the details regarding the organisation follow the steps shown:

In the **Control Centre** screen

- Select **Profile Management** and press **Enter**
- The **Profile Management** screen appears
  - By default the E-Mail ID of the Account Administrator appears in the **Account ID** field.
  - Select the required account type from the list of **Account Types**
  - Enter the details related to the **Account** as shown in Fig. 3.2.20

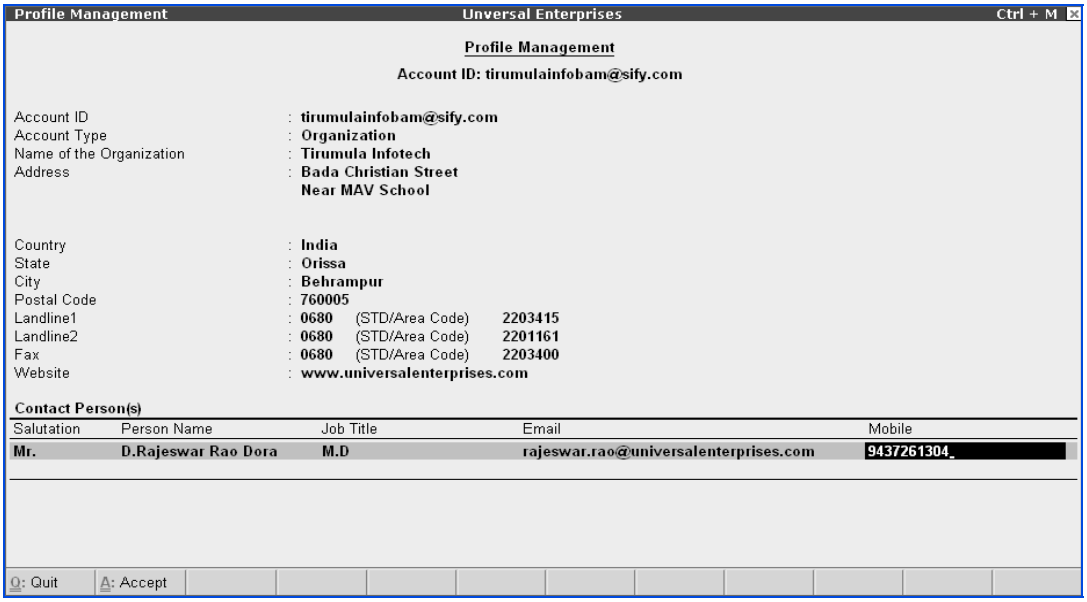


Fig. 3.2.20 Profile Management

- **Accept** to save the information.

Change Account Admin

To change the **Account Administrators ID** follow the steps shown: In the **Control Centre** screen

- Select **Change Account Admin**

- The **Change Account Admin** screen appears

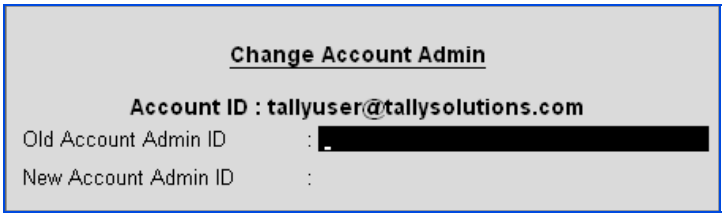


Fig. 3.2.21 Change Account Admin

- Enter the required **Account Administrators ID** in the **Old Account Admin ID** field
- Enter the new Account Administrators ID in the New Account Admin ID field
- Accept the create a new Account Administrators ID

The new Account Administrators ID can be created only by an existing account administrator.

3.2.8.8 Change My Profile

You can manage the Tally.NET User's profile by providing the required details for further communications. To change the user profile the user has to follow the steps shown:

In the **Control Centre** screen

- Select **My Profile**
- The Change My Profile screen appears displaying the Tally.NET ID
- In the Salutation field select the required salutation from the list of Salutation.
- Enter the required name in the Name field.
- Enter the required Mobile Number in the Mobile field.

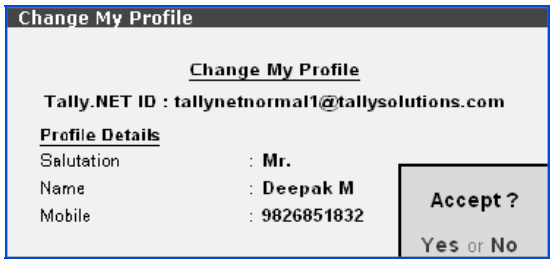


Fig. 3.2.22 Change Profile

- Accept to save the profile Change Password.

To change the Password follows the steps shown:

In the **Control Centre** screen

- Select **My Password** or press **Alt+W**

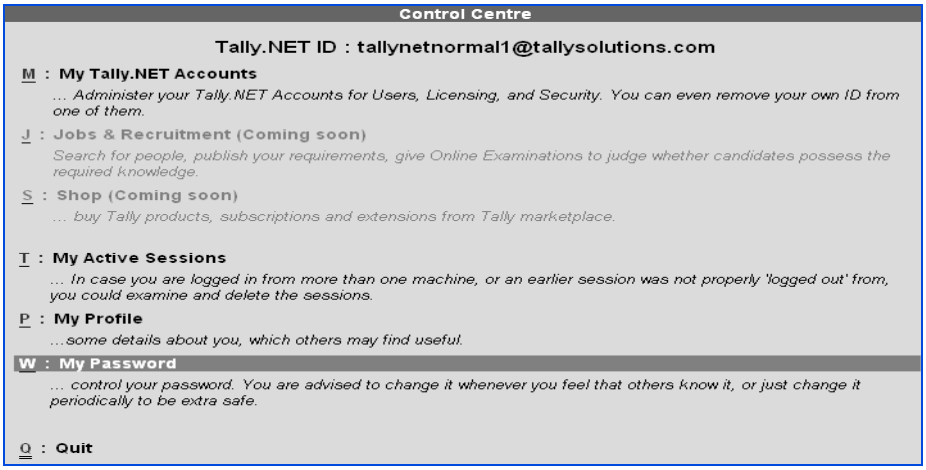


Fig. 3.2.23 Change Password

The **Change Password** screen appears with the **Username.**

- Enter the current password in **Old Password** field.
- Enter the new password in **New Password** field.
- Repeat the new password in **Repeat** field for the purpose of confirmation.

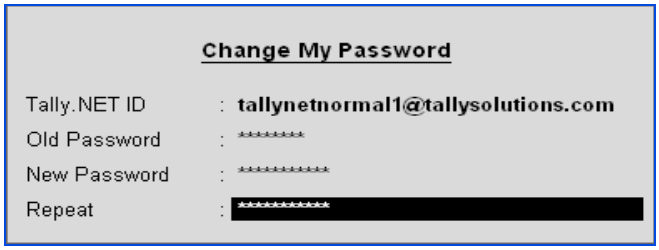


Fig. 3.2.24 Change Password

- Accept to change the password.

3.3 Security Management in Tally.ERP9

3.3.1 Security Controls

Tally.ERP 9 allows you to create multiple levels of security as per requirements and authorize users with individual passwords and rights to access specific functionality only. The user with an Administrator level password is authorised for full access to all features and set access controls for other users.

To activate the Administrator level Password: Go to **Company Info. > Create**

- **Type Company Name, Address** and other related details
- Set the feature **Use Security Control** to **Yes**

- **Specify Administrator Name, password** and repeat
- Save the screen

If the company is already created:

- **Load Company > Alt+F3 (Cmp Info) > Alter**

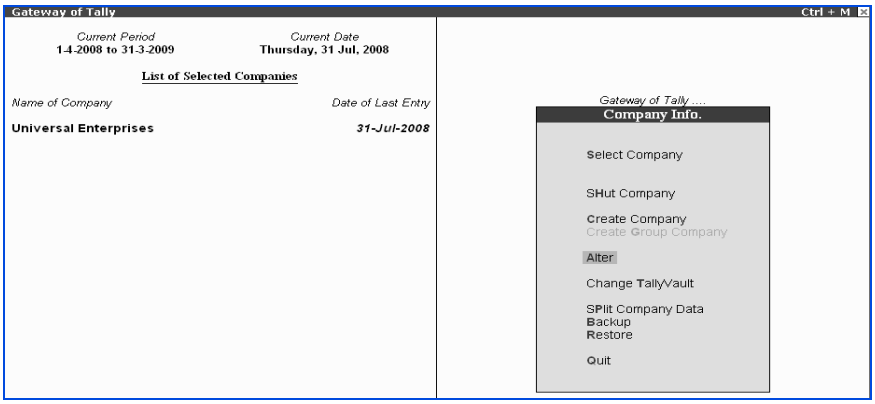


Fig. 3.3.1 Company Info screen

- Set the feature Use Security Control to Yes
- Specify Administrator Name, password and repeat
- Save the screen

Fig. 3.3.2 Company Alteration screen

Exit Tally.ERP 9, after accepting the modifications implemented in the Security Control fields. Now, attempt to open Tally.ERP 9. Tally.ERP 9 opens the **Company Login** screen where you will be asked to enter the **User Name** and **Password**.

The **Company Login** screen is displayed as shown.

Fig. 3.3.3 Company Login screen

The password is case sensitive. Any variation in the case will not allow you to login to Tally.ERP 9.User ID is not case sensitive.

To create multiple levels of passwords:

- Create the **Administrator level password** as explained earlier.
- Press **Alt+F3 (Cmp Info) > Security Control > Types of security**
- Specify **Name of Security Level**
- Select **Owner** in the field "**Use Basic Facilities of"**
- Specify the value for **Days** allowed for **Back Dated vouchers**. (The no. of days the user is allowed to go back to enter vouchers from the date of last entry).
- Specify the value for **Cut-off date** for **Back Dated vouchers** (The last date upto which the user can go back to enter transactions) E.g. 31.03.2014 if books are finalized till this date.
- In the **Disallow the following Facilities** column, specify the **Type of access**
  - (i.e. Full Access, Alter, Create, Create/Alter, Display, Display/Print etc.)
- In the field **Allow the following Facilities**, specify the required details
- Save the screen.

Tally.ERP 9 allows you to create any number of levels.

- Select **Users** and **Passwords** under the **Security Control**
- Specify **Name of the user, password** and **level**
- Save the screen

3.3.1.1 Create Users and Passwords

- Use **Alt+F3** and view the **Company Info** menu.
- Press **Enter** on **Security Control** and a sub-menu is displayed as shown in Fig. 3.3.4

Fig. 3.3.4 Security Control

- The menu allows you to define access under **Users and Passwords**.
- User **Name**: Preethi.
- **Password**: preethi.
- **Security Level**: Owner.

Enter the other information as shown.

The **List of Users of Company** screen is displayed as shown in Fig. 3.3.5

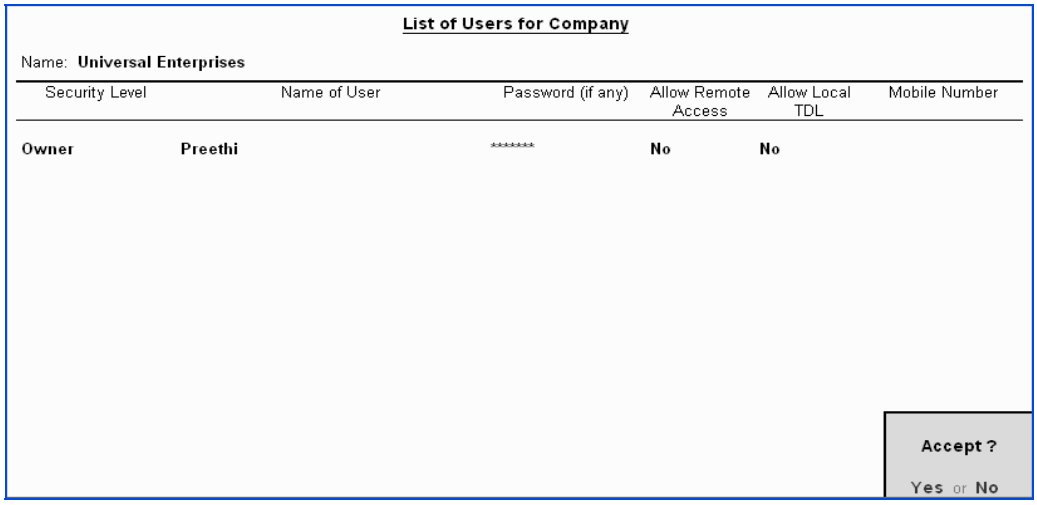


Fig. 3.3.5 List of Users for Company

- Press **Y** or **Enter** to accept.

3.3.2 Types of Security

In **Security Control** menu, click **Types of Security**. The screen is displayed as shown in Fig. 3.3.6

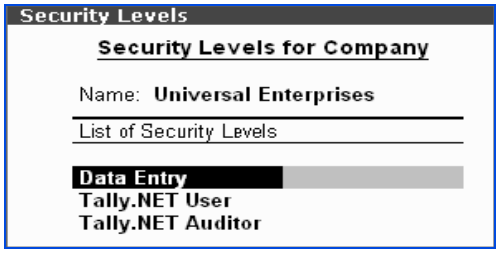


Fig. 3.3.6 Security Levels for Company

- Under **List of Security Levels**, the default value is **Data Entry**, **Tally.NET User** and **Tally.NET Auditor**
- Press the **Down Arrow Key** to create a new security level.
- Enter Preethi in the List of Security Level field.
- Press Enter to view the Security Levels screen.

3.3.2.1 Name of Security Level

By default, the name **(Preethi)** is displayed, which you have created.

Press **Enter** to go the **Level Definition** screen, where the following fields are displayed.

Use Basic Facilities of

By default, this field displays **Owner**. However, the other option, i.e., **Data Entry** is also available. The list does not display when you are at the field. Press **O** and begin to type the word for the list to display.

- Select **Owner** from the **Security List**.

Days Allowed for Back-Dated Vouchers

This is the duration for which the users, at this level, are allowed to alter back-dated vouchers. Specifying **zero** will indicate that back-dated vouchers are not allowed. This is effective only if you disallow back-dated entries in the **Disallow Column.**

- Retain the Default as 0.

Cut-off date for Back-Dated Vouchers

Specify the dates before which users of this profile or security level cannot create or alter vouchers. This is an additional control over the previous **Days Allowed**. It is useful in cases where, for example, you have completed your Tax Assessment for a period and no changes are desired in the data for that period.

- Leave blank.

Allow to Connect Company

If this option is set to **Yes**, the user classified under this security level can connect to a Company with a valid Tally.NET subscription.

Use Tally.NET Authentication

If this option is to be set to **Yes**, if we wish to create a security level for remote login users. This should be set to "No" for local users.

Use Tally.NET Auditor Authentication

If this option is set to **Yes**, the auditor can access the client's data remotely and perform an audit. However, a user not having the auditor's license will not be able to perform an audit by setting this option to **Yes**.

*The **Tally.NET** options will be available in the **Security Levels** screen, only when the **Tally.NET Features** are activated in **F11: Tally.NET Features.***

The screen is further divided into two broad columns with two sub-columns. The left of the screen is to disallow access to the various options of the system, while the right of the screen denotes the security level for different facilities.

The sub-columns are **Types of Access** and **List of Reports** under both **Allow** and **Disallow** facilities. Enter the Type of Access which you wish to give and the option sought to be controlled. Once the entry is completed, select **End of List** from **Type of Access** field to complete the allocation.

Once the settings have been entered, the screen for **Level definition** is displayed as shown in Fig. 3.3.7

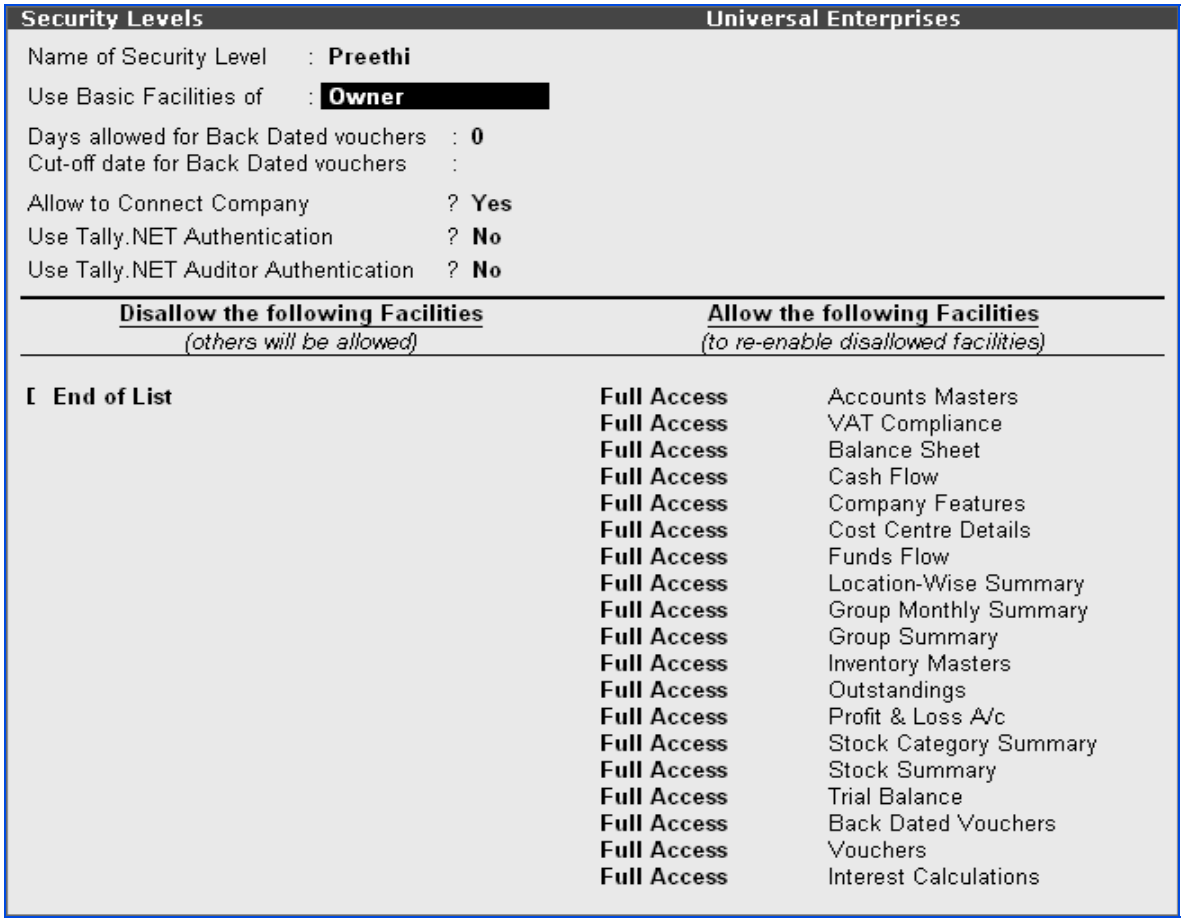


Fig. 3.3.7 Security Level Definitions

Accept the above settings and the screen **Security Levels for Company** is displayed. Follow the same procedure if you want to create another Security level. Else, **Accept** and return to the **Security Control Menu**.

Only the Administrator can assign users and their passwords.

3.3.3 Password Policy

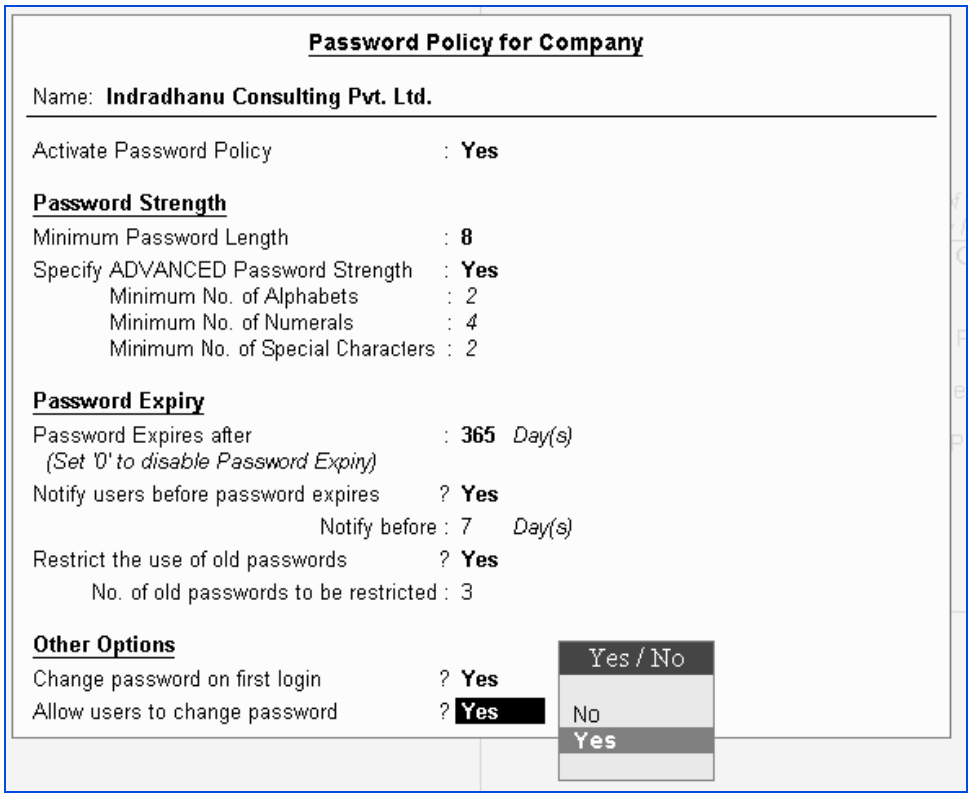


Fig. 3.3.8 Password policy for company

Password policy feature allows a user to set more controls about use of passwords by other users. As it is evident from the above figure, many controls can be set for use of passwords.

3.3.3.1 Tally Vault

Tally.ERP 9 offers a data encryption option called Tally Vault, with the help of which you can encrypt the company data by setting a password. It is extremely important not to forget the Tally Vault password, as forgetting the Tally vault password may land up the users in serious trouble.

3.3.3.2 Activate Tally Vault

You can activate the **Tally Vault** facility at the time of creating a new Company or when altering an existing one.

For a new Company:

Go to **Company Info. > Create**

- Enter the **Name of the Company** and other related details
- Enter the **Tally Vault Password** and **repeat** the same
- Save the screen

For an existing Company:

Go to **Company Info. > Press Alt+F3 (Cmp Info) > Change TallyVault**

- Type **New Password** and **repeat**
- Save the screen

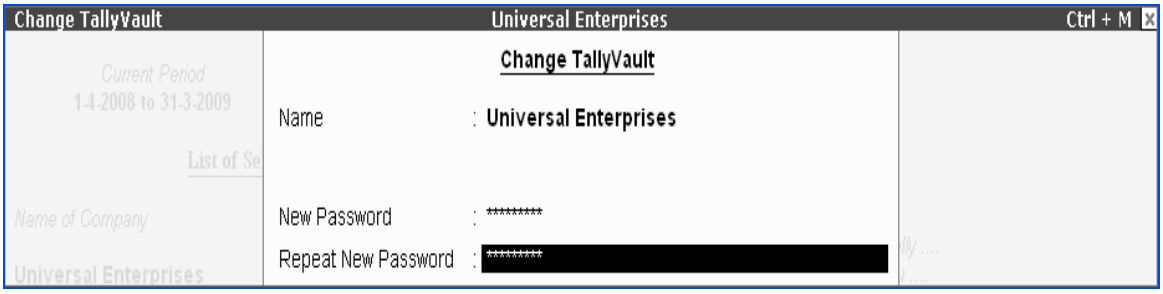


Fig. 3.3.9 Change Tally Vault Password

3.3.3.3 Tally Audit Feature

Tally audit feature provides the capability to check the accuracy and correctness of the entries made by authorized users. It allows you to alter the entries if required. Once you audit the entries, Tally.ERP 9 displays all the altered entries with the user's name that altered the entry, along with the date of alteration. The audit trail is also available in the day book where the administrator can view the alterations made.

3.3.3.4 To activate Tally Audit

You can activate the Tally Audit feature during the creation of the Company. If your company is already created,

Go to **Gateway of Tally > Click Alt+F3 (Cmp Info) > Alter**

- Select company from **List of Companies**
- Set the feature **Use Security Control** to **Yes**
- Specify the **Administrator Name & Password**
- **Repeat** the entry of the password
- Activate the parameter **Use Tally Audit Features** to **Yes**
- Save the entries made in the **Company Alteration screen**

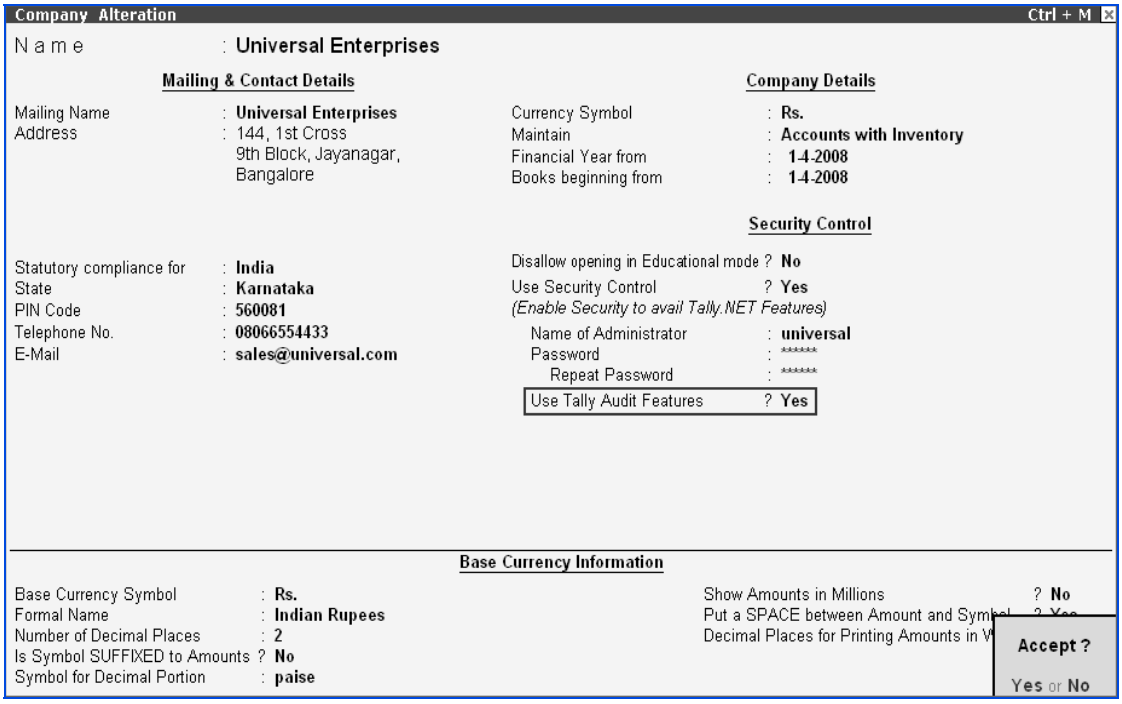


Fig. 3.3.10 Company Alteration screen – Audit Features

*To effect the changes, shut the company **Universal Enterprises** and open it again.*

To audit **Transactions / Masters** (Login Tally.ERP 9 as an Administrator) Go to **Gateway of Tally > Display > Statements of Accounts.**

The menu is displayed as shown in Fig. 3.3.11

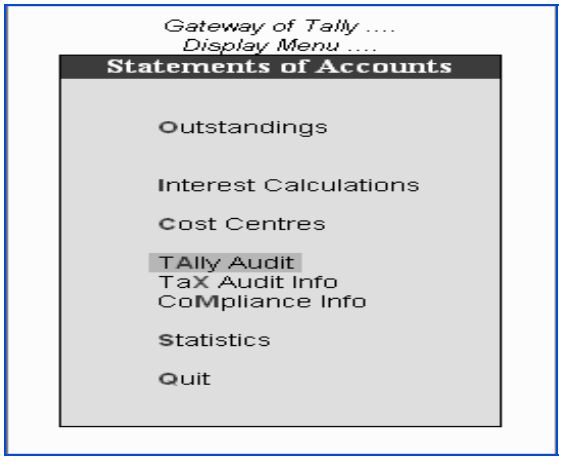


Fig. 3.3.11 Tally Audit Path

- Select Tally Audit
- Select **Voucher Types**, **Masters** or **Users**.
- View the vouchers that are not audited.
- Select **F7 (Accept one)** and audit an entry or select **Alt+F7 (Accept all)** to audit all entries.

The **Tally Audit Listing** screen is displayed as shown in Fig. 3.3.12

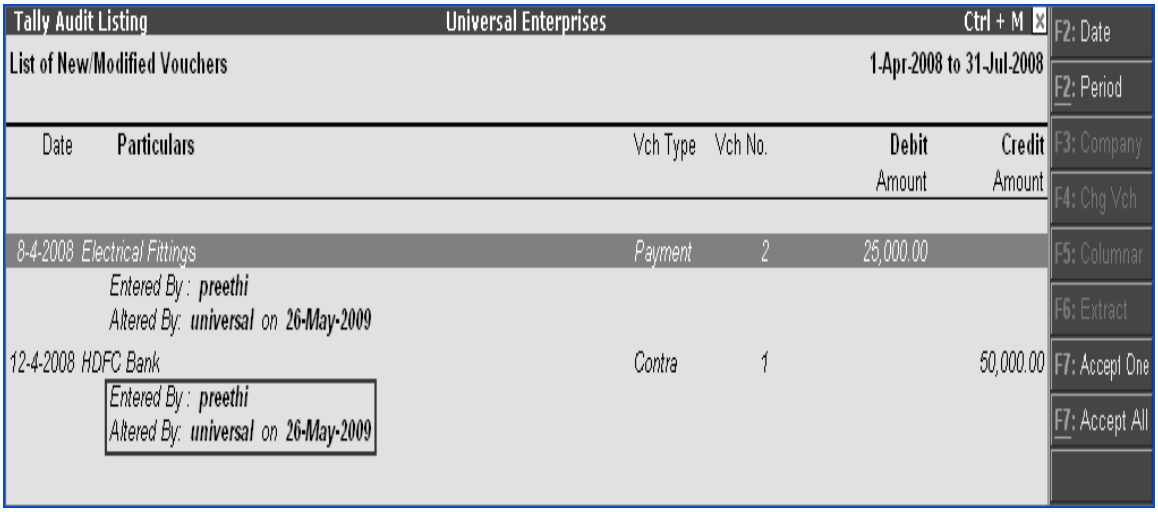


Fig. 3.3.12 Tally Audit Listing Screen

To audit entries that has been altered

If any entry that is audited is altered by another user, then Tally.ERP 9 displays the entry in the Tally Audit report.

- Click **F12: (Configure)**, set the parameter **Show Entered / Altered By** to **Yes**.

You will find a list of all entries that are altered with the names of users who entered/altered it along with the date of alteration.

Follow a disciplined verification of the list so that it is periodically cleared and only vouchers which are of concern remain.

To view the **Ledger Audit** list, select **Masters** from the **Tally Audit menu**.

A screen showing the ID (Identification number of ledgers), Ledger Names is displayed.

Make changes to any two Ledger Accounts. These changes are reflected in the list of new or altered Ledger Accounts. Notice that their IDs do not change, which is a useful feature for tracking ledgers. Information about the user who changed the accounts and the date of change is available. If you are satisfied with the changes made in the ledger, click **F7: Accept One** or **Alt+F7: Accept All**. This accepts the ledger as valid and removes the old one from the list.

3.4 Data Management in Tally.ERP 9

3.4.1 Data Backup & Restore

Since the data on a computer is vulnerable, it is important to take regular back-ups of data. Tally.ERP 9 has a flexible back-up mechanism for taking a backup of the data onto virtually any storage medium. The commonly used media are CD, DVD, hard disc, pen drive and so on, installed either locally or on a network.

Tally.ERP 9 provides you with the capability of taking a backup of one or more companies or all companies in a single directory.

3.4.1.1 Backup Data

At the **Gateway of Tally**, use **Alt+F3** to get to the option, **Backup**.

In the Backup screen, the source of the backup and the destination (where it has to be stored) have to be mentioned. To change either the source or the destination paths, use the backspace key and change the paths as required.

For example, to backup the data to a directory - Tally.ERP 9 backup in the D Drive, change the destination path to **D:\TallyBackup** as shown.

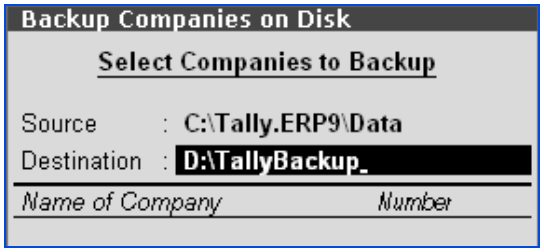


Fig. 3.4.1 Company Backup - Specification of Destination Path

The process of backing up data begins when at least one company is selected.

- Select the company Universal Enterprises.

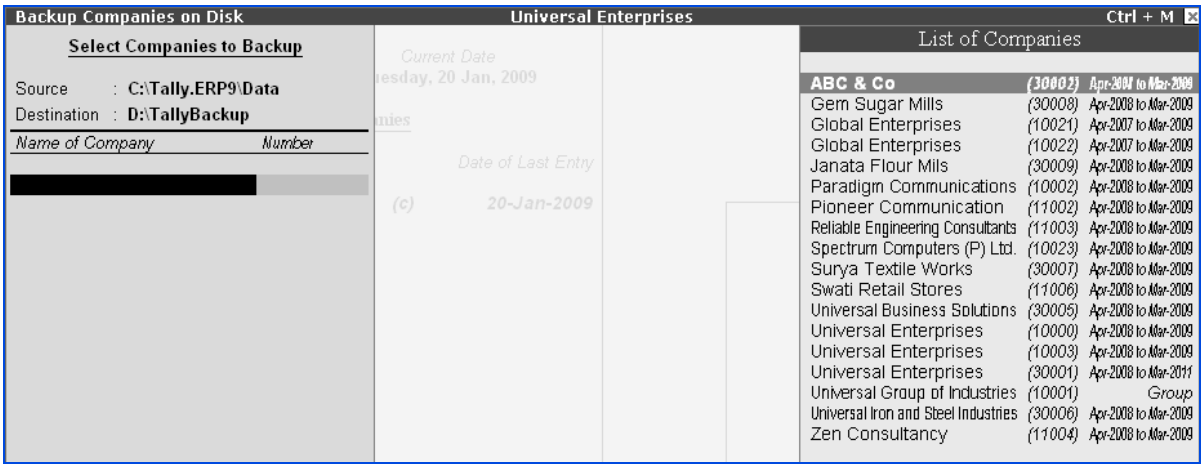


Fig. 3.4.2 Company Backup - Selection of Company

To stop selecting companies, select the option **End of List** which appears at the top of the selection list.

This option is active only when at least one company has been selected for backup.

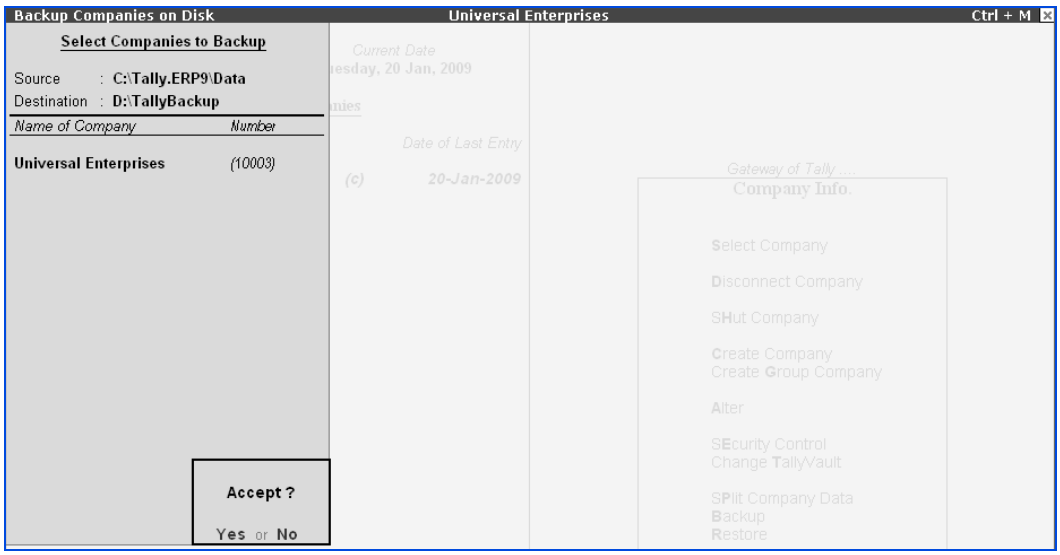


Fig. 3.4.3 Company Backup screen - Completed screen

- Press **Y** or **Enter** to **accept** the screen.
- The backup file is stored with the name **TBK900.001**

3.4.1.2 Backup Administration

An appropriate backup mechanism needs to be devised depending on the volume of data. One of the methods would be to maintain a backup directory in the local hard disk or the server (external storage media such as the pen drive or external hard disc).

Sub-directories could be maintained for every day of the week under the main backup directory and regular data backups depending on the day of the week could be created in the following manner.

Monday - D:\TallyBackup\Monday.

Tuesday - D:\TallyBackup\Tuesday.

Wednesday-D: \Tally Backup\Wednesday, and so on.

*Tally.ERP 9 backup facility is **NOT** limited to the hard disk drive alone.*

3.4.1.3 Restore data

Go to **Gateway of Tally > Alt+F3 > Restore**

- Select **Destination** (specify path)

- Select **Source** (specify path)
- Select the **Company / Companies** for data restore
- Save the screen.

Fig. 3.4.4 Company Restore Screen

3.4.2 Splitting Financial Years

Tally.ERP 9 allows you to maintain a company for any number of financial years. Once the books of accounts are completed for previous financial years and if the need arises, you can split the company data into multiple companies as per financial periods required. In other words, Tally.ERP 9 offers a feature to split your company data. You can specify the date from which the company has to be split and Tally.ERP 9 will split the company to form two new companies according to the periods specified. Once the data has been split, the closing balance of the first period (first company) becomes opening balance for the next period (second company).

To split the data:

- Load the company that has to be split.
- Select **Alt+F3 (Cmp Info)** > **Split Company Data**.
- Select **Company**.
- Specify the date in Split from (this is the starting date of the new period)
- Save the screen.

Tally.ERP 9 splits your company data according to the specified periods.

Fig. 3.4.5 Splitting of Company Data Screen

Before actually splitting of company data into two parts, one can verify the company data for any possible errors. A separate menu “Verify Company Data” is given for this purpose. A company shall be split successfully only if there are no errors in the data.

3.4.3 Import / Export of Data

Tally.ERP 9 allows you to import data from as well as export data to other software. You can import and export in ASCII, Excel and XML formats. XML is now the most widely used format of exporting data in the world. Any type of transaction can be exported to another application after suitably altering their current structures to accept Tally.ERP 9 data. The reverse is also possible with the help of a TDL program to accept data from other software. Data can be imported into Tally.ERP 9 either in XML or DBF formats.

Export Tally.ERP 9 Reports to MS Excel

Tally.ERP 9 now comes with the functionality, wherein all reports can be exported to Microsoft Excel spreadsheet. This feature enables you to export any report generated by Tally.ERP 9 into Excel.

Subsequently, you can generate graphical representations of the data for better visual presentation. This process of export can be explained with a few simple steps, as shown.

Go to **Gateway of Tally > Balance Sheet**

The following screen is displayed in Fig. 3.4.6

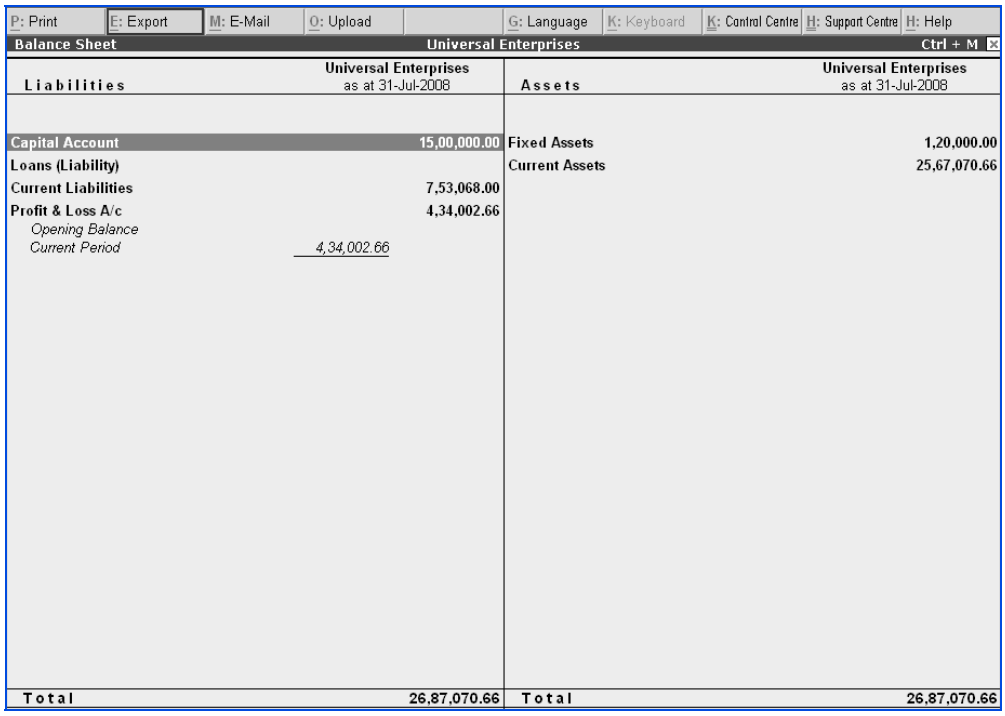


Fig. 3.4.6 Export Option in Tally.ERP 9

- Click **Export**.

- Select **Restricted** (ASCII only)
- Select **Excel (Spreadsheet)** in Format.
- Type the name of file for **Output File Name** as required.
- Specify other details.

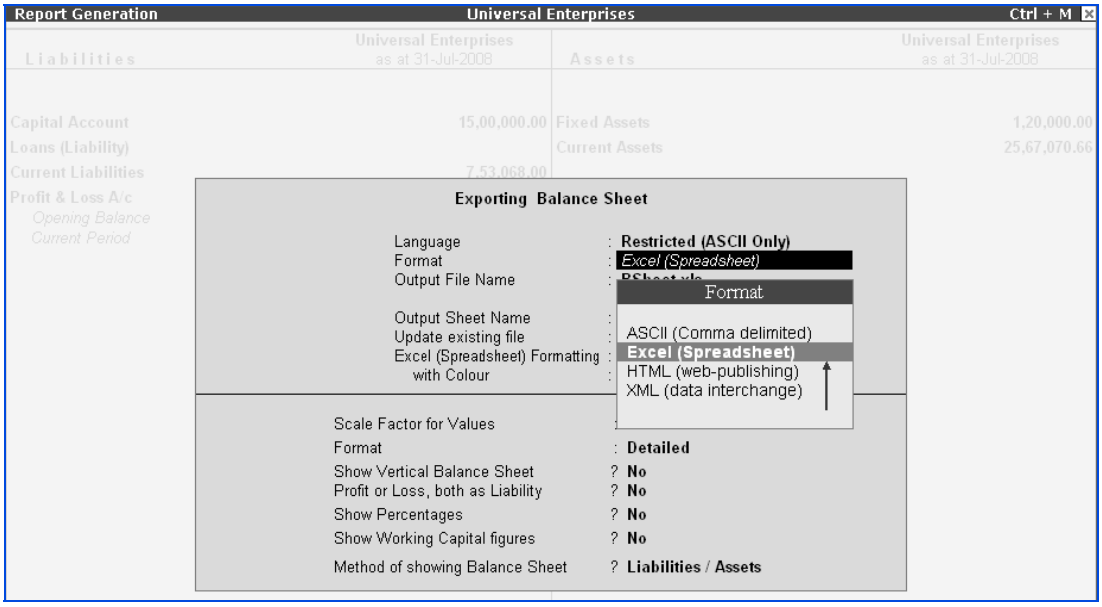
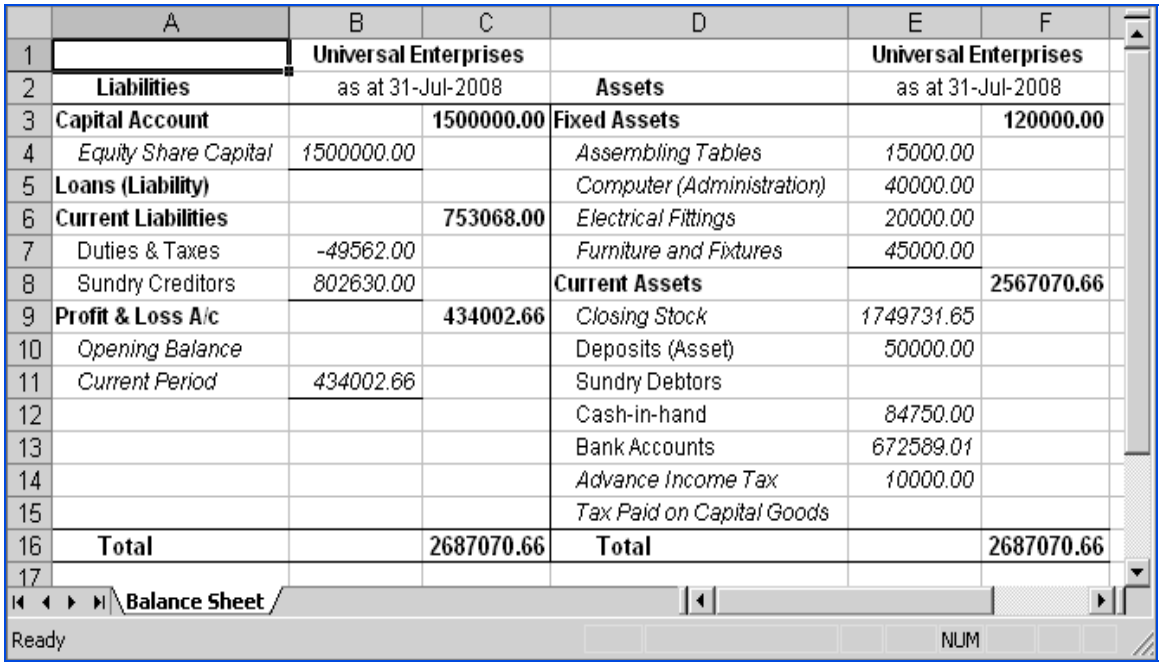


Fig. 3.4.7 Report Generation Screen for Excel

- Click **Yes** for Export.

By default, the exported report in Excel format is saved in the Tally.ERP 9 folder.

Open this file to view the report.



	A	B	C	D	E	F
1		Universal Enterprises			Universal Enterprises	
2	Liabilities	as at 31-Jul-2008		Assets	as at 31-Jul-2008	
3	Capital Account		1500000.00	Fixed Assets		120000.00
4	*Equity Share Capital*	*1500000.00*		*Assembling Tables*	*15000.00*	
5	Loans (Liability)			*Computer (Administration)*	*40000.00*	
6	Current Liabilities		753068.00	*Electrical Fittings*	*20000.00*	
7	Duties & Taxes	*-49562.00*		*Furniture and Fixtures*	*45000.00*	
8	Sundry Creditors	*802630.00*		Current Assets		2567070.66
9	Profit & Loss A/c		434002.66	*Closing Stock*	*1749731.65*	
10	*Opening Balance*			Deposits (Asset)	*50000.00*	
11	*Current Period*	*434002.66*		Sundry Debtors		
12				Cash-in-hand	*84750.00*	
13				Bank Accounts	*672589.01*	
14				*Advance Income Tax*	*10000.00*	
15				*Tax Paid on Capital Goods*		
16	Total		2687070.66	Total		2687070.66
17						

Balance Sheet

Ready NUM

Fig. 3.4.8 Report in Excel Imported from Tally.ERP 9

3.5 Audit Feature & Functionalities

Audit in simple language means verification. There may be different objectives for different audits. Process of audit may change according to the objective to some extent but the basic theme remains the same for every audit. It is basically verification of data to ensure its correctness. As far as accounting systems are concerned, audit generally means verification of accounting data. Software is used to create accounting data hence a software can help a user audit the data easily. Hence audit feature and functionalities are provided in software to make the audit process easy and simple for a user. We can divide the overall audit process in following two aspects.

(a) Basic

(b) Advanced

Let us discuss both the aspects one by one.

3.5.1 Manual Audit

In case of any computer system, data is stored in two ways, as master data and as transaction data. It is expected that the accounting transactions are recorded in the system correctly.

E.g. Accountant has recorded Cash payment voucher number 143 of Rs. 890 paid towards purchase of stationery as Rs. 980. This type of mistake is affecting the trial balance as well as balance sheet. Comparison of original proof of transactions, i.e. voucher and its accounting entry will reveal the mistake. This mistake is to be corrected by user having the authority.

Above example shows a simple example of audit. This can be done manually also without taking help from software. But there are some inherent problems in the above case. To understand these problems, let us understand a manual audit process.

Gayatri, an articled clerk, is asked to verify the data of cash payments for the month of August 2017 which contains around 1,000 transactions. She has to check the original source document, i.e. voucher with the transaction recorded in software. At the time of verification of these transactions, she is supposed to check following aspects.

(a) Date of voucher

(b) Voucher Number

(c) Ledger Debited

(d) Ledger Credited

(e) Amount

(f) Narration

(g) Approval

These aspects regarding each voucher are to be checked considering two things.

(a) Physical Voucher and

(b) Electronic Data Entry

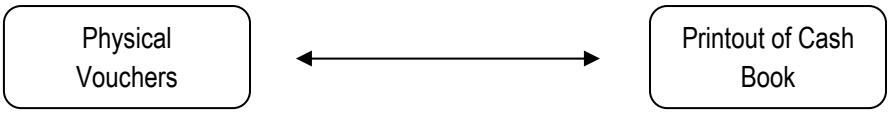
Physical voucher is a piece of paper and is to be handled manually. As per far as electronic data entry is considered, there are two ways of handling it.

(a) Taking a print out of vouchers or voucher register for checking

(b) Putting an electronic tic in software.

Let us understand case 1, i.e. Manual Audit using print out of voucher register.

Gayatri has got a file containing payment vouchers for the month of April 2017 for checking. Now she can start verification of each and every physical voucher with the printout of cash book.



In this process of checking, she founds following types of errors.

- Date entered in the software is not matching with date of physical voucher
- Amount entered in the software is not matching with amount in physical voucher
- Expense ledger debited in software is not in accordance with nature of expenditure as explained on physical voucher.

These mistakes need to be corrected by making correction in the software. With the help of accountant, Gayatri gets all the mistakes corrected in the software and she closes the audit of cash payments for the month of April 2017. She

prepares the report and submits it to her boss. She also takes final printout of cash book after corrections and keeps it with her.

Now Gayatri has to start audit for next month, i.e. May 2017. To her surprise, she finds that the opeing balance of cash as on 01.05.17 in software is not matching with closing balance of cash in the printout of cash book with her. Now, instead of starting audit for the month of May 2017, she need to put her time and efforts in digging out the reason for change in closing balance of cash on 30.04.17. Possible reasons are as under.

(a) Old entries altered

(b) New entries added after completion of audit

(c) Opening balance of cash changed.

Basic problem with manual audit is non availability of change tracking mechanism and the basic advantage with electronic audit is availability of complete change tracking mechanism.

3.5.2 How data is stored in a Software?

Basically, accounting data is stored in any software in two ways.

(a) Master Data – Standing data or permanent data not expected to change frequently.

(b) Transaction Data – Non permanent data, expected to change frequently.

There may be different types of master data like Accounting Master Data, Inventory Master Data, Payroll Master Data, etc. Similarly transaction data may also relate to Accounting, Inventory, Payroll, etc.

Auditing of data can be complete only after verification of master data as well as transaction data.

3.5.3 Basic Audit Feature

The biggest advantage of using a electronic tools for auditing tools is availability of complete change tracking system. Let us discuss the auditing features available in Tally.ERP9.

This feature provides a facility to put an electronic tick on master data as well as transaction data. Hence there is no need to take any printout for putting a tic. After putting an electronic tic on the data, if there is any change, this change is tracked along with user name making a change and date on which change was made.

To use basic audit feature in Tally, follow this path.

Gateway of Tally > Cmp Info (Alt+F3) > Alter > Select the company and go to company alteration screen as shown in Fig 3.5.1.

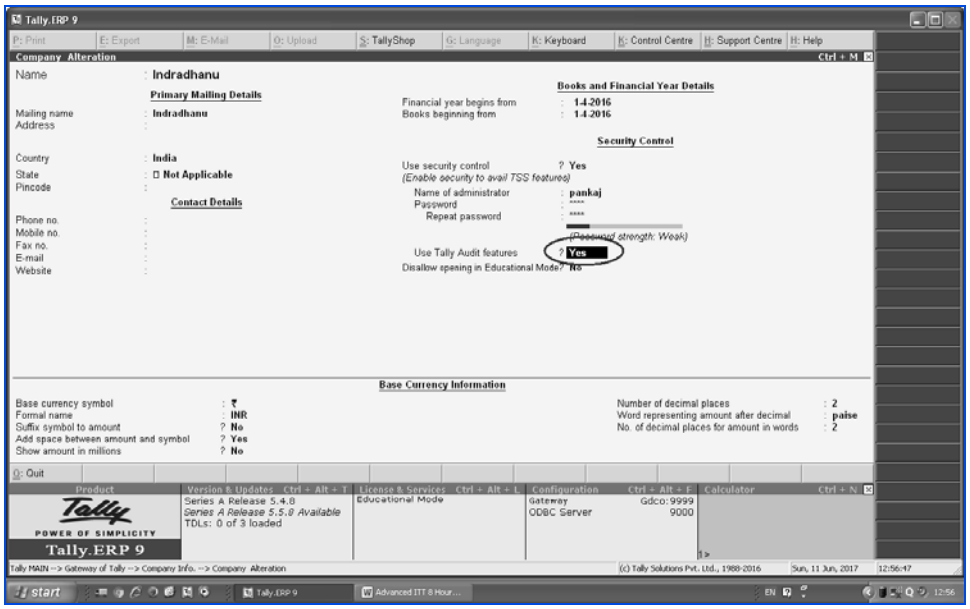


Fig 3.5.1 Enable Basic Audit Features

First we need to set "Yes" to "Use Security Control". Then only "Use Tally Audit Features" option shall be available. Set it to "Yes". As soon as this is done, a new menu shall appear in the following path as shown in Fig.3.5.2

Gateway of Tally > Display > Statement of Accounts > Tally Audit

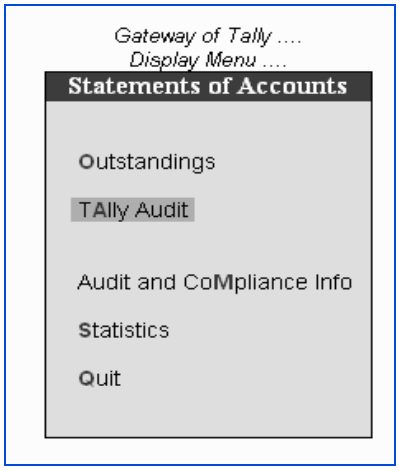


Fig 3.5.2 Tally Audit

Inside Tally Audit menu, there are three sub menus as shown in Fig 3.5.3.

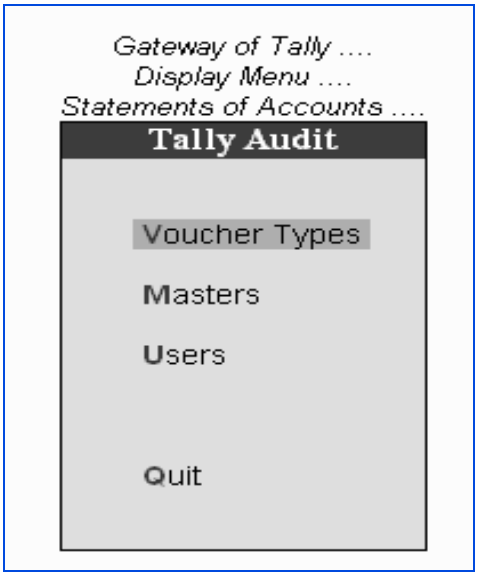


Fig 3.5.3 Sub menus of Tally Audit Menu

Voucher Types Menu: This menu shall display voucher type wise unaudited vouchers and vouchers altered after audit. Please see as shown in Fig 3.5.4.

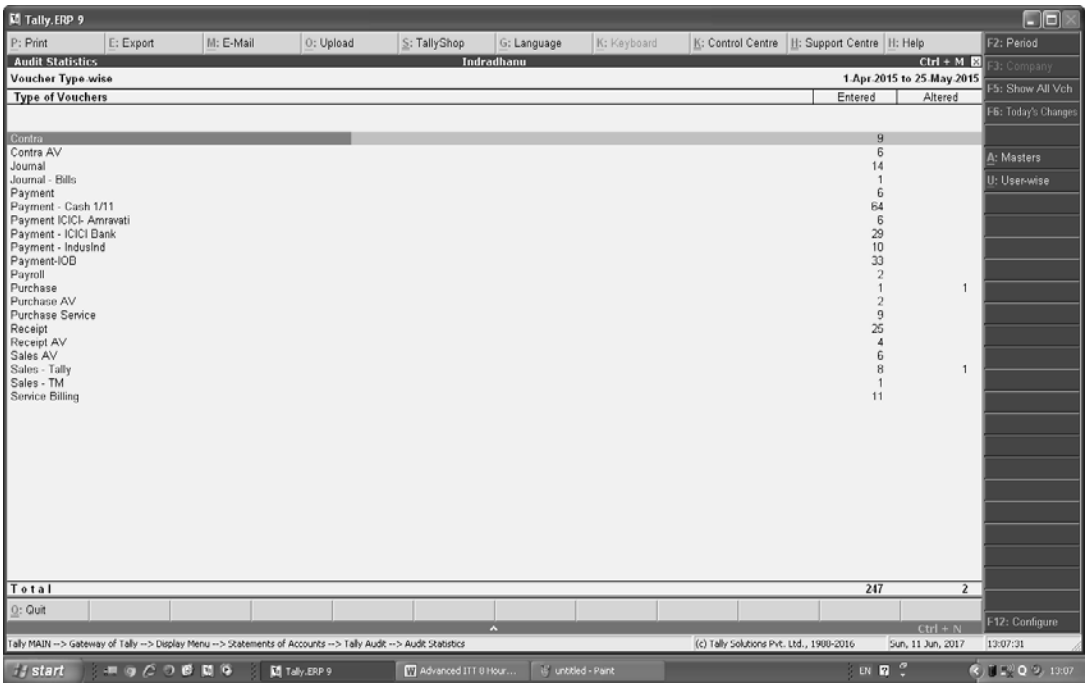


Fig 3.5.4 Voucher Type Menu

Masters Menu: This menu shall display newly created masters (Ledgers Only) and ledgers altered after audit. Please see as shown in Fig 3.5.5.

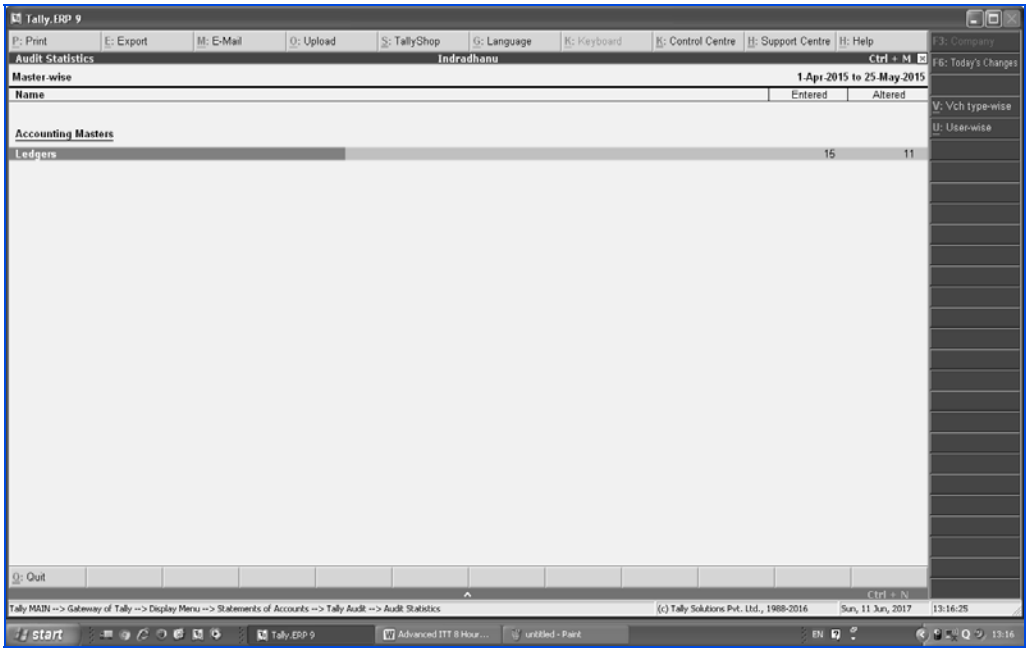


Fig 3.5.5 Masters Menu

Users Menu: This menu shall display user wise newly created transactions and user wise transactions altered after audit. Please see as shown in Fig 3.5.6.

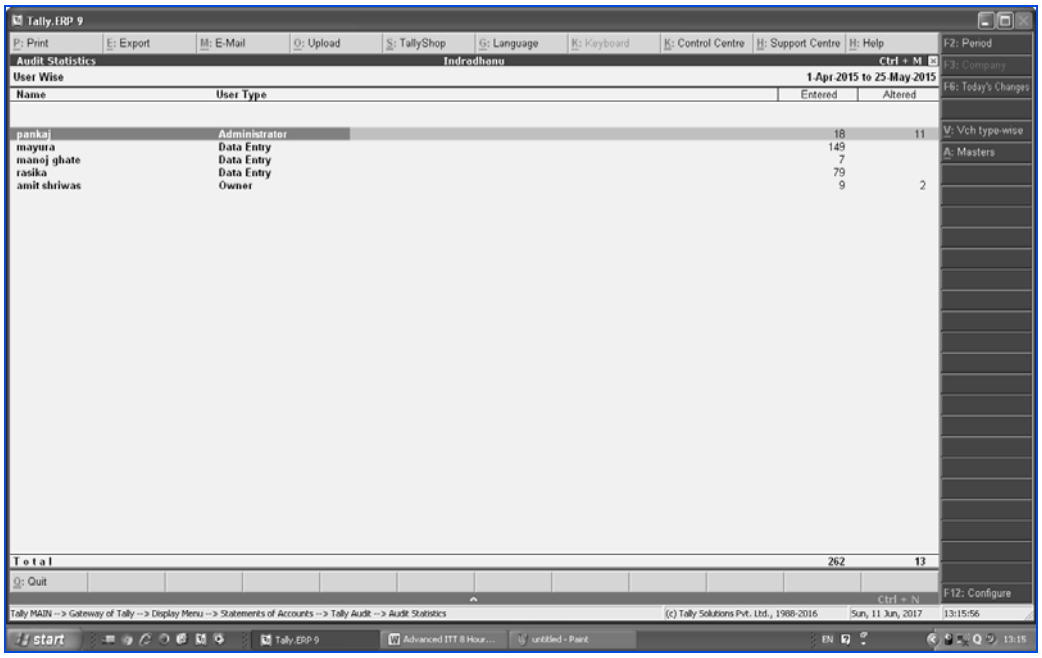


Fig 3.5.6 Users Menu

How to mark an electronic tic on voucher / master ?

Open Tally Audit Listing screen by Voucher Types or Users Menu, select a voucher and click on “Accept One” button on right hand side button bar as shown in Fig 3.5.7. This will put an electronic tic on the voucher.

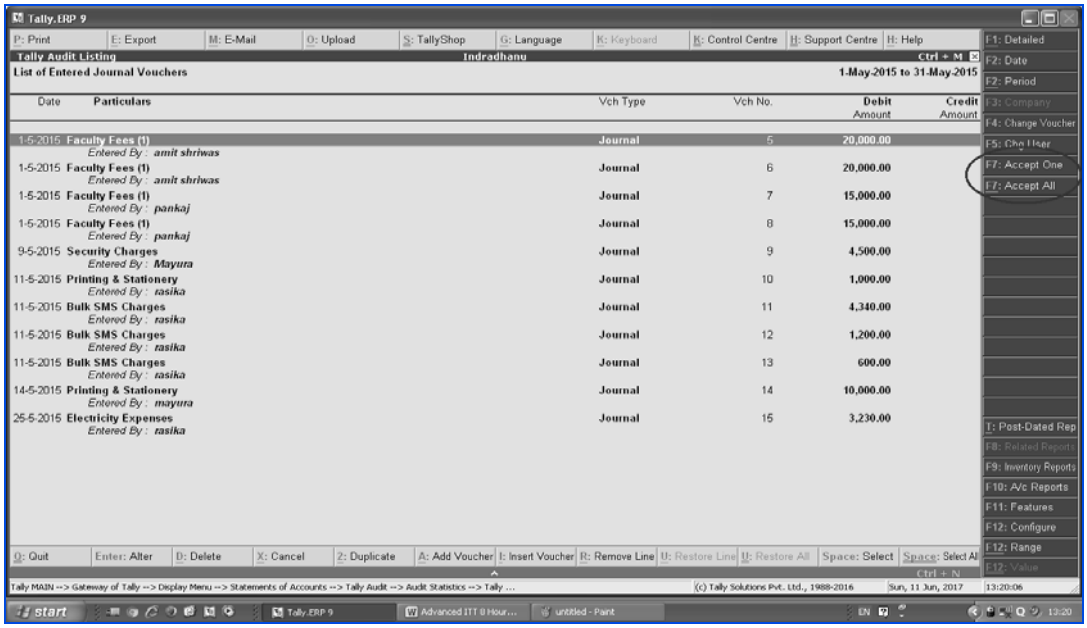


Fig 3.5.7 Accept One

“Accept All” button can be clicked to accept all the vouchers at once.

3.5.4 Advanced Audit Feature

In addition to basic audit feature, Tally.ERP9 has advanced auditing features also. The audit feature discussed above deals with only quantitative aspect of audit. Advanced audit feature which we are going to discuss now deals with quantitative as well as qualitative aspect also.

To start using advance audit feature, let us go to Audit & Compliance menu on Gateway of Tally as shown in Fig 3.5.8.

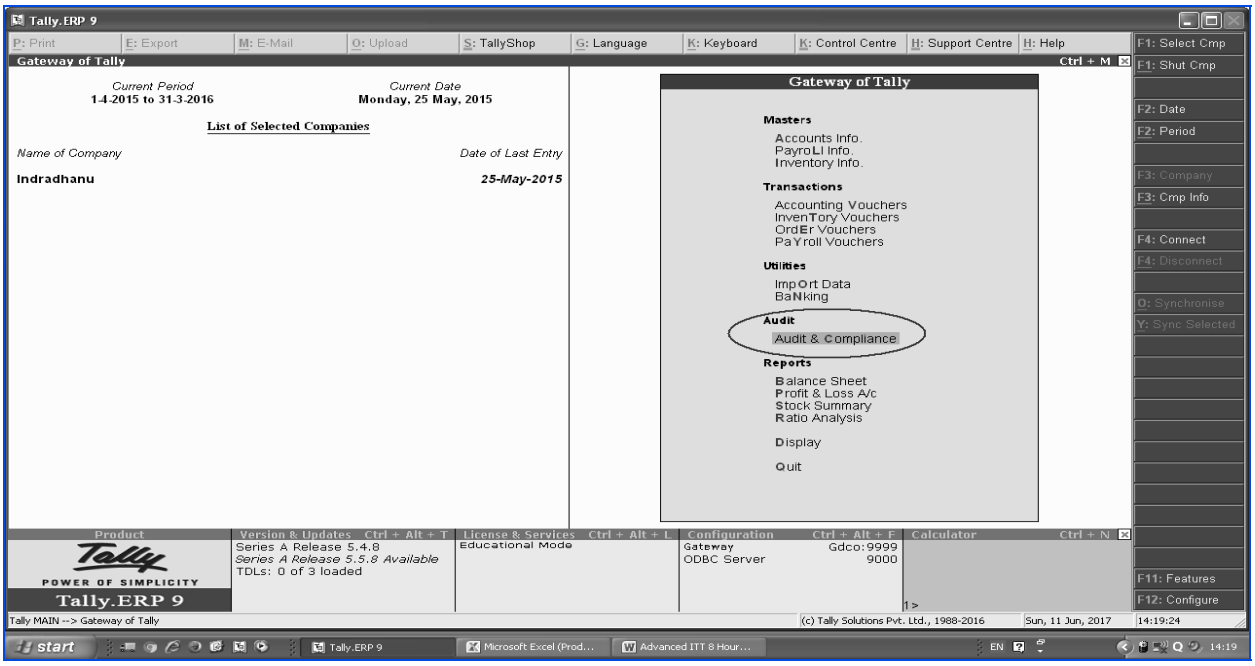


Fig 3.5.8 Audit & Compliance

Inside Audit & Compliance menu, there are four sub menus as under. The basic difference between basic audit feature and advance audit feature in Tally.ERP9 is that in the case of advance audit feature user can write his comments for an audited voucher or a master data as shown in the Fig 3.5.9.

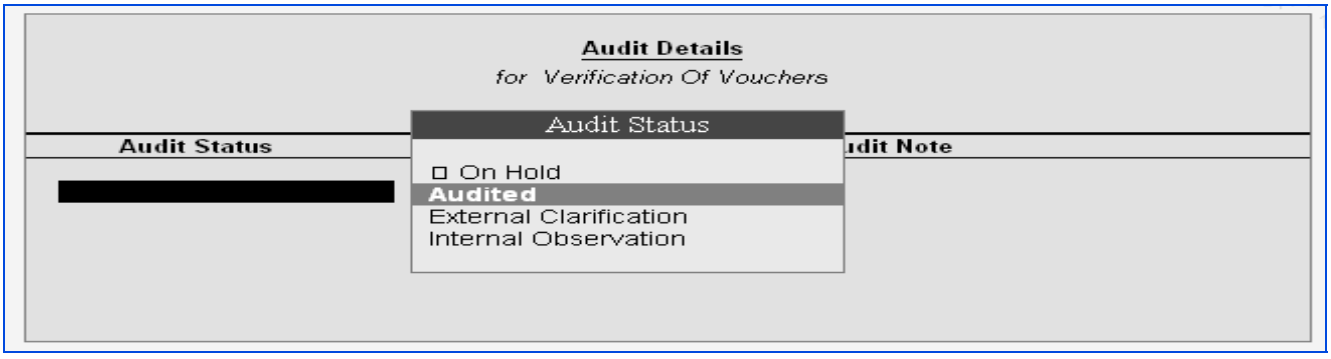


Fig 3.5.9 Audited Voucher

Fig 3.5.10

Let us discuss these menus one by one.

3.5.4.1 Audit Documentation

This menu is used for documentation relating audit such as

(a) Preparation of audit programme,

(b) Preparation of audit report

(c) Preparation of annexures to audit report

(d) Preparation of check list for accounting standards, its applicability, compliance and remarks.

(e) Preparation of check list for auditing standards, its applicability, compliance and remarks.

3.5.4.2 Audit & Analysis

This is the main menu for auditing with variety of features and functions as shown in Fig 3.5.11.

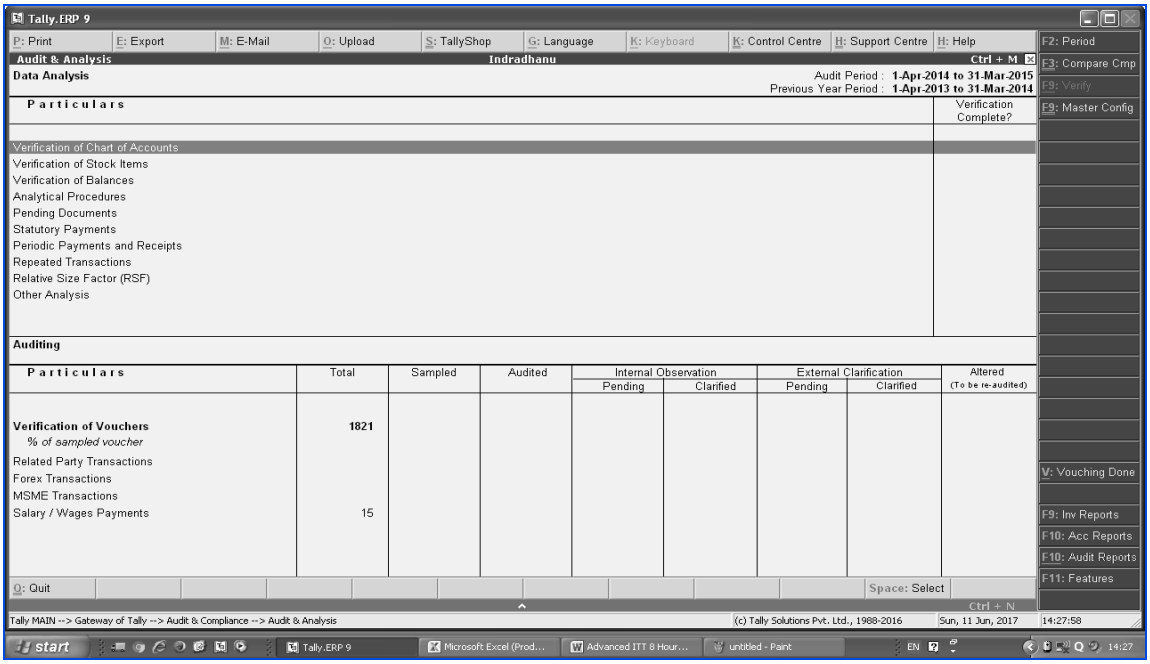


Fig 3.5.11 Main menu for auditing with variety of Features and Functions

(a) **Verification of Chart of Accounts** – This is a menu useful for identification of ledger masters which needs auditor's attention. These ledgers can be identified with the help of this menu very easily. This report is used for identification ledgers as under.

- Accounts squared off during the year
- Accounts not used at all
- Accounts not used in current year
- Accounts having only balances and no transactions
- Accounts used only in current year.

Please see the Fig 3.5.11 below.

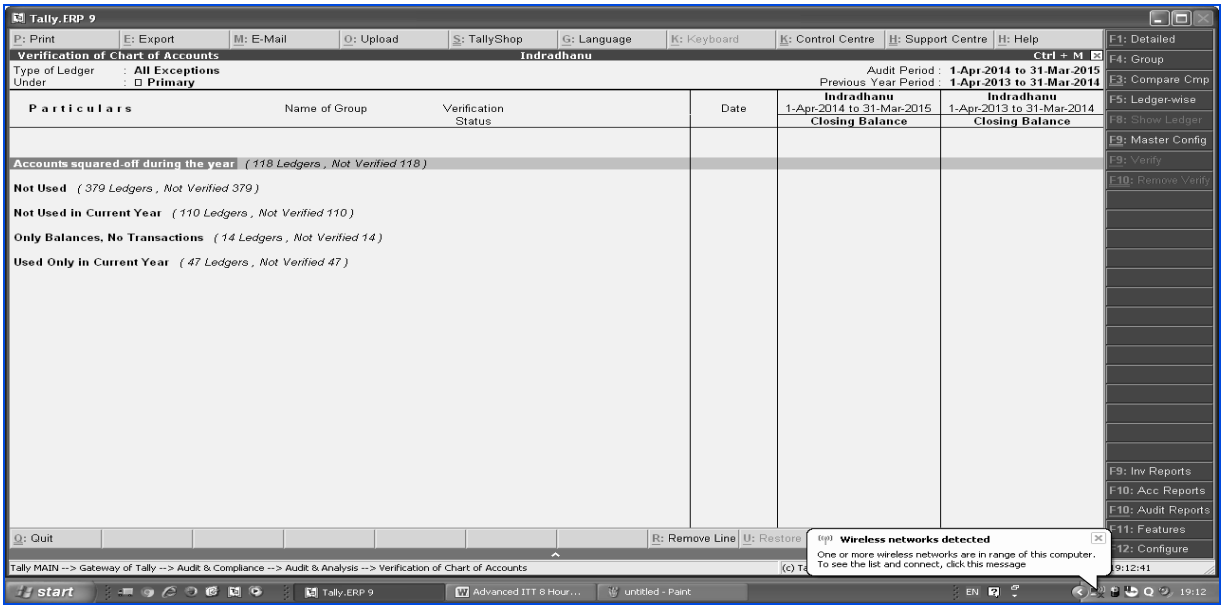


Fig 3.5.11 Verification of Charts

(b) Verification of stock items – This is a menu similar to the above menu, i.e. verification of chart of accounts. This is used for identification and verification of stock items which need auditor's attention. Following sub menus are available.

- Not Used
- Not used in current year
- Only balances, no transactions
- Used only in current year

(c) Verification of Balances – This menu can be used for Ledger Scrutiny. This help to identify ledgers as well as vouchers which may of interest to an auditor.

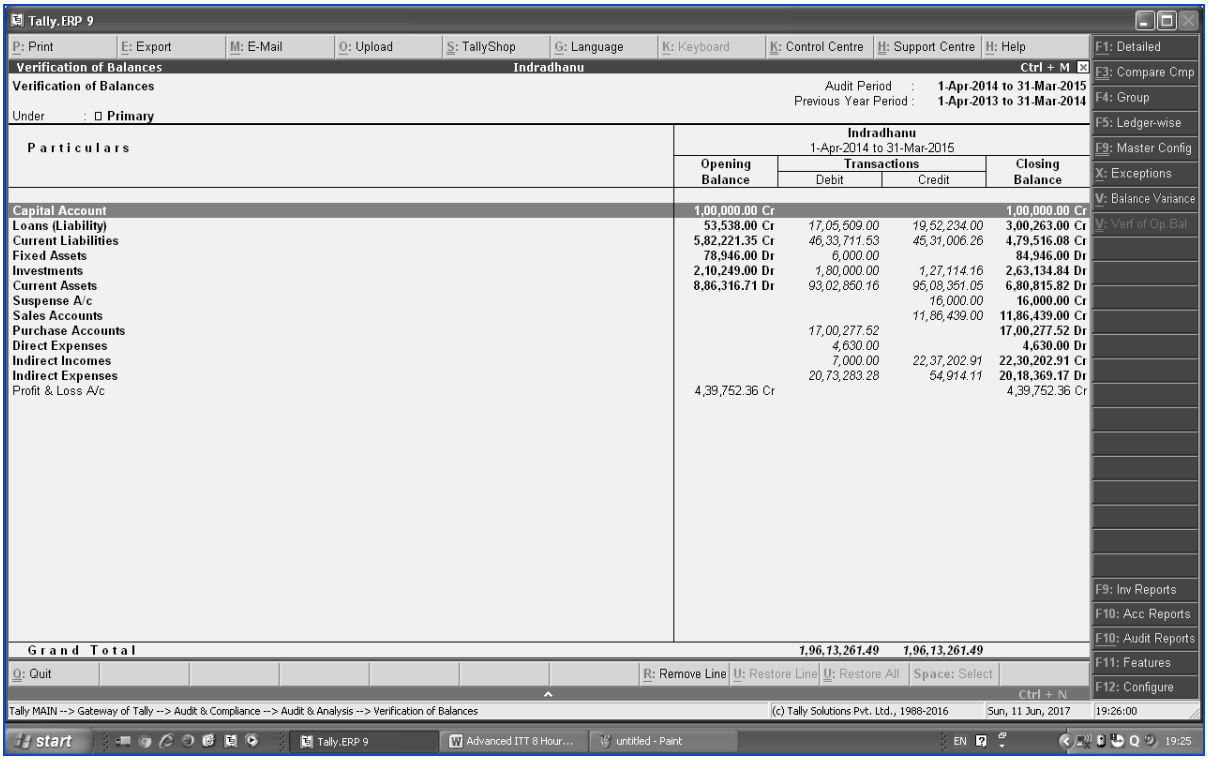


Fig 3.5.12 Verification of Balance

(d) **Analytical Procedure** – This menu helps in comparing Groups, Ledgers or Cost Centres across the Years (Audit Year & Previous Year) to find the exceptional trends, which will help the Auditor to carry out further investigations. The Auditor can also do cross comparisons among Groups, Ledgers and Cost Centres to find out exceptions. The Analytical Procedures screen displays the parameters that are compared across the years with the details of percentage changes and Variance. The details of various fields in the above report are given below:

Comparison: Displays the parameters that are selected for comparison.

The second section displays the Base parameter (e.g. Sales Accounts Group) with the following details:

Current Period: Name of the Company and selected Audit Period is displayed along with the Closing Balance for the selected parameter (e.g. Sales Accounts Group) is displayed. The percentage change from Previous Period to Current Period is also displayed.

Previous Period: Name of the Company with which the comparison is done, the selected Previous Period along with the Closing Balance for the selected parameter (e.g. Sales Accounts Group) is displayed. The Base parameter value for Previous Period is treated as 100% by default as displayed.

The last line displays the Variance details which includes the Amount and percentage Increase or Decrease.

The third section displays the details of the compared parameter (e.g. Indirect Expenses) with the Base parameter (e.g. Sales Group) along with the Percentage change and Variance.

Particulars: Displays the parameter (e.g. Indirect Expenses) with which the Base parameter is compared.

(a) **Pending Documents :** This menu displays pending matters such as pending purchase orders, pending sales orders, goods received but bills not received, goods delivered but bills not made, net pending receivables, net pending payables. Complete drill down is available here and user can go up to voucher level to mark a voucher as audited.

(b) **Statutory Payments:** This menu is used for checking status of statutory payments like VAT, Service Tax, TDS, TCS, Excise, etc. But this menu will work only if statutory feature is used in Tally.

(c) **Periodic Payments & Receipts:** This menu provides the list of recurring ledger vouchers based on the ledgers identified by the users. This report also provides the comparison of ledgers vouchers with previous years vouchers to analyse the deviations, if any. This report provides details of total amount spent or received along with the total number of vouchers during each year. It also provides the details of the amount and voucher variance which can be used to carry on the further investigations.

(d) **Repeated Transactions:** This menu displays the Count of those vouchers in which the Total Value is repeated more than once for any ledger. The user can filter the required information from this report and continue with further scrutiny. This report displays the ledger wise repetition details along with the repeated amount. The user can drill down from the above report to view the details of the Ledger Vouchers where the same amount is repeated more than twice.

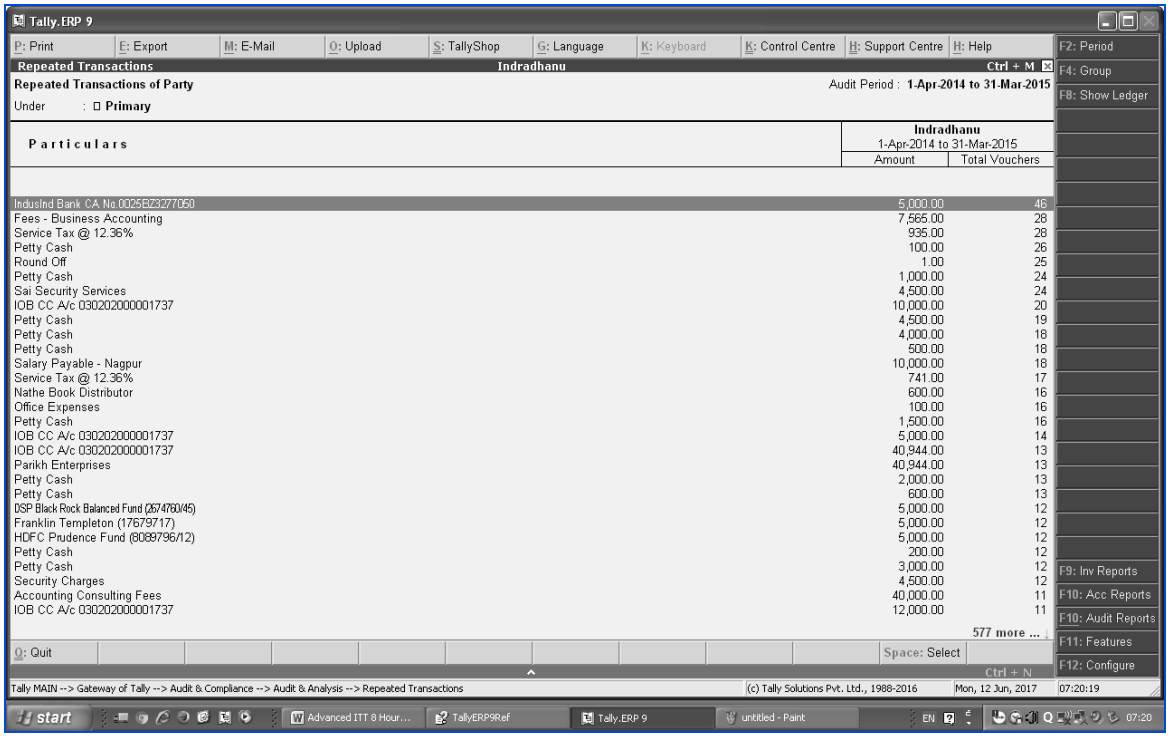


Fig 3.5.13 Repeated Transactions

(e) **Relative Size Factor:** This report will compare the Highest Value transactions for each Ledger Vouchers to the Second Highest Value and displays the Relative Size Factor which can lead into further investigation to correct the above mistakes. The Auditor can drill down from the report to view the details of the Ledger Vouchers where the details of the Relative Size Factor computation can be viewed. This report also displays the Ledger wise Highest, Average and RSF Value along with the count of vouchers as shown above. The Auditor can drill down from the above report to view the details of the Ledger Vouchers where the details of the Relative Size Factor computation can be viewed.

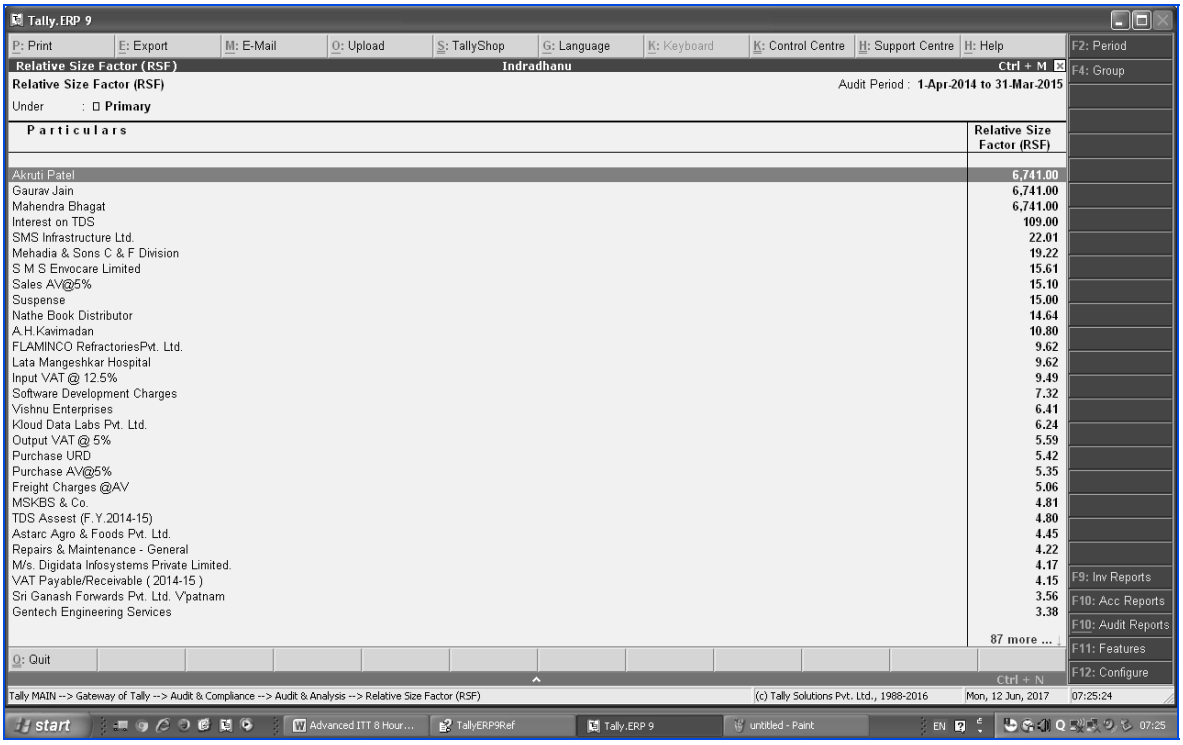


Fig 3.5.14 Relative Size Factor

Example : Consider a case of electricity expenses ledgers. The normal monthly electric bill of the company is around Rs. 10,000. If all the vouchers are around Rs. 10,000, relative size factor shall be less than one. But accountant has debited Rs. 1,00,000 towards wiring and electricfication expenses. In such case, the highest voucher is Rs. 1,00,000 and second highest voucher is Rs. 10,000. Hence relative size factor is 10. This raises an alarm for an auditor. After going into details, it is confirmed that expenditure of Rs. 1,00,000 towards wiring and electrification is a capital expenditure and should not have been debited to Electricity Expenses as a revenue expenditure. These types of mistakes can be very easily identified with the help of this feature.

(f) **Other Analysis**: This menu contains variety of other submenus for analysis purpose and provides vital information for auditing.

(a) **Inter Bank Transactions –** This report provides the details of all transactions carried out between the banks during the analysis year. This report also displays the details of Inter Bank transactions along with Voucher Type, Voucher Number, Debit & Credit balances, Instrument Date, Bank Date, Number of Days delayed, Verification Status and Verification Note.

(b) **Relative Size Factor** - This report provides the details of Total Amount Deposited or Withdrawn from bank during the Audit year, along with the voucher count.

(c) **Relative Size Factor** – This report provides the details of all the Fixed Assets possessed by the selected Company at the end of the Analysis Year.

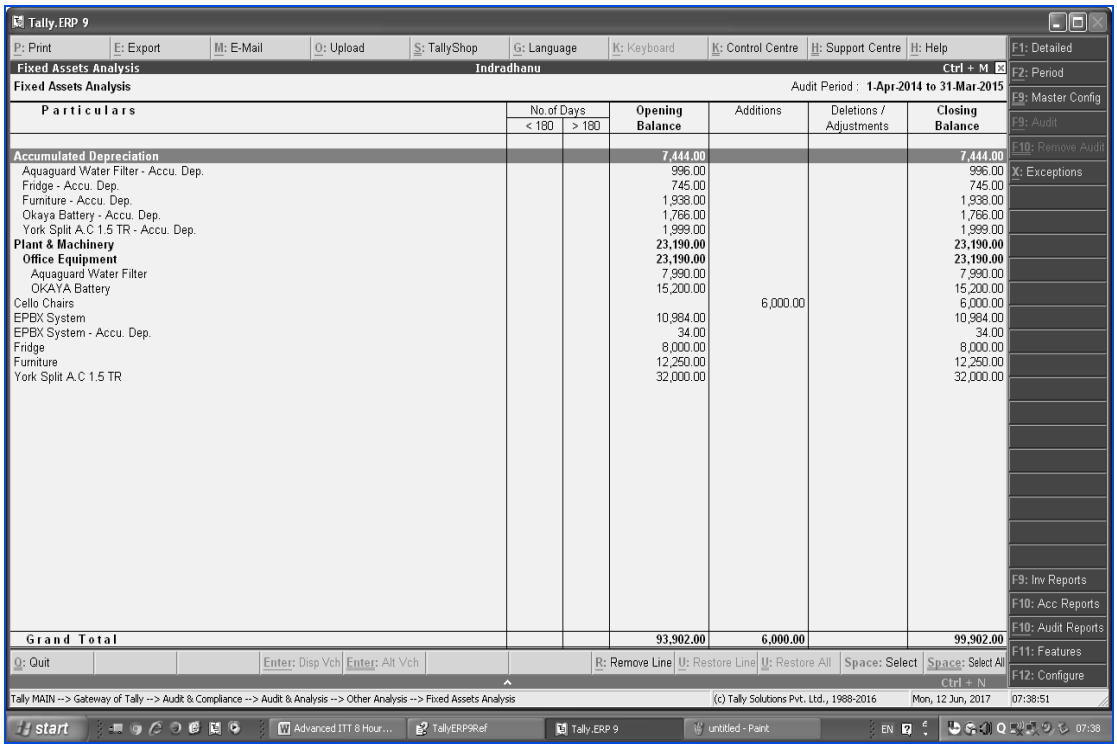


Fig 3.5.15 Details of all the Fixed Assets

(d) **Transactions on holidays** – As the name suggests, this report shows all the transactions recorded on holiday. If a transaction is recorded on holiday, it is a matter of concern for auditor. To use this report, one need to mark the holidays in Tally first as shown in Fig 3.5.16.

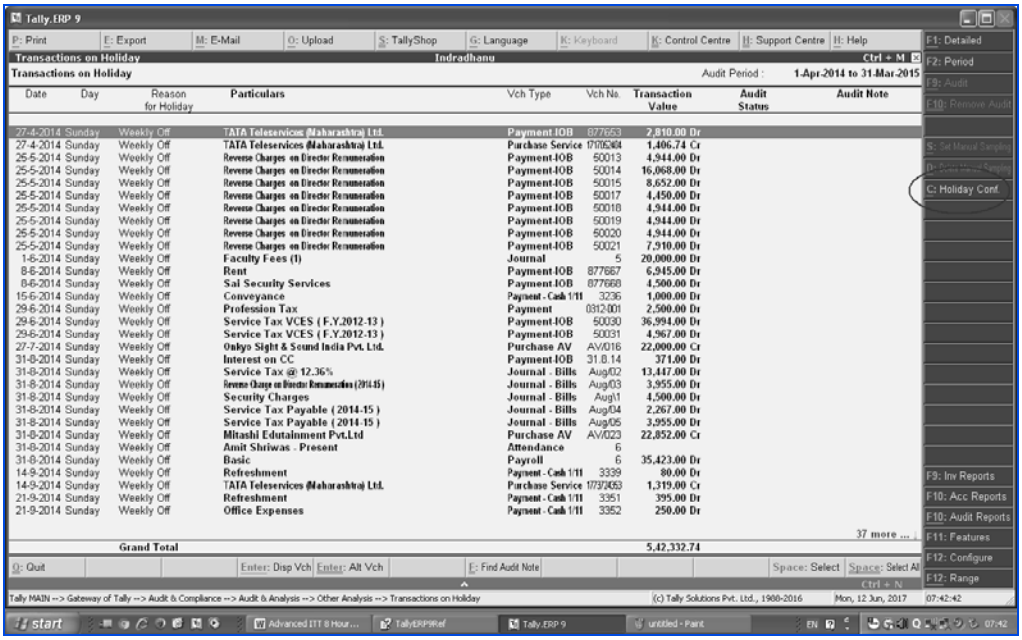


Fig 3.5.16 Mark the holiday

(e) Highest and lowest value transactions – This report provides ledger-wise Highest and Lowest amount transactions along with the Difference Range and Difference Range Percentage as shown in Fig 3.5.17.

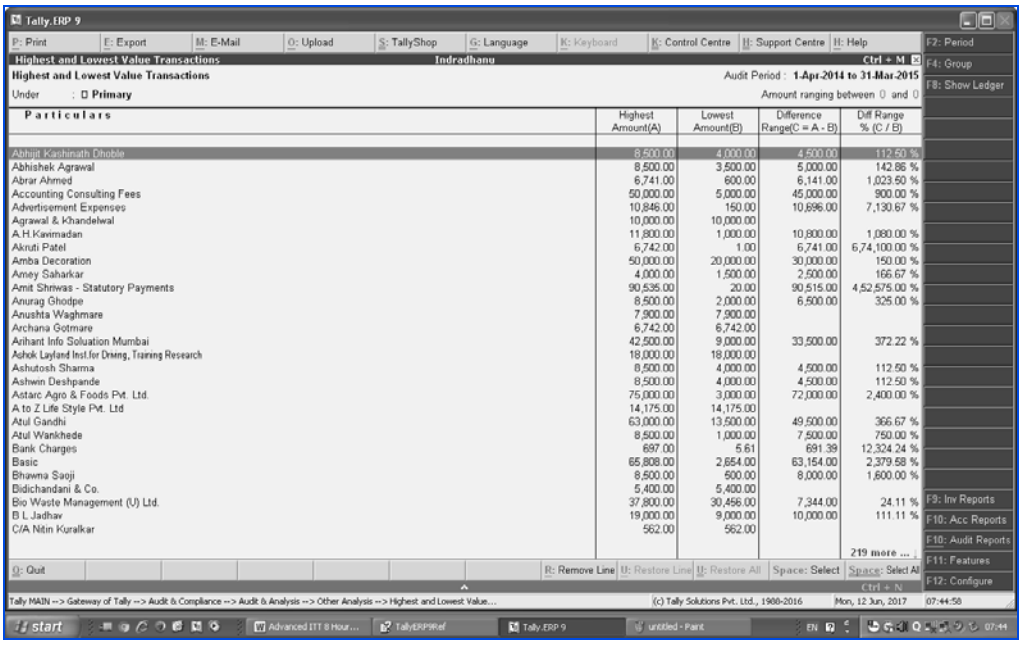


Fig 3.5.17 Difference Range and Difference Range Percentage.

(f) Pending Advances – This report provides details of ledger-wise pending loans or advances funded.

(g) Stale cheques / instruments – This report provides the details of Bank-wise Total Amount and Count of Stale Cheques/Instruments. To filter the transactions in this report, by default 3 months has been set as Validity Period for Cheques/Instruments. The Stale Cheques/Instruments report displays the instruments for which the Validity Period has been exceeded, by comparing Bank Date with Instrument Date of the transactions

(h) External Confirmations (Third Party Confirmations) - Audit evidences from external sources, generally considered to be more reliable when compared with internally-generated audit evidences, may be obtained through External Confirmation. External Confirmation is when the auditor obtains audit evidence through direct communication from a third party. This communication will be in response to a request made for information on certain items that affect the management's financial statements; it will be used and evaluated as audit evidence.

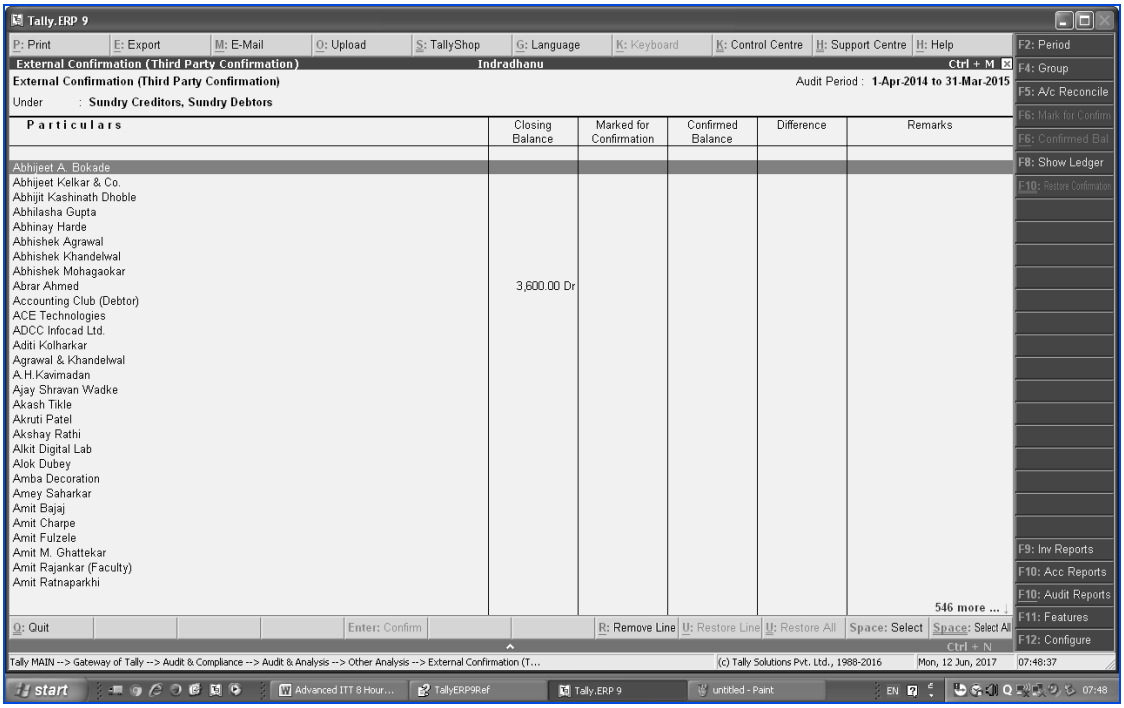


Fig 3.5.18 Third Party Confirmations

(i) Account Reconciliation – This feature in Tally.ERP 9 can be used for transaction-by-transaction reconciliation of the Company's Books with Sister Concerns, Branch offices, etc., apart from third parties.

Audit Journals:

The Audit Journals report provides the facility to view and pass the Finalisation Entries which are required to finalise the Books of Accounts. The Finalisation Flag can be used to pass the entries that will affect the Profit/(Loss) before Interest, Depreciation and Tax in the Schedule-VI Profit & Loss A/c. Profit & Loss A/c

Ledger is not available for selection when this flag is selected in the Audit Journal creation. To record a finalization entry, go to Gateway of Tally > Audit & Compliance > Audit Journals > F7: Audit Jrnl (on right hand side button bar). Entries recoded in this way shall be displayed separately in this report.

Financial Statements:

This menu includes financial statements like Balance Sheet, Profit & Loss Account and Additional Details (regarding financial statements).

Balance Sheet and Profit & Loss Account as per Schedule VI of Companies Act, 1956 is available in this menu as shown in Fig 3.5.19.

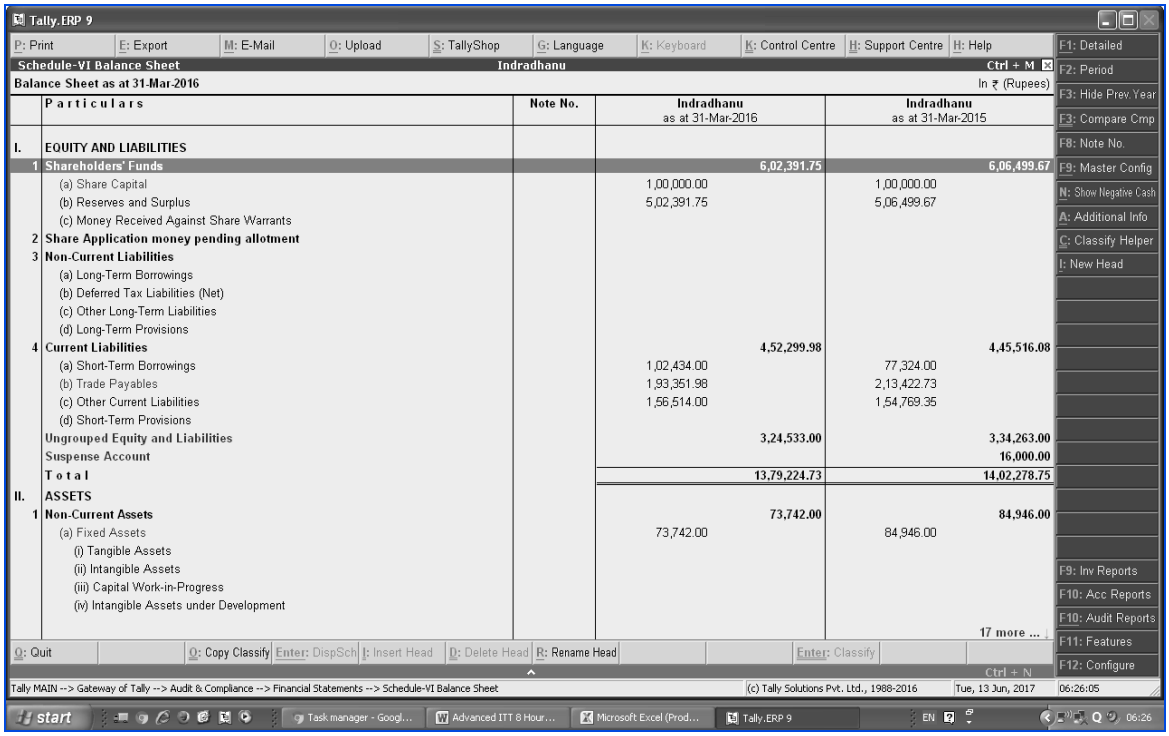


Fig 3.5.19 Balance sheet

Grouping of legers can be changed here as per requirement. Ungrouped items are displayed in red colour for easy identification.

Additional details regarding financial statements can be added by pressing Enter on each line as per requirement. Please see the “Additional Details” as shown in Fig 3.5.20.

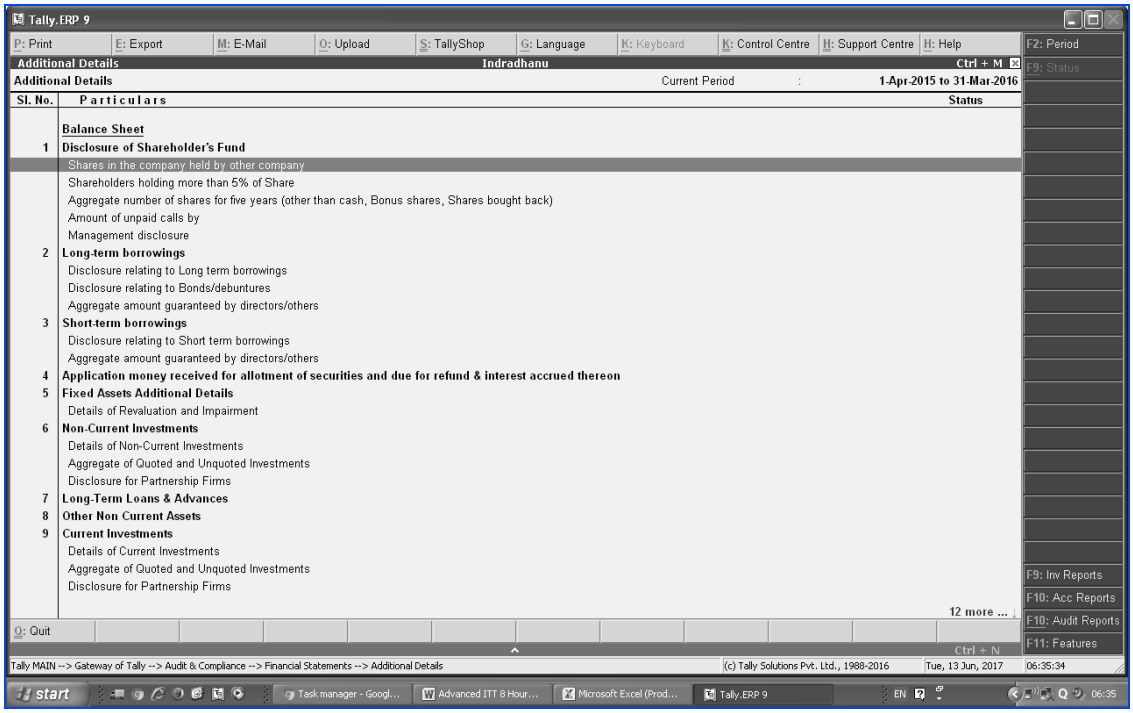


Fig 3.5.20 Additional Details

3.6 Utilities

Tally.ERP9 has got many powerful utilities which can be used in variety of ways for simplifying accounting and auditing work. These utilities include –

(a) Banking

(b) MIS Reporting

(c) Internet Based Capabilities

(d) Data Security

(e) Data Exchange

(f) E-filing

Let us discuss these aspects one by one.

3.6.1 Banking

Banking menu provided on Gateway of Tally has following submenus.

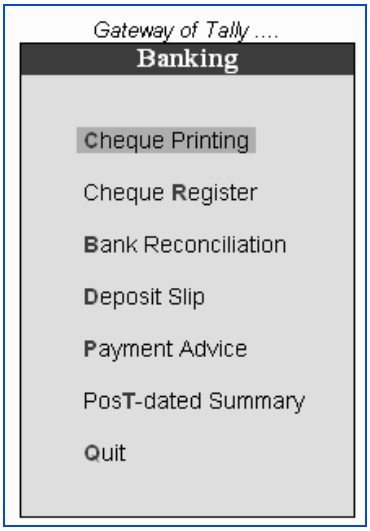


Fig 3.6.1 Banking Menu

(a) **Cheque Printing** – This option in the Banking menu allows the user to print all the pending, already printed or the required cheques continuously from a single screen. It also allows to update the cheque details of a transaction, i.e., the instrument no, instrument date, cheque favouring, etc. The bank ledger needs to be enabled for cheque printing from ledger creation or alteration mode. Cheque printing screen shall be as shown in Fig 3.6.2.

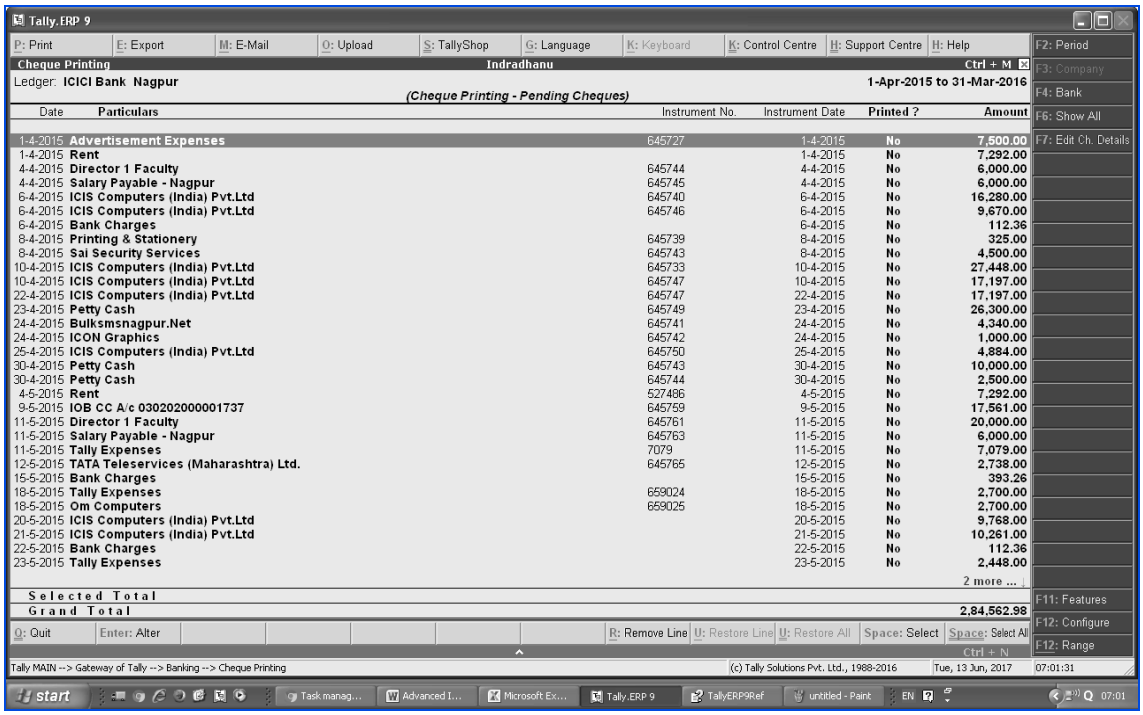


Fig 3.6.2 Cheque Printing

(b) Cheque Register – This menu helps users to manage their cheque books for various banks, give information about Cheques which do not belong to any cheque range available and also the status of all the cheques. This report gives the values of the total number of cheques for each bank (Cheque Book wise), that are Available, Unreconciled, Reconciled, Blank and Cancelled.

The advantages of the Cheque Register:

- User will know how many cheques are available for use.
- Used cheques are classified as Unreconciled and Reconciled.
- Unreconciled cheques can be reconciled from the Cheque Register itself.
- Cheque Register has an option to Search for Cheque Numbers.
- Report can be viewed either Bank-wise or Cheque Range wise or drill-down to Cheque numbers.
- Users are allowed to change the status of cheques (Available) to Cancelled or Blank and make cancelled cheques available.
- Report can be viewed period-wise, hence makes it easier to filter the cheques that are issued on particular date or during a particular period.

A sample Cheque register report is as shown in Fig 3.6.3.

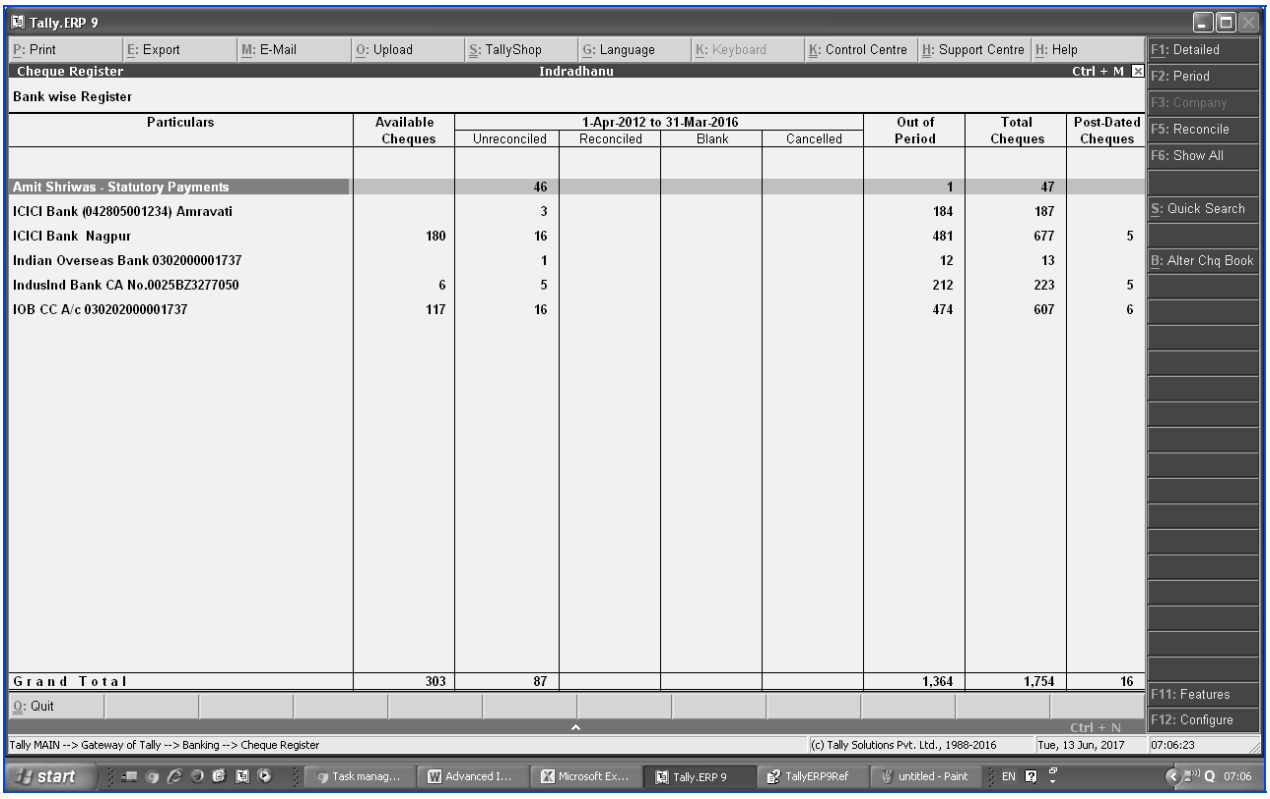


Fig 3.6.3 Cheque Register

(c) **Bank Reconciliation** – Bank reconciliation can be done using Tally.ERP9 very easily and conveniently. This menu gives user an option to write the bank clearing date in each bank voucher and to calculation balance as per bank on any given date. F5 is the key to start bank reconciliation. Tally will also identify unmatched entries in Ledger and add or deduct it as per its nature and prepare a Bank Reconciliation Statement also. One small limitation of this feature is that tally cannot identify unmatched entries in Bank Statement. Identification of these entries and their treatment in Bank Reconciliation Statement is to be done by user, manually.

(d) **Deposit Slip** - Deposit Slip option in the Banking menu allows the user to generate the deposit slip for payments received through cheque/dd which need to be deposited into the bank. There are two options inside this menu as Cheque Deposit Slip and Cash Deposit Slip.

(e) **Payment Advice –** This option in the Banking menu allows the user to generate the payment advice to be sent to suppliers/other parties along with the cheques/other instruments. A sample payment advice screen is as shown in Fig 3.6.4.

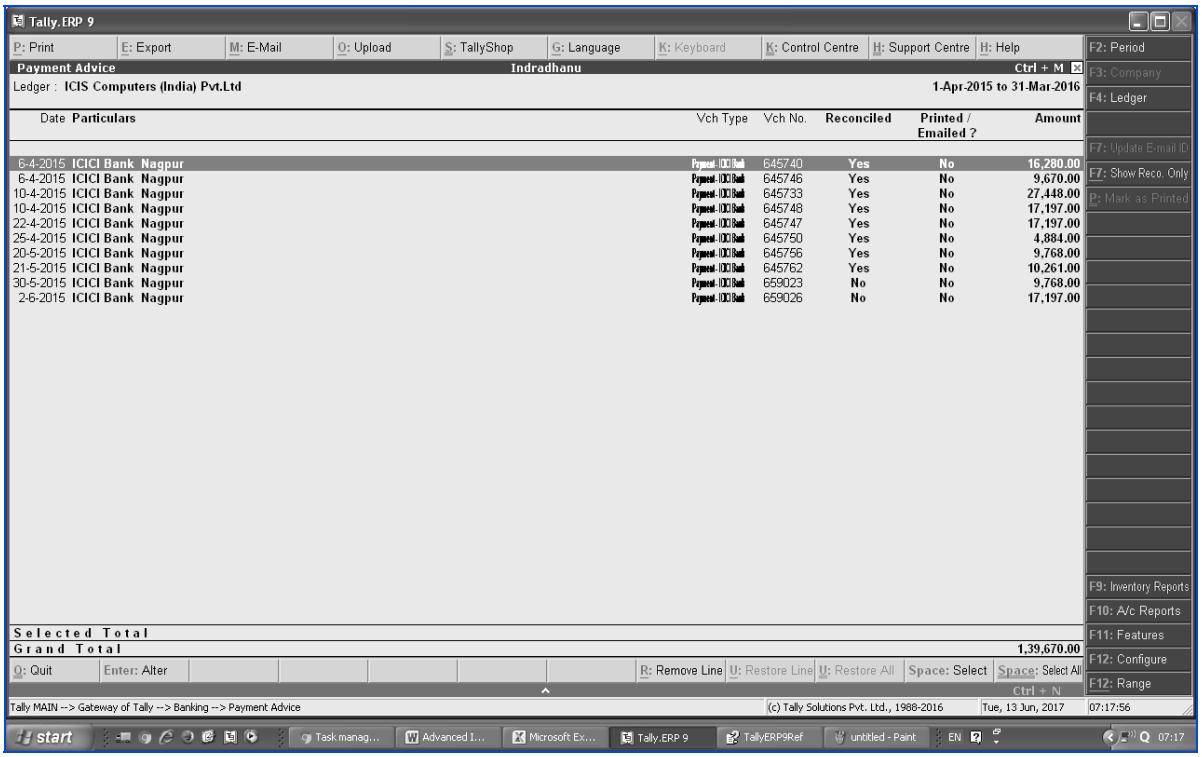


Fig 3.6.4 Payment Advice Screen

A payment advice can be printed like the screen as shown in Fig 3.6.5.

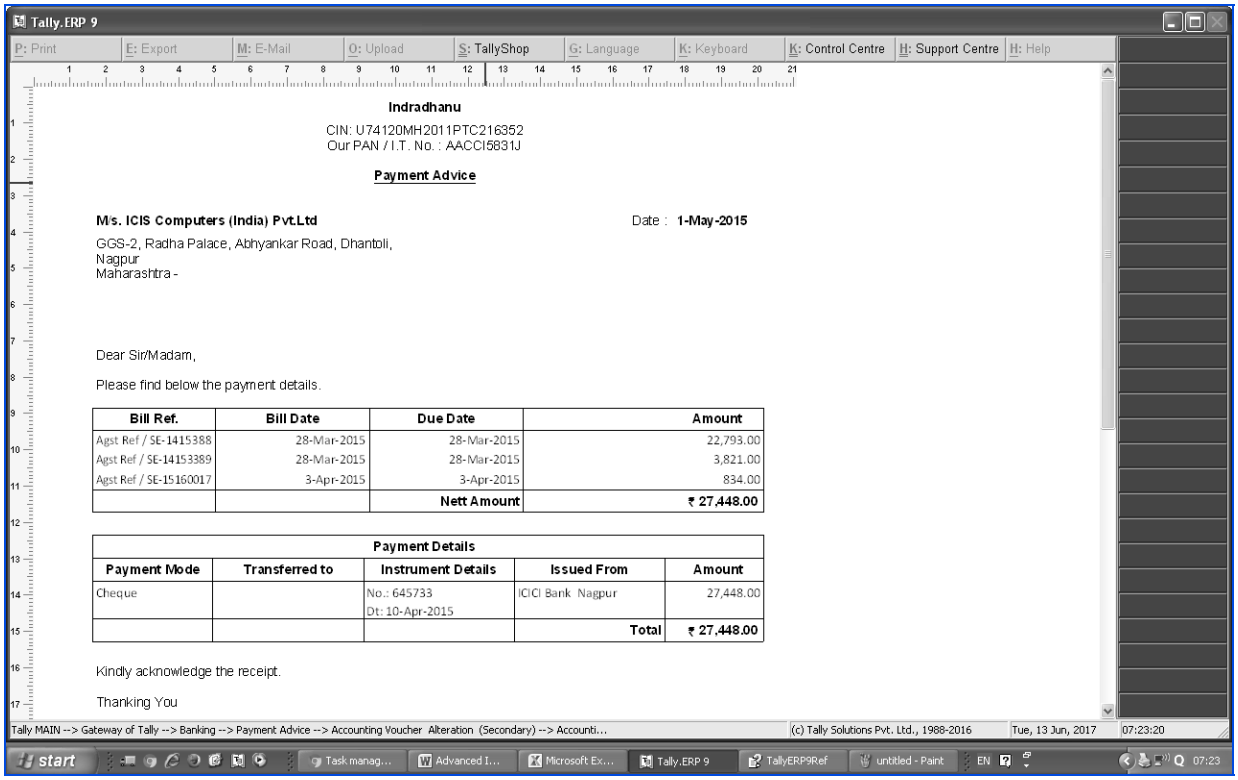


Fig 3.6.5 Payment Advice

(f) Post Dated Summary – This menu provides a summary of post-dated cheques received and issued.

3.6.2 MIS Reporting

MIS stands for Management Information System. Tally.ERP9 gives different MIS reports for management and control over accounting. These MIS Reports can be classified as under.

- Accounting Reports: To obtain information on the financial position, operational performance and economic activities of the business.
- Financial Reports: To determine the financial condition of an organisation as required by shareholders, creditors and government units.
- Inventory Reports: To manage the Inventory effectively since the actual status of stock items is obtained.
- Management Control Reports: To utilise budgets, cost centre reports, scenario reports etc. for controlling activities.

Let us discuss some of the MIS Reports available in Tally.ERP9.

1. Receivables

Tally.ERP9 offers bill wise receivable report where one can check party wise as well as bill wise receivables. To get this report correctly, all entries relating to debtors must be marked with correct bill

reference. Path for getting this report is Gateway of Tally > Display > Statement of Accounts > Outstanding > Receivables > Sundry Debtors. A sample report is as shown in Fig 3.6.6.

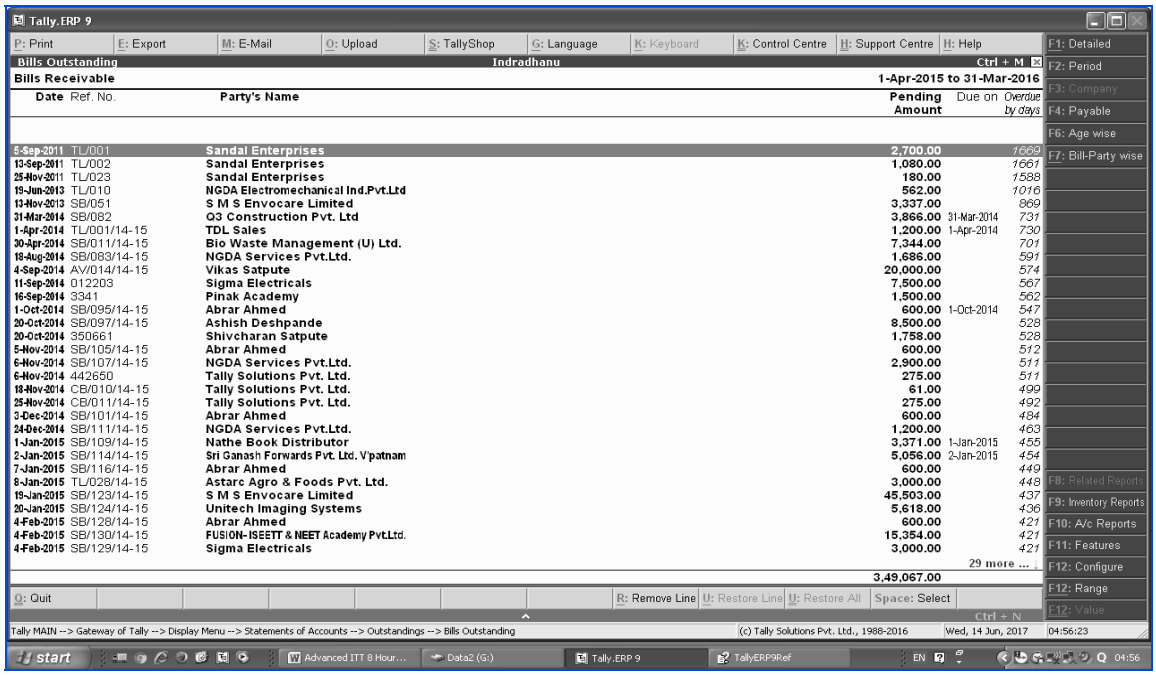


Fig 3.6.6 Report

This report can be modified on real time basis to some extent as per user requirements by pressing F12 key. Following options are available to modify the report as shown in Fig 3.6.7

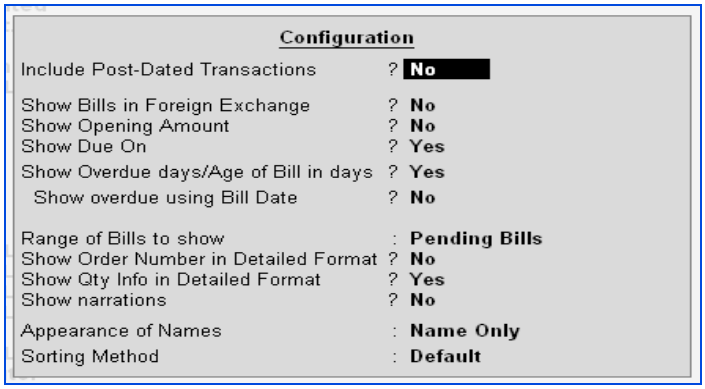


Fig 3.6.7 Modify Report

2. Payables

Just like bill wise outstanding receivable report, bill wise outstanding payable report is also available as a part of MIS Report. This report shows party wise and bill wise payable outstanding. Path for getting this

report is Gateway of Tally > Display > Statement of Accounts > Outstanding > Payables > Sundry Creditors.

Just like Receivable and Payable, there is an option to view bill wise outstanding for a particular ledger of for a particular Ledger Group also.

3. Cost Centre Reports

A Cost Centre is any unit of an organisation to which transactions (generally, revenue) can be allocated. When only costs or expenses are allocated to these units, they are referred to as Cost Centres. When profits are also allocated to these units, they become Profit Centres. You can now obtain a Profit and Loss account of each such Profit Centre.

Cost Centre in Tally.ERP 9 allows an additional dimension to a transaction where a Ledger account indicates the nature of the transaction. It does not readily disclose, except in the narration field, which part of the organisation was involved in the transaction.

With the help of Cost Centres, a transaction can be allocated to it, which would then enable accumulation of the all transactions for that particular Cost Centre. Tally.ERP 9 gives you the Cost Centre break-up of each transaction as well as details of transactions for each Cost Centre

To view cost centre reports go to Gateway of Tally > Display > Statements of Accounts > Cost Centres. Following options are available in Fig 3.6.8.

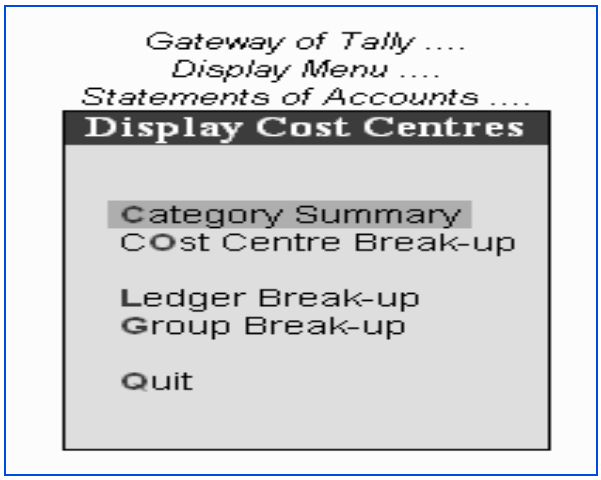


Fig 3.6.8 Cost Centre Report

Some examples of Cost Centres are Departments of an organisation - Finance, Manufacturing, Marketing or Products of a company or Individuals such as Salesman A, Salesman B.

4. Ratio Analysis

Ratio analysis is a powerful tool for financial analysis. A meaningful analysis of a financial statement is made possible by the use of ratios.

Ratios are a set of figures compared with another set. The comparison gives an understanding of the financial position of a business unit. There are a number of ratios which can be computed from a single

set of financial statements. The ratios to be computed depend on the purpose for which these ratios are required. A single ratio may sometimes give some information, but to make a comprehensive analysis, a set of inter-related ratios are required to be analysed.

To view the Ratio Analysis go to Gateway of Tally> Ratio Analysis. The Ratio Analysis screen is displayed as shown in 3.6.9.

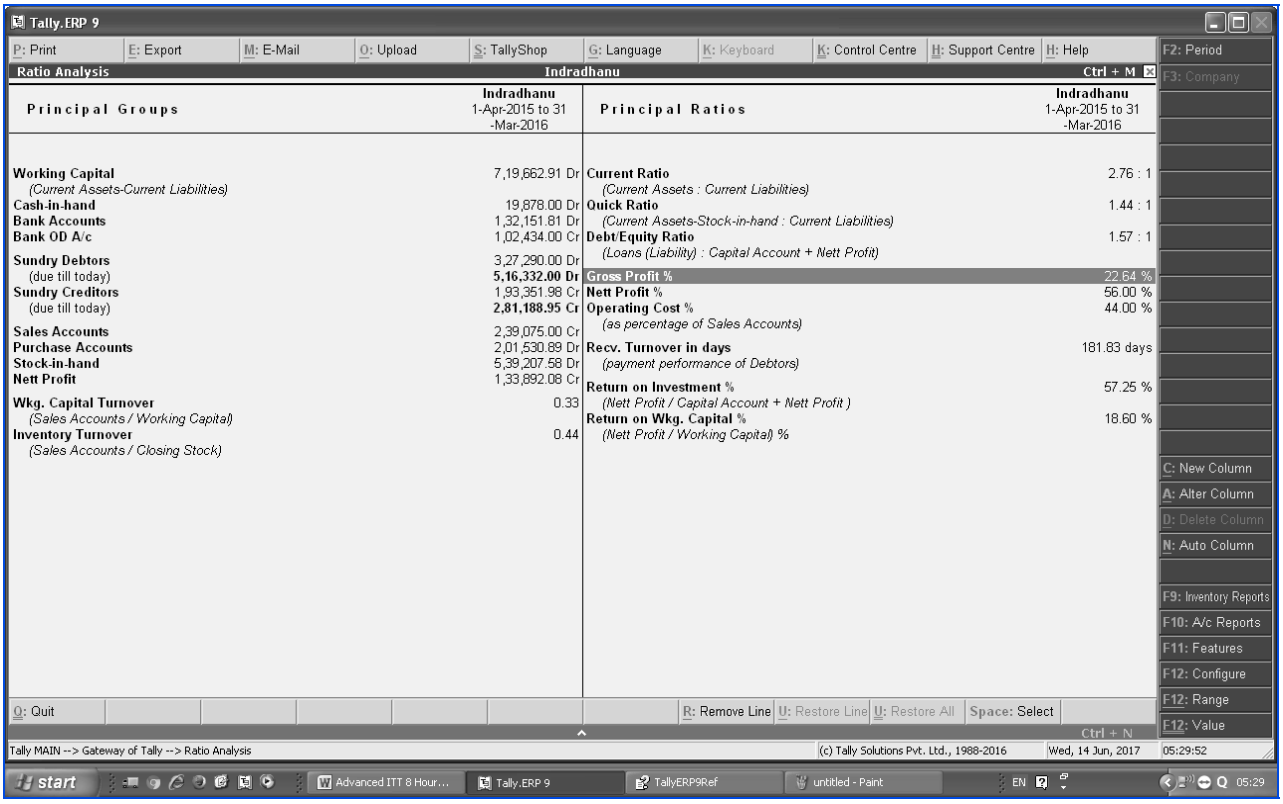


Fig 3.6.9 Ratio Analysis

Complete drill down is also available in Ratio Analysis Report. User can go to voucher level from any option of ratio analysis.

5. Cash Flow

Cash flow, as the name suggests, is a report showing movement of cash during a particular period. This report considers all inflow and outflow of cash and bank transactions. Hence, all cash and bank vouchers are considered while preparing this report by Tally. Inflow is displayed on left hand side, outflow is displayed on right hand side and net flow is displayed at the bottom. All transactions of inflow and outflow are grouped as per accounting groups for getting meaningful information. This report is a very useful MIS report for knowing the overall movement of cash. To open Cash Flow Report, go to Gateway of Tally > Display > Cash Flow as shown in Fig 3.6.10.

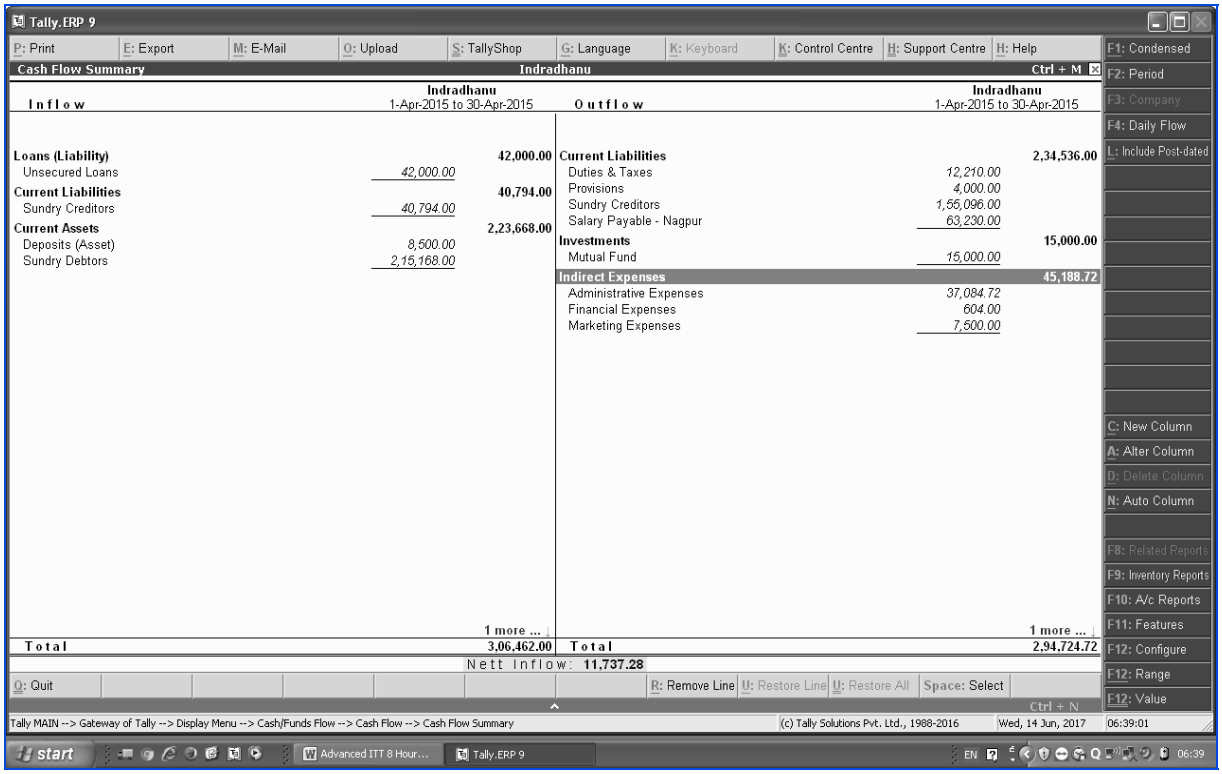


Fig 3.6.10 Cash Flow

6. Funds Flow

This is report similar to Cash Flow. Fund stands for working capital, i.e. Current Assets less Current Liability. This report shows movement of working capital, i.e. reasons for increase or decrease in the figure of current assets as well as current liabilities. This report considers all items of working capital and hence also includes transactions where cash or bank is not involved, i.e. Credit Sales, Credit Purchases, etc.

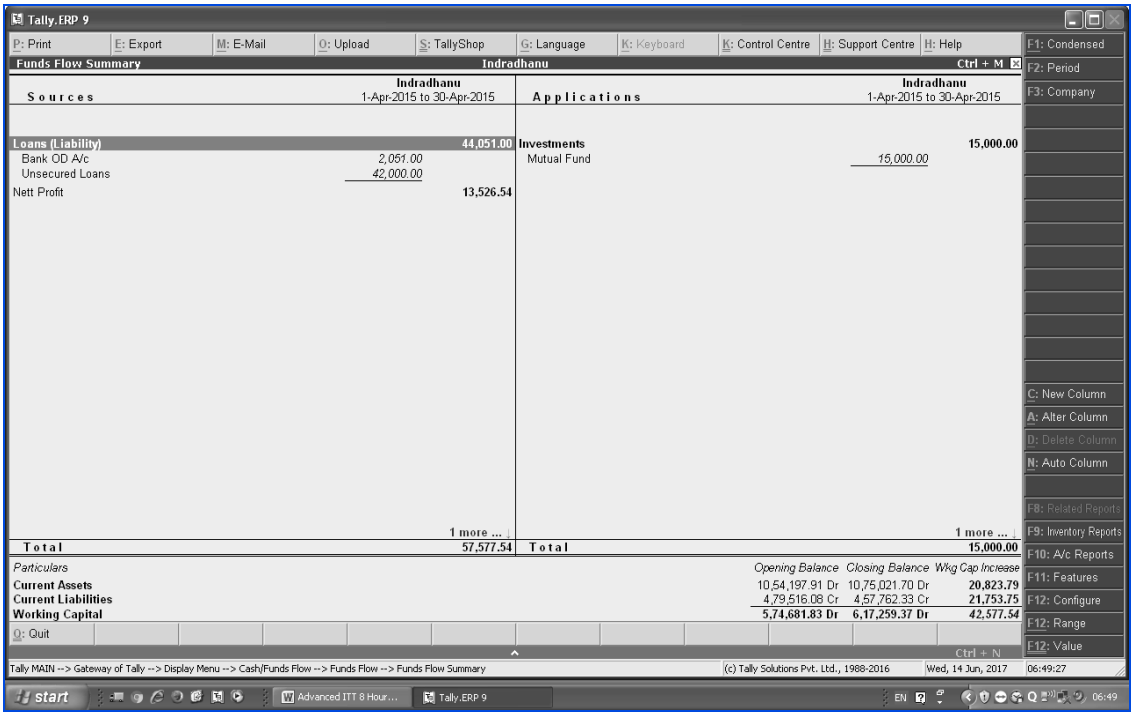


Fig 3.6.10 Funs Flow

7. Exception Report –

As the name suggest, this report shows something that is exceptional, unusual and not a routine matter. Exceptions are always a matter of interest for auditors and need to be monitored closely. Following different reports are available under Exception Reports menu a shown in Fig 3.6.11.

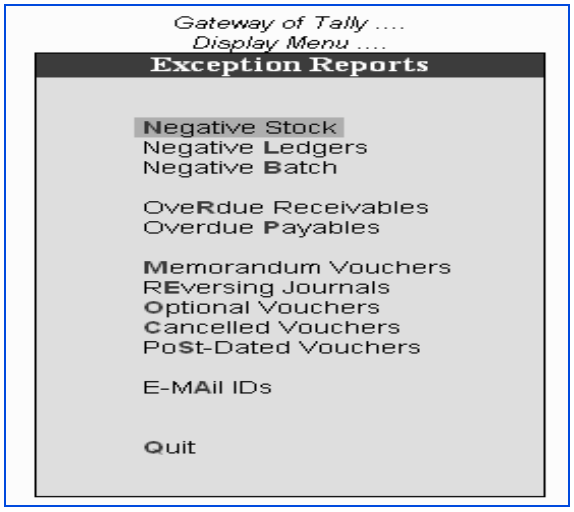


Fig 3.6.10 Exception Report

3.7 Internet Based Capabilities

Internet based capabilities are one of the most important aspect of any ERP software. Tally.ERP9 provides many internet based capabilities as under.

1. Remote Login

This is a primary feature of any erp software. Tally's remote login allows a user to access data from a remote location. Any type of activity can be performed as per the access given using remote login. A user can create/update a voucher, create/update a master data, view a report, take a printout using remote login. To start using remote login, first security control needs to be started.

The best part of remote login in Tally is that the remote user may or may not have an official tally license installed in his computer. He can work even without a tally license in an Education Mode. Working of remote login is shown in Fig 3.7.1.

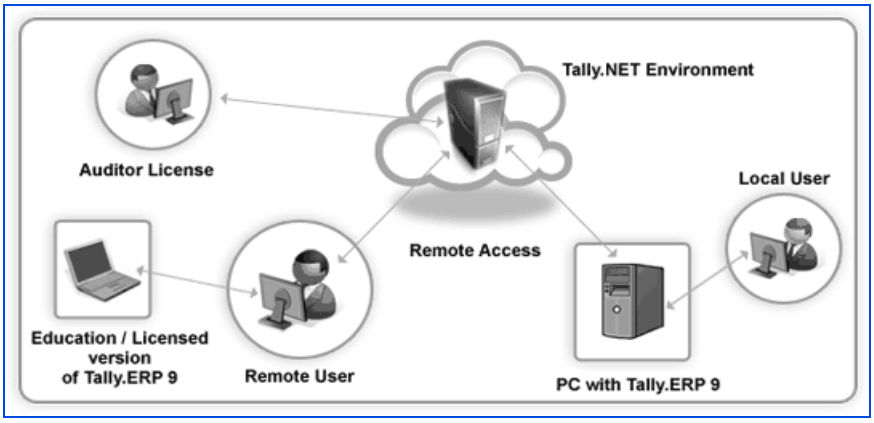


Fig 3.7.1 Remote Login

Menu for remote login is shown in Fig 3.7.2.

Fig 3.7.2 Menu for remote login

2. Emails

Internet capabilities of Tally include sending emails directly from Tally. No need to open any email account in the browser. To send an email, just open any report, e.g. Balance Sheet and click on the email button on horizontal button bar as shown below. Email button is available in almost all the reports of tally.

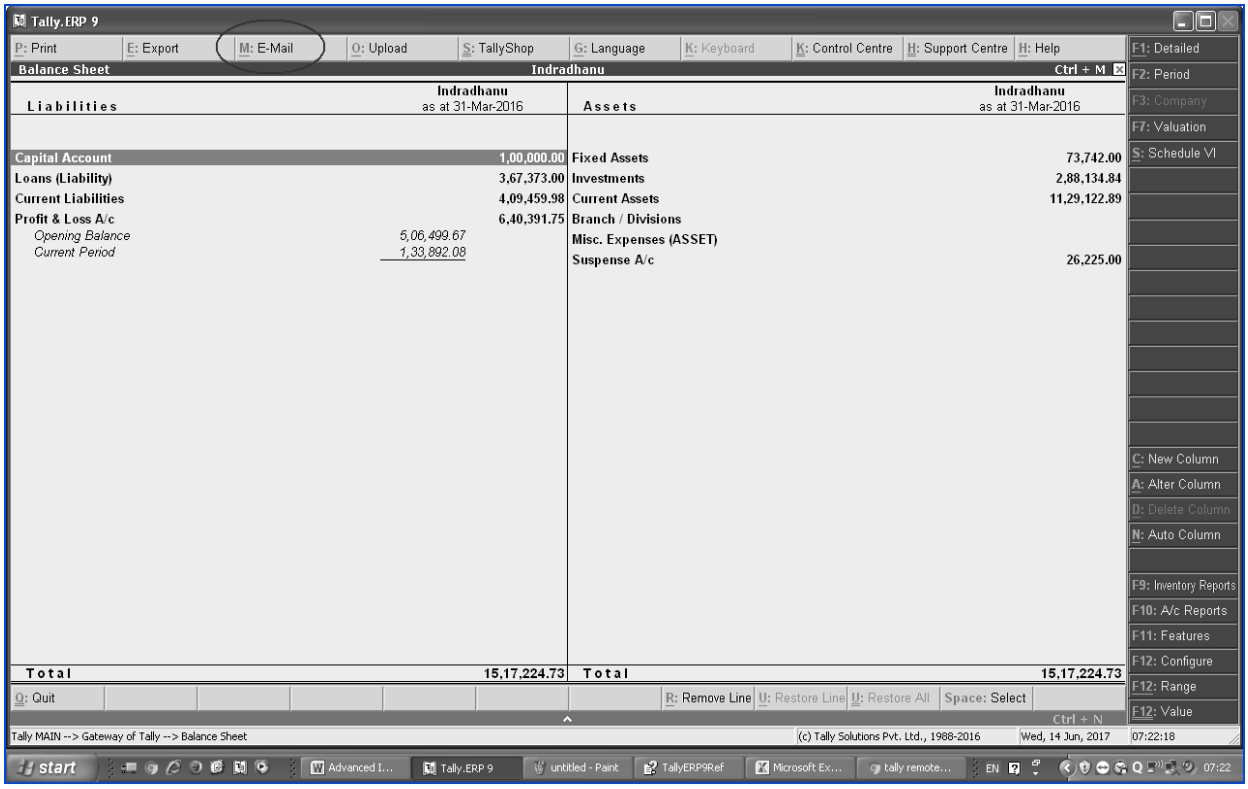


Fig 3.7.3 Email Button

On clicking Email button, following screen shall appear as shown in Fig 3.7.3.

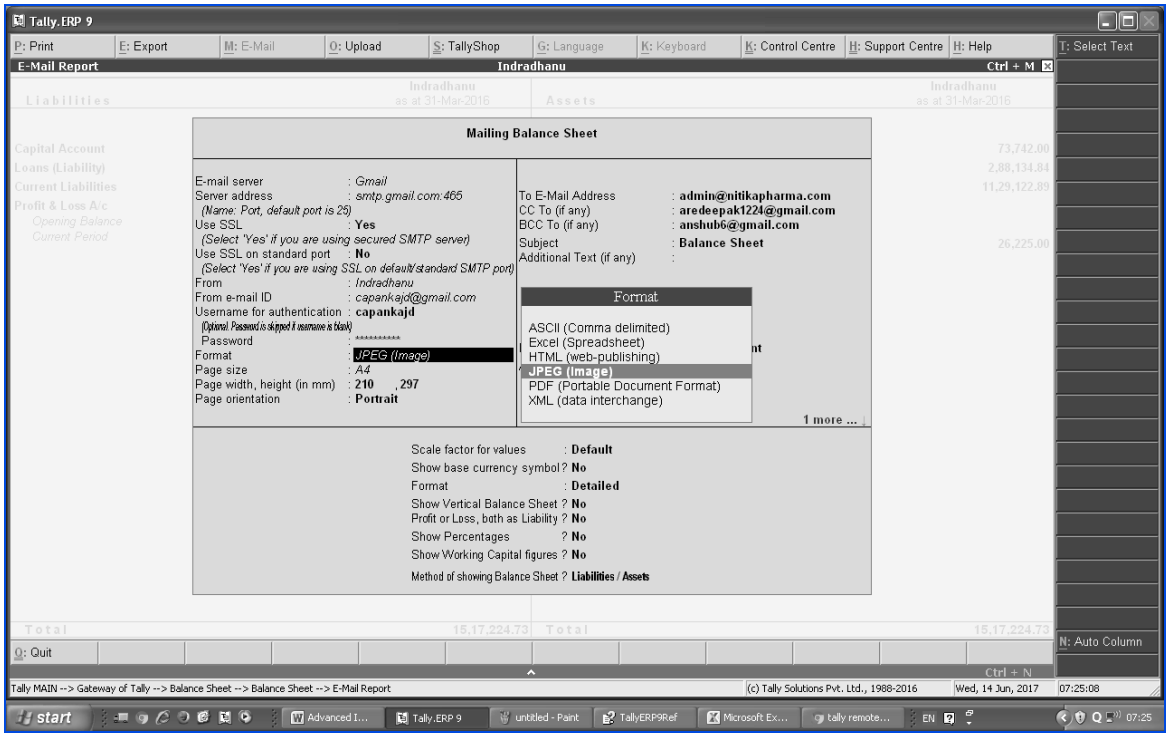


Fig 3.7.4 Mailing Balance Sheet

User need to just enter the details as asked, select a file format for the report to be sent and submit. Email is sent along with attachment as shown in Fig 3.7.4.

3. Control Centre

The Control Centre works as an interface between the User and Tally.ERP 9 installed at different Sites, it enables the user to centrally configure and administer Site/ User belonging to an account. The features of Control Centre are as follows:

- Manage Licenses
- Central Configuration - TDL and General
- Manage Users
- Manage Company Profile
- Manage Accounts (using My Tally.NET Accounts)
- Change Account Administrator
- Manage Passwords
- Activity History
- Jobs & Recruitment

Control Centre button in given on the horizontal button bar as shown in Fig 3.7.5

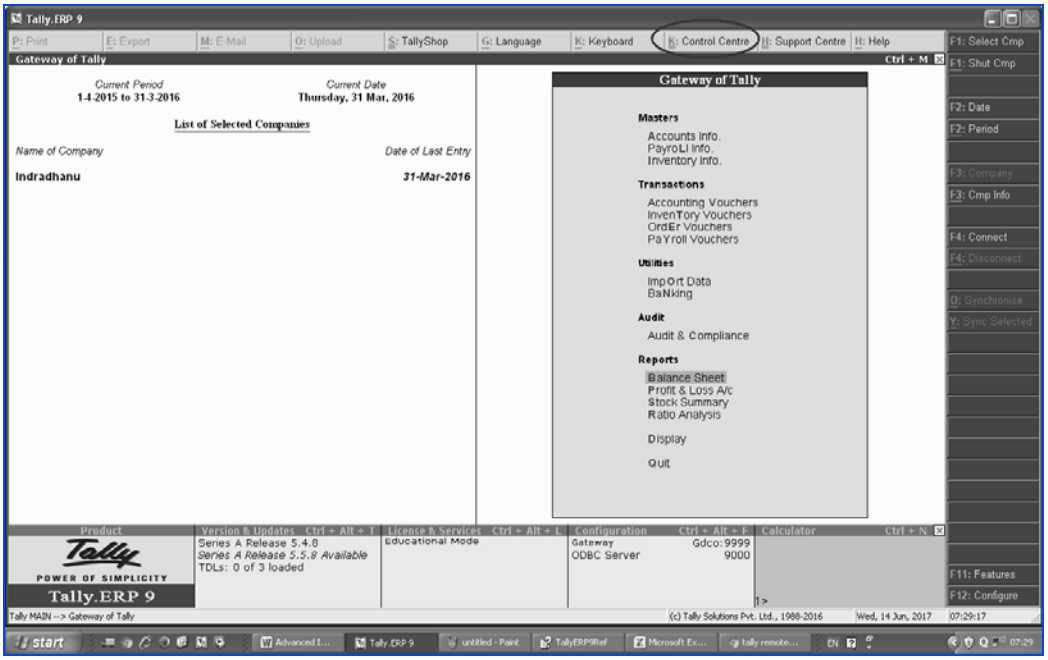


Fig 3.7.5 Control Centre

To go to control centre, internet connection as well as a valid user ID and password is required. Control centre screen is displayed as shown in Fig 3.7.6.

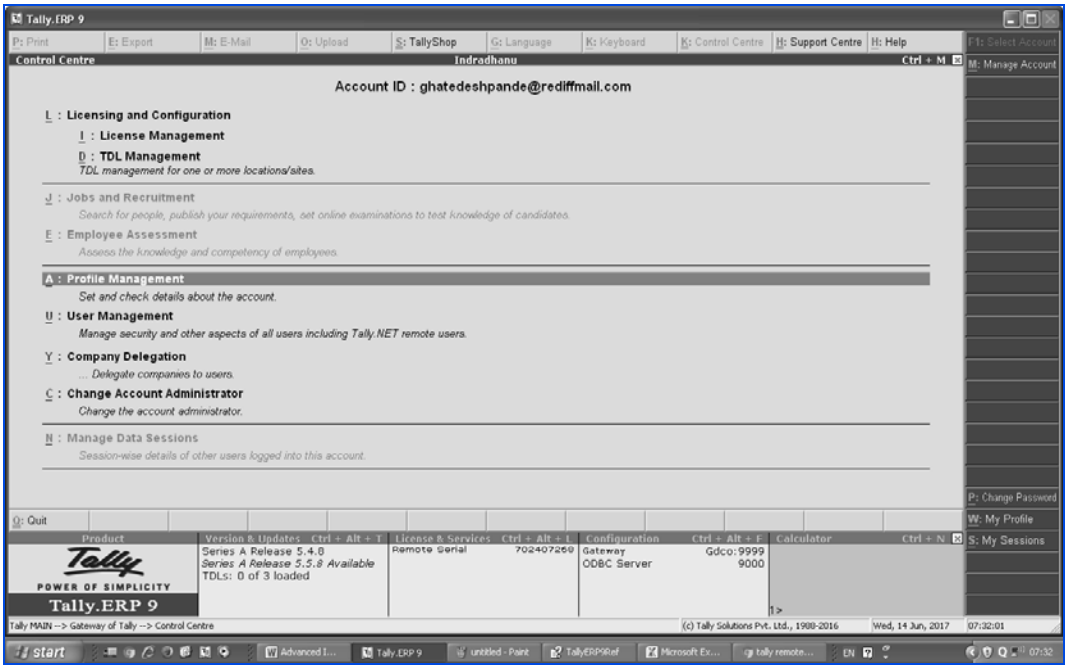


Fig 3.7.6 Control Centre Screen

4. Support Centre

Support centre is a centre for getting support from Tally Solutions Pvt. Ltd. The Support Centre screen displays the list of queries raised by you in the last seven days. By default the page size is set to 10 rows. You can click on the link provided to view the next set of queries or the previous set of queries.

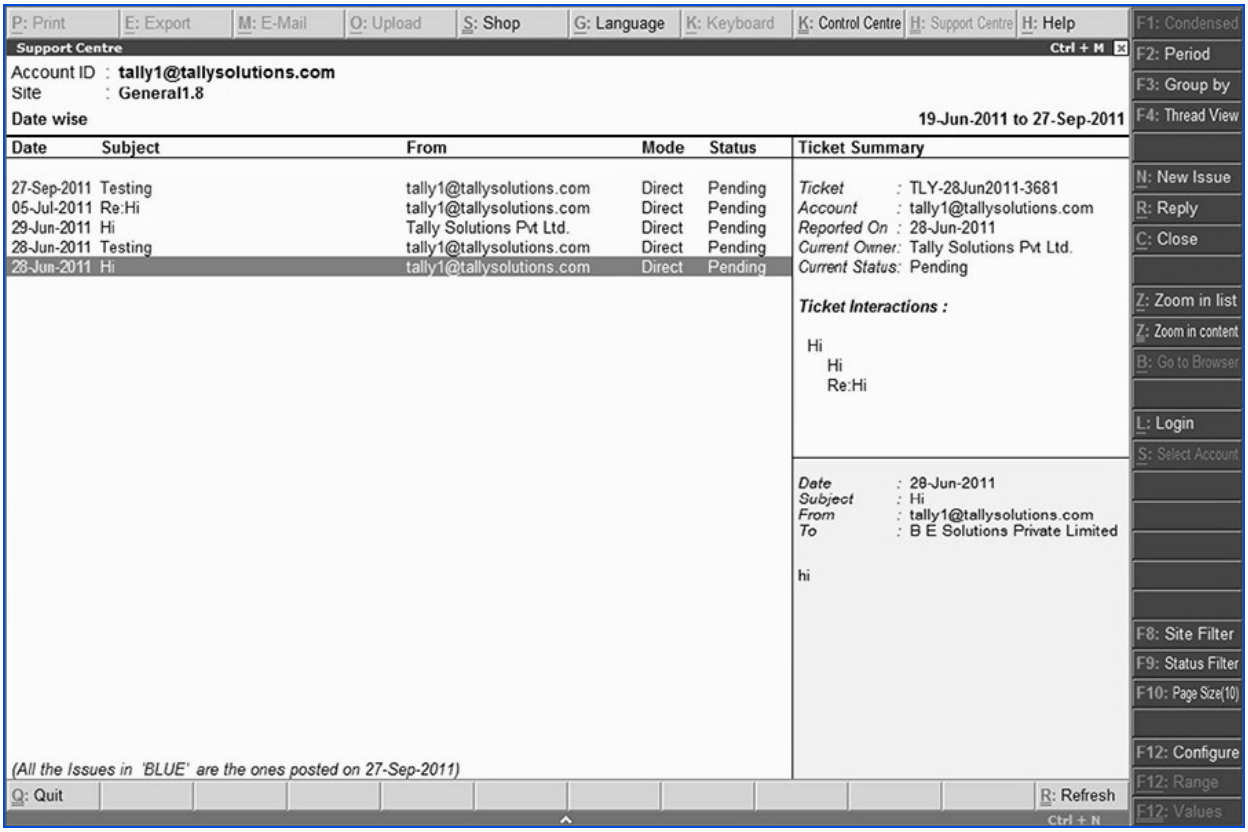


Fig 3.7.6 Support Centre

3.8 Data Security

Data Security is the most important aspect of any of the software system. Auditors also must pay attention to this aspect during the audit process. It is very easy to create electronic data as compared to manual data. At the same time it is much easier to lose the electronic data as compared to manual data. Data security can have two important aspects.

(a) Physical Safety of Data

(b) Electronic Safety of Data

Physical safety of data has be ensured by the organization physically only. Ensuring electronic safety of data is matter of software feature. For ensuring electronic safety of data, Tally provides following features.

(a) Security Control – This is the basic level security control in Tally which asks for user ID and password at the time login into any tally company. Basic security control can be set to Yes at the time creating a

new company or later on also through company alteration screen as shown below. To go to company alteration screen, go to Gateway of Tally > Alt+F3 > Alter > Select the Company > Enter as shown in Fig 3.8.1.

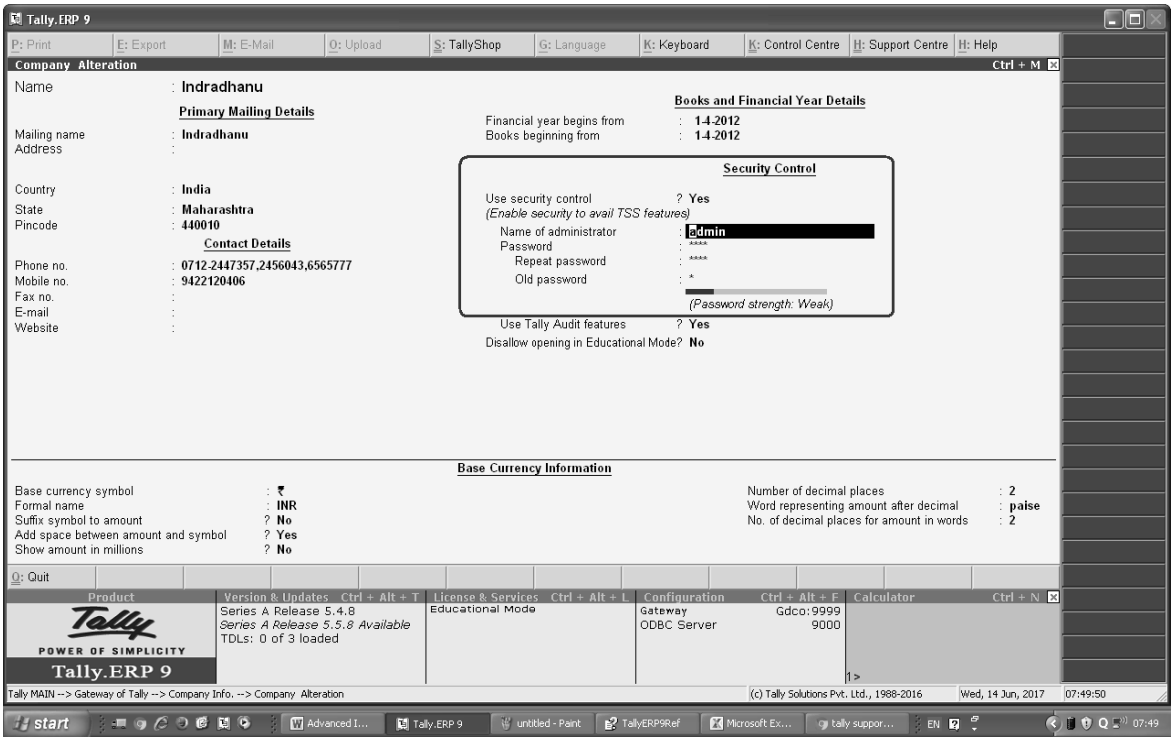


Fig 3.8.1 Security Control

Using this screen, one can start using basic security control in Tally. Only one user is created using this method.

(b) **Access Control –** This may be called as advanced security control where we can create different users with different access rights. Security levels may be created and assigned to different users as per requirement.

Gateway of Tally > Alt+F3 > Security Control

Fig 3.8.2 Access Control

Security Levels with different access rights can be set using the screen as shown in Fig 3.8.3.

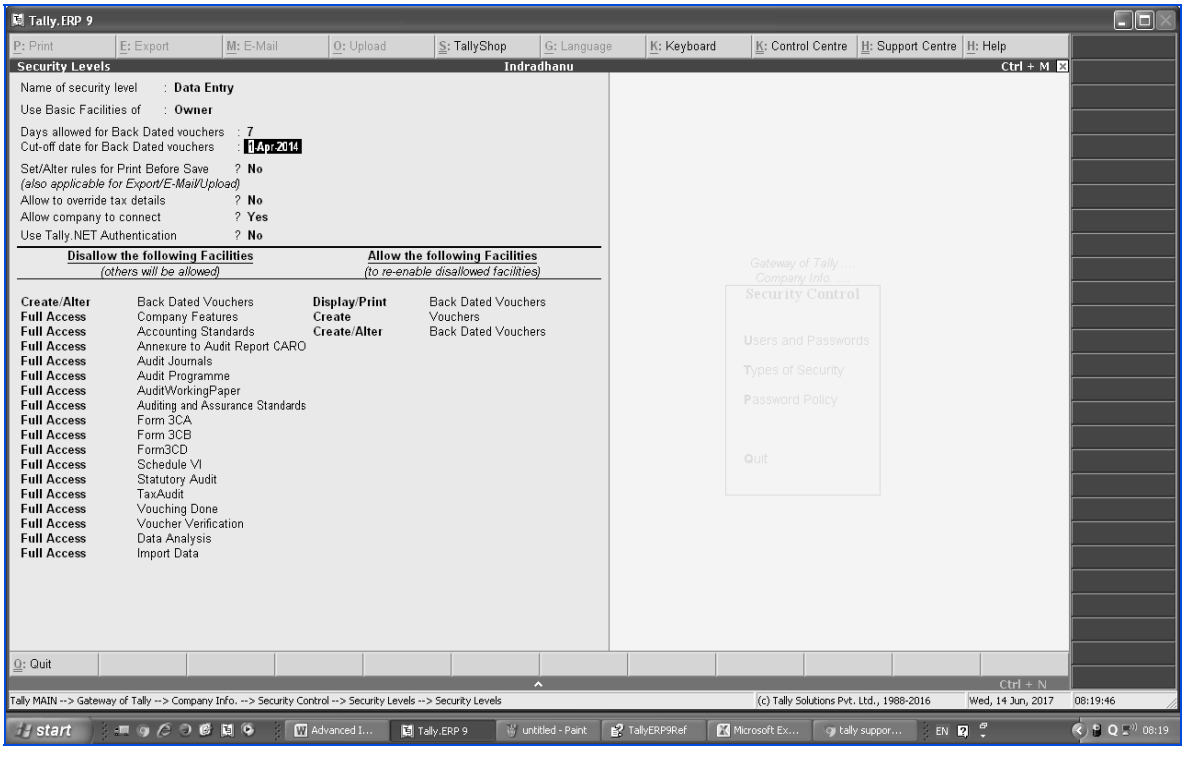
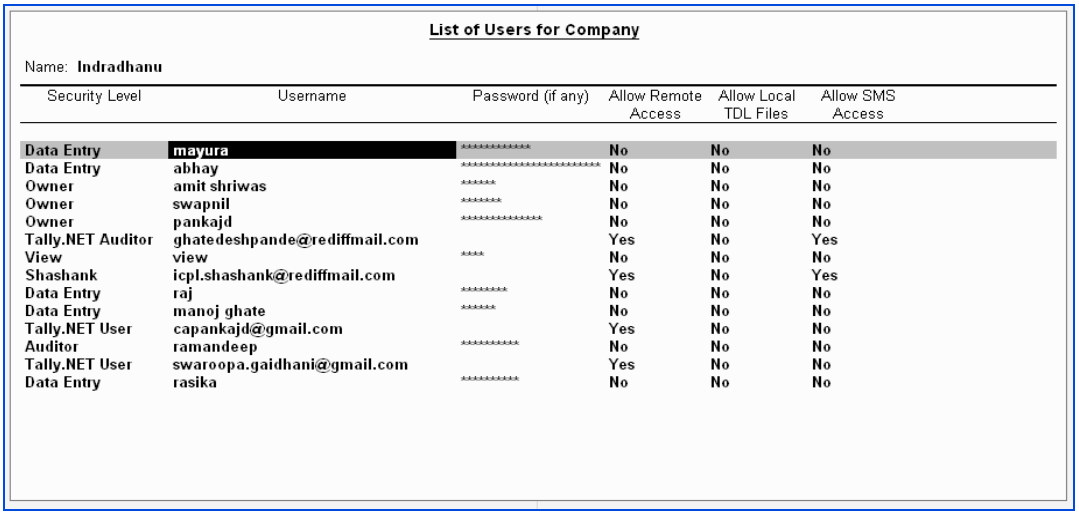


Fig 3.8.3 Access Control

Allotment of security levels to different users can be done using screen as shown in Fig 3.8.4.



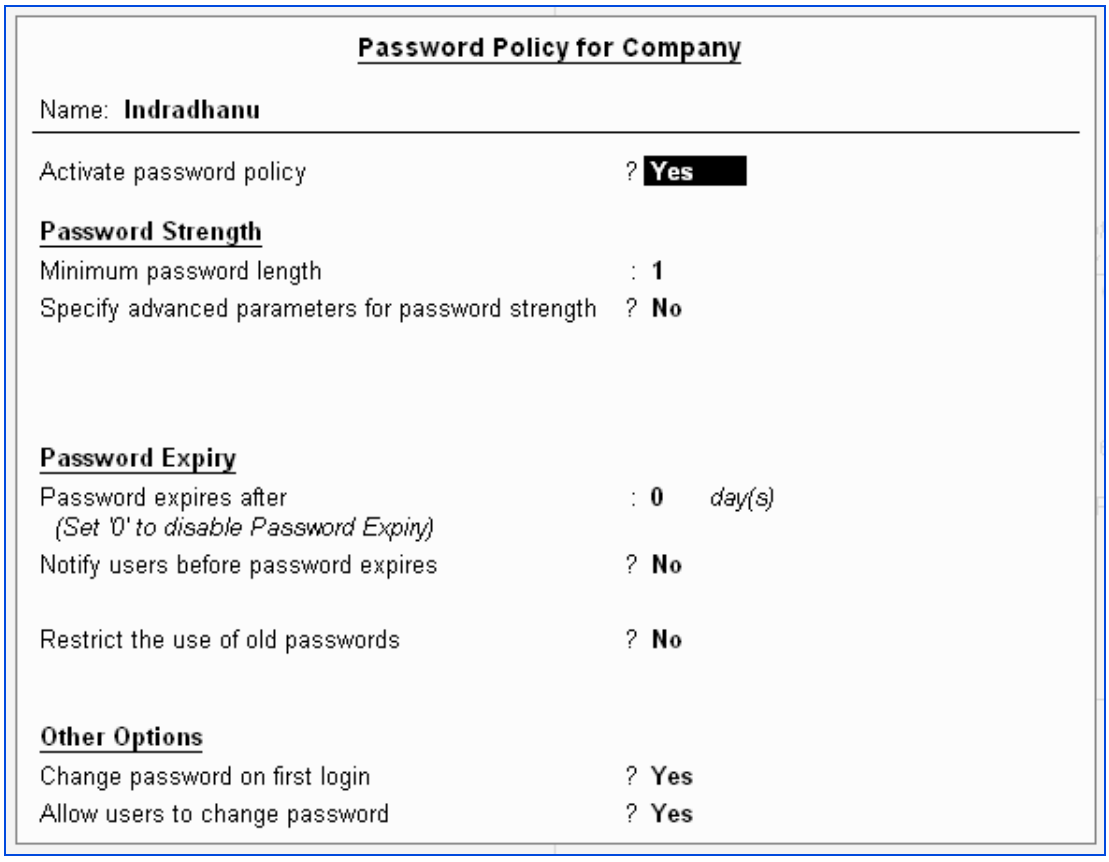
List of Users for Company

Name: **Indradhanu**

Security Level	Username	Password (if any)	Allow Remote Access	Allow Local TDL Files	Allow SMS Access
Data Entry	mayura	**********	No	No	No
Data Entry	abhay	**********	No	No	No
Owner	amit shriwas	******	No	No	No
Owner	swapnil	*******	No	No	No
Owner	pankajd	**********	No	No	No
Tally.NET Auditor	ghatedeshpande@rediffmail.com		Yes	No	Yes
View	view	****	No	No	No
Shashank	icpl.shashank@rediffmail.com		Yes	No	Yes
Data Entry	raj	********	No	No	No
Data Entry	manoj ghate	******	No	No	No
Tally.NET User	capankajd@gmail.com		Yes	No	No
Auditor	ramandeep	**********	No	No	No
Tally.NET User	swaroopa.gaidhani@gmail.com		Yes	No	No
Data Entry	rasika	**********	No	No	No

Fig 3.8.4 Allotment of Security Level

Password policy can set as shown in Fig 3.8.5



Password Policy for Company

Name: **Indradhanu**

Activate password policy ? **Yes**

Password Strength

Minimum password length : **1**

Specify advanced parameters for password strength ? **No**

Password Expiry

Password expires after : **0** *day(s)*
(Set '0' to disable Password Expiry)

Notify users before password expires ? **No**

Restrict the use of old passwords ? **No**

Other Options

Change password on first login ? **Yes**

Allow users to change password ? **Yes**

Fig 3.8.5 Password Policy

(c) Tally Vault –

Data Security has been a matter of concern to the Business Owner as most businesses depend on the confidentiality of the information. Tally Vault is a feature in Tally.ERP 9 that will help the business to maintain confidentiality of information by encrypting the data.

Tally Vault uses a Non-Stored password with an advanced algorithm to validate a new user without any prior knowledge of the password and the decrypted form of data is not stored on the system. A combination of such algorithms ensures that Tally Vault becomes one of the most secure means of data storage.

Tally Vault can be set during creation of company or later on also, using company alteration screen as shown in Fig 3.8.6.

Fig 3.8.6 Tally Vault

(d) Disallow Opening in Educational Mode :

A small, but a very useful feature to prevent misuse of data. This feature prevents opening of Tally Company in educational mode. Active license is required to start particular tally company is this option is set to Yes. This prevents misuse of data out of office.

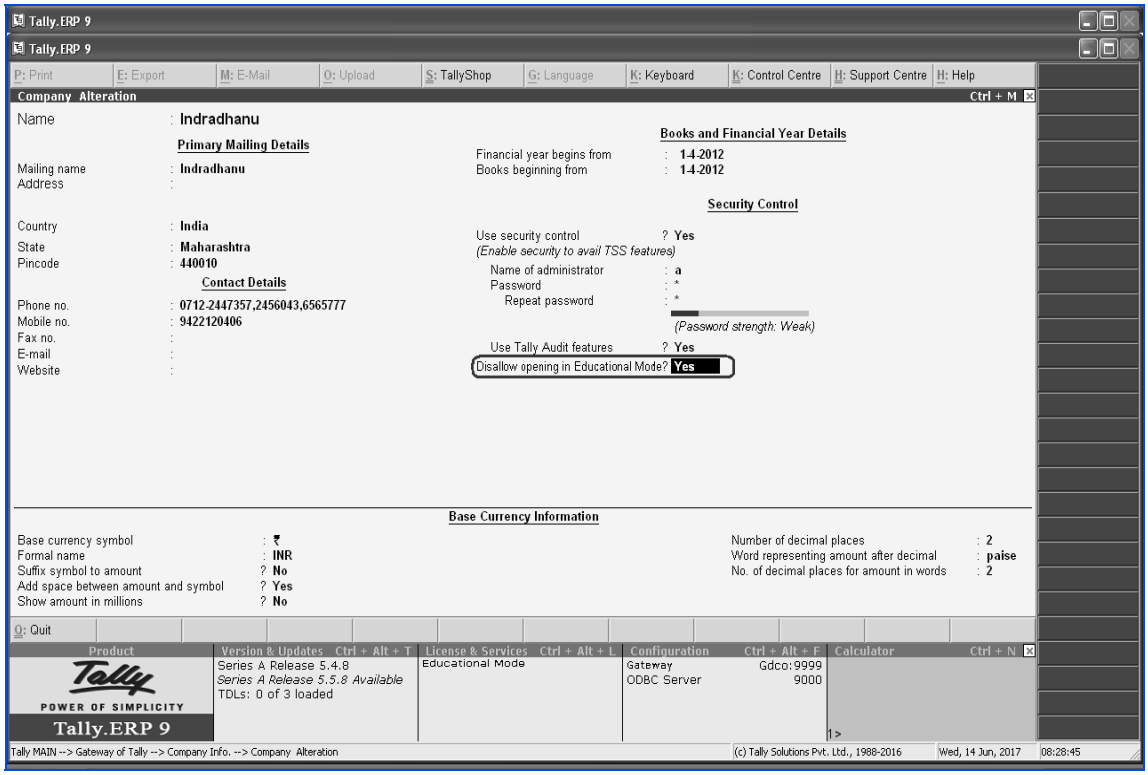


Fig 3.8.7 Disallow Opening in Education Mode

3.9 E-fling Using Tally.ERP 9

E-filing stands for electronic filing of tax returns. A business unit has to file variety of tax returns on regular basis. These include VAT, Service Tax, TDS, TCS, Excise, etc. Accounting data is the base information for filing of any tax return. Hence it is always convenient to get it directly from accounting software. Tally.ERP9 provides a feature to generate returns for electronic filing of tax returns.

Following are the broad steps which have to be followed for e-filing of tax returns from Tally.ERP9. By and large this process remains the same for all the statutory matters.

1. Enable statutory feature
2. Create Masters
3. Record Transactions
4. Verify Data
5. Generate Return
6. Validate Return
7. Upload Return

Out of the seven steps above, five steps are performed using Tally.ERP9 and remaining two steps, i.e. Validate Return and Upload Return are to be outside Tally. Method of filing different types of tax returns may be different, but accounting data is filled directly by tally in the return file.

1. Enable Statutory Feature: To start working with e-filing, go to Gateway of Tally > F11 > Statutory & Taxation. Following screen shall be displayed as shown in Fig 3.9.1.

Fig 3.9.1 Enable Statutory Feature

Seven statutory options are given in this screen. User can enable or disable any statutory option as per requirement. There are two options for each statutory matter in this screen, first option is to enable or disable the statutory option and second option, i.e. “Set Alter Statutory Details” is for setting or altering statutory details, i.e. registration information, type of organization, return periodicity, company level masters, etc. Once these matters are set and saved, answer to this becomes No once again. If required, user may go inside this menu and make changes again, if required. “Set Alter TDS Details” is as shown in Fig 3.9.2.

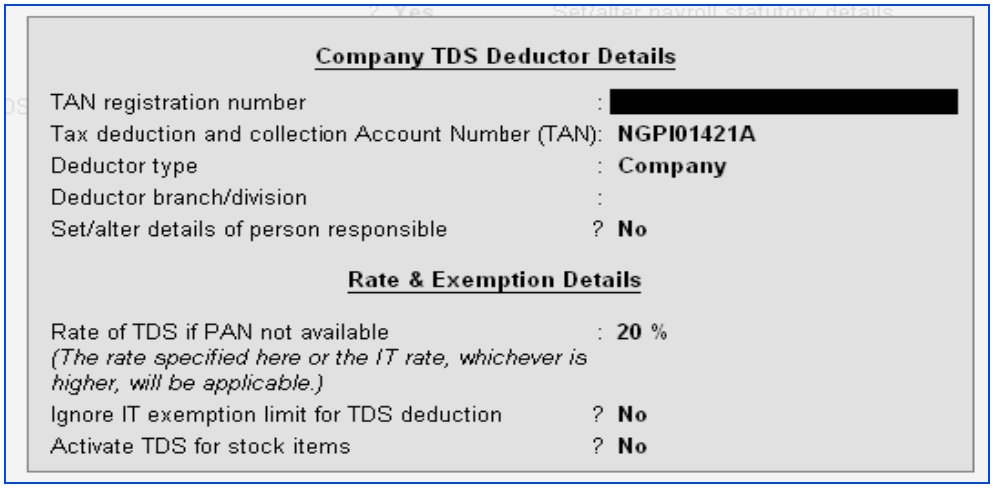


Fig 3.9.2 Set Alter TDS

2. Create Masters: For any statutory matter, ledgers need to be created before we start recording transactions. Income ledger, expense ledger and tax ledger are to be created first. At the time of creation of each of the ledger, tax applicability is to be set as displayed in screen as shown in Fig 3.9.3.

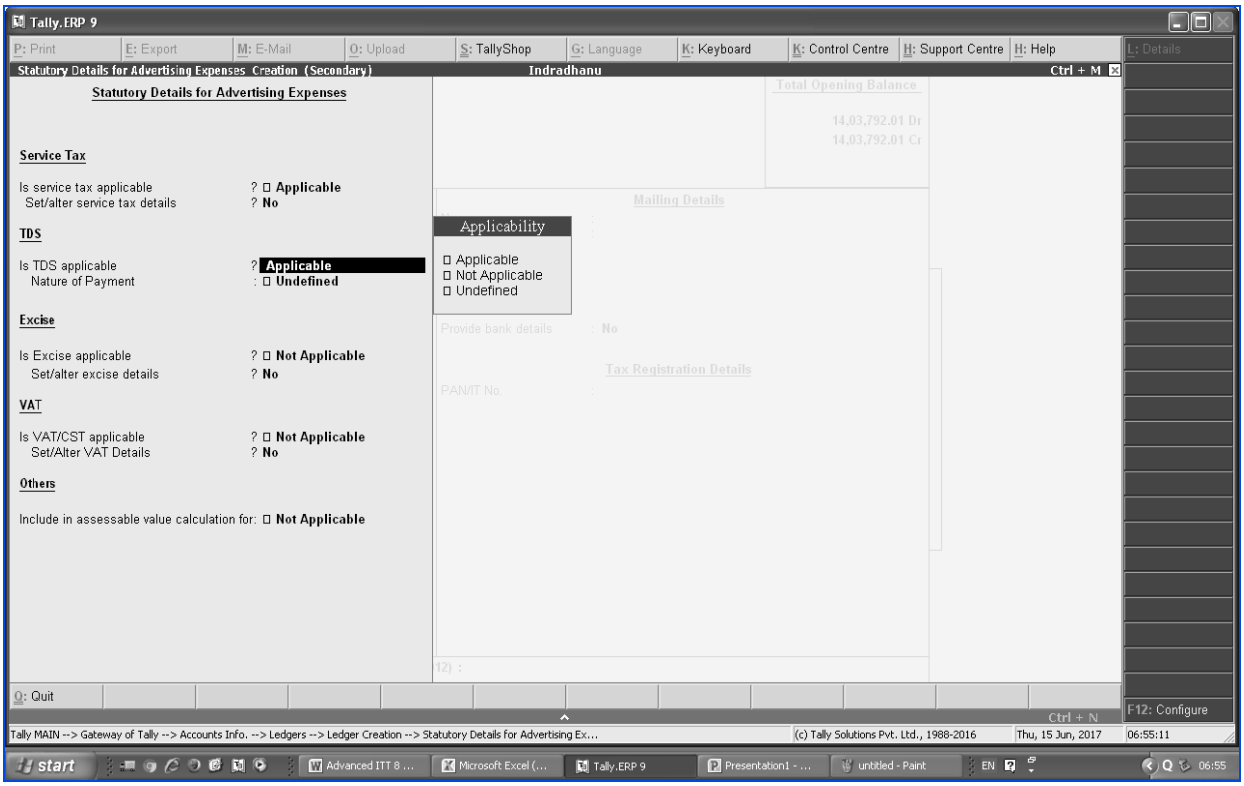


Fig 3.9.3 Create Master

3. Record Transactions: Once the ledgers are created as per rules of Tally, user can start recording of transactions. In all cases, Tally calculates tax figures automatically. If tax is not calculated automatically in a voucher, user must stop and check the settings. For generation of e-return from Tally, it is necessary to follow the complete process from start to end meticulously. Warnings given by Tally during data entry must not be ignored.

4. Verify Data: From release 5 and onwards, Tally has given a new report for easy handling of statutory return filing. This report is available for all the statutory matter. A sample report for TDS is displayed below. Using this report it is very easy to find out error in accounting data and rectify it immediately. Path: Gateway of Tally > Display > Statutory Reports. Computation report is available for different tax matters here. A sample report for service tax computation is displayed here. Uncertain transactions are displayed here which need to corrected before generating the return.

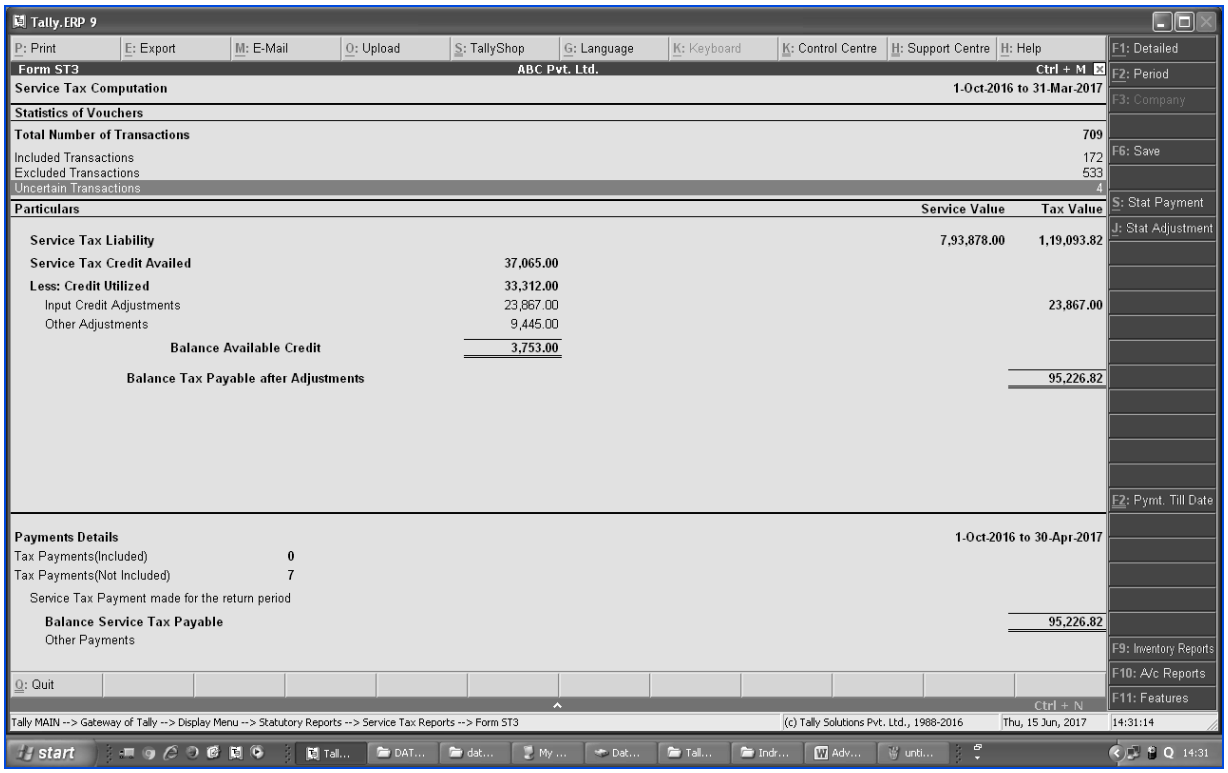


Fig 3.9.4 Data Verify

Fig 3.9.5 Statutory Reports

5. Generate Return: There are different ways for generating different statutory returns, e.g. in case of VAT, return is generated as an Excel file first. Tally fills accounting and other related data in excel utility provided by respective VAT department of State. In case of TDS, Excise, Service Tax, xml file is directly generated from Tally.

6. Validate Return: This activity is carried out outside Tally. Again validation methods are different for different statutory matters. Validation tools are made available by different tax authorities, e.g. file validation utility is provided by NSDL for TDS return, VAT return is to be validated in excel utility only, for validation of Service Tax and Excise returns, some external applications like notepad ++ along with XML schema given by aces.gov.in are to be used. After successful validation of a return file, it becomes error free and ready for uploading.

7. Uploading Return: User need to go to respective e-filing portal for filing of different tax returns. E.g. for filing of Service Tax and Excise return, www.aces.gov.in portal is to be used. Every assessee need to create an account for e-filing on the portal. User ID and password is provided for the first time by the tax authorities, this may be changed later on. Uploading of validated and error free xml file is just like attaching a file to email.

3.10 Goods & Services Tax

Goods and Services Tax, as the name suggests is a combination of tax on goods as well as services. VAT Service Tax and Excise are replaced by Goods and Services Tax, a single tax common for all the states of country.

Goods & Services Tax is a comprehensive, multi-stage, destination-based tax that will be levied on every value addition.

To understand this, we need to understand the concepts under this definition. Let us start with the term 'Multi-stage'. Now, there are multiple steps an item goes through from manufacture or production to the final sale. Buying of raw materials is the first stage. The second stage is production or manufacture. Then, there is the warehousing of materials. Next, comes the sale of the product to the retailer. And in the final stage, the retailer sells you – the end consumer – the product, completing its life cycle.

Goods and Services Tax will be levied on each of these stages, which makes it a multi-stage tax. How? We will see that shortly, but before that, let us talk about 'Value Addition'.

Let us assume that a manufacturer wants to make a shirt. For this he must buy yarn. This gets turned into a shirt after manufacture. So, the value of the yarn is increased when it gets woven into a shirt. Then, the manufacturer sells it to the warehousing agent who attaches labels and tags to each shirt. That is another addition of value after which the warehouse sells it to the retailer who packages each shirt separately and invests in marketing of the shirt thus increasing its value.

GST will be levied on these value additions – the monetary worth added at each stage to achieve the final sale to the end customer.

There is one more term we need to talk about in the definition – Destination-Based. Goods and Services Tax will be levied on all transactions happening during the entire manufacturing chain. Earlier, when a product was manufactured, the centre would levy an Excise Duty on the manufacture, and then the state will add a VAT tax when the item is sold to the next stage in the cycle. Then there would be a VAT at the next point of sale.

Now, Goods and Services Tax will be levied at every point of sale. Assume that the entire manufacture process is happening in Rajasthan and the final point of sale is in Karnataka. Since Goods & Services Tax is levied at the point of consumption, so the state of Rajasthan will get revenue in the manufacturing and warehousing stages, but lose out on the revenue when the product moves out Rajasthan and reaches the end consumer in Karnataka. This means that Karnataka will earn that revenue on the final sale, because it is a destination-based tax and this revenue will be collected at the final point of sale/destination which is Karnataka.

Goods & Services Tax Network (GSTN)

Goods and Services Tax Network (GSTN) is a Section 8 (under new companies Act, not for profit companies are governed under section 8), non-Government, private limited company. It was incorporated on March 28, 2013. The Government of India holds 24.5% equity in GSTN and all States of the Indian Union, including NCT of Delhi and Puducherry, and the Empowered Committee of State Finance Ministers (EC), together hold another 24.5%. Balance 51% equity is with non-Government financial institutions. The Company has been set up primarily to provide IT infrastructure and services to the Central and State Governments, tax payers and other stakeholders for implementation of the Goods and Services Tax (GST). The Authorised Capital of the company is Rs. 10,00,00,000 (Rupees ten crore only).

GST Suvidha Provider

GSP stands for GST Suvidha Provider. A GSP is considered as an enabler for the taxpayer to comply with the provisions of the GST law through its web platform.

Let's take one example to understand it better:

ABC Ltd is a private multinational company which is running operations on SAP ERP / Tally.ERP9. All records with respect to Purchases and Sales are maintained in it. At the end of each month, reports are generated from ERP and attached with the tax return and uploaded on government's portal.

Our government is now aiming for single and automated workflow wherein these ERP companies can build an interface with government's portal and all the GST related compliance can be done directly through their software.

GSP need not be only ERP companies but can be startups or technology companies having expertise in building web applications.

In the first round of allotment of license, thirty-four companies have been provided with GSP license. A complete list of these GSPs is as under.

1. Alankit limited
2. Bodhtree Consulting limited
3. Botree Software International Pvt. Ltd.
4. Central Depository Services (India) Limited
5. Computer Age management services Private Limited
6. Cygnet Infotech Private Ltd
7. Deloitte Touche Tohmatsu India LLP
8. Ernst & Young LLP
9. Excellon Software Pvt. Ltd.
10. GOFRUGAL TECHNOLOGIES PRIVATE LIMITED
11. Hazel Mercantile Limited
12. IRIS BUSINESS SERVICES LIMITED
13. Karvy Data Management Services Limited
14. Mastek Limited
15. Masters India Private Limited
16. MothersonSumi infotech & Designs Ltd.
17. NSDL e-Governance Infrastructure Limited
18. RAMCO SYSTEMS LIMITED
19. Reliance Corporate IT Park Limited
20. Seshaasai Business Forms Private Limited
21. Shalibhadra Finance Limited
22. SISL Infotech Pvt. Ltd.
23. Skill Lotto Solutions Pvt. Ltd.

24. Spice Digital Limited
25. Sugal & Damani Utility Services Private Limited
26. Tally Solutions Private Limited
27. TATA consultancy services Limited
28. Taxmann Publication Pvt. Ltd.
29. Tera Software Limited
30. Trust Systems & Software (I) Pvt. Ltd.
31. Vayana Private Limited
32. Velocis Systems Pvt. Ltd.
33. Vertex Customer Management India Private Limited
34. WeP Solutions Limited

Overall working of GST and Role of GST Suvidha Provider is displayed in the following diagram as shown in Fig 3.10.1.

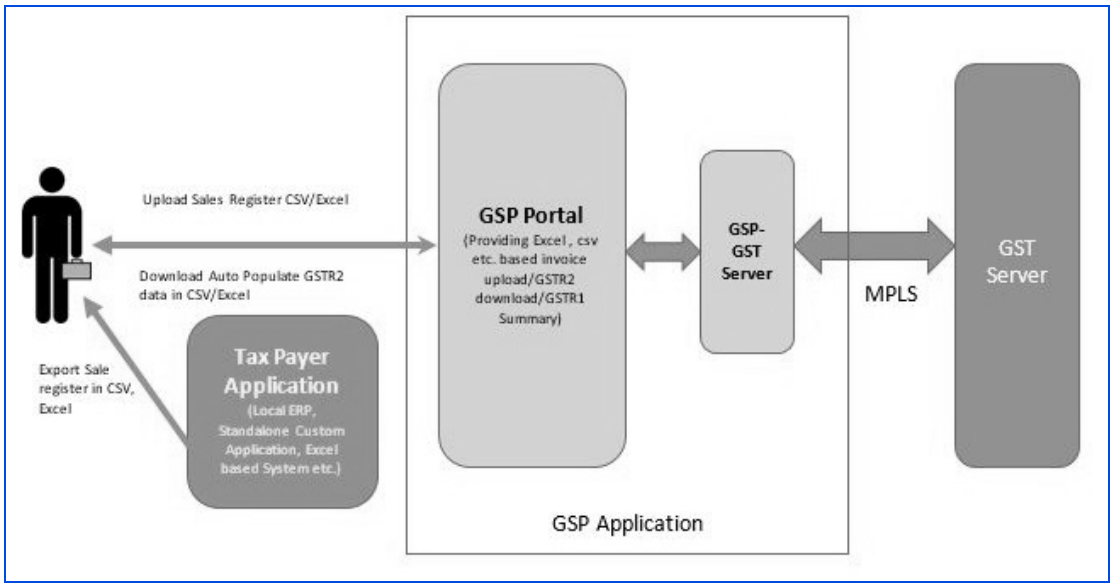


Fig 3.10.1 GST Porta

Role of Technology in GST

GST compliance is a completely technology based and most of the things are through technology only.

(a) Registration – This is to be done using GST Portal only. No paperwork is needed.

(b) HSN Codes – HSN stands for Harmonized System of Nomenclature. Codes are given to each type of goods and services for easy identification and are to be used while making outward or inward supplies. These codes are to be written in invoices and also in returns.

(c) Filing of Return – All returns to be filed in electronic format only. No paper return is accepted.

(d) Invoice wise details – This is happening for the first time in our country for any tax compliance matter. A registered person must submit invoice wise details of all his inward and outward supplies (purchase and sales data) along with debit and credit notes also.

(e) Matching of Input Credit – GST on inward supplies will be matched with GST on outward supplies of our supplier and credit shall be allowed after perfect matching only.

(f) E-payments – Payment of GST to be in electronic format only.

Everything in GST is through technology, hence role of software becomes very important in GST.

GST Return Filing Process in Tally:

GST Return filing process in Tally is more or less similar to VAT returns. Following steps are to be taken.

(a) Activate GST Feature from F11

(b) Create Ledgers for Purchase, Sale, Tax, Debtor and Creditor

(c) Record Transactions

(d) Verify data using GSTR-1 Report.

(e) Generate Return in Excel format

(f) Submit Return on GST Portal

Following menus are available in Gateway of Tally > Display > Statutory Reports > GST Reports in Tally as shown in Fig 3.10.2.

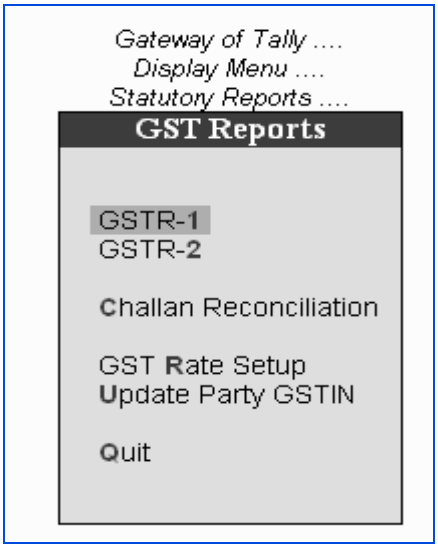


Fig 3.10.2 GST Report

GSTR-1 report is as shown in Fig 3.10.3.

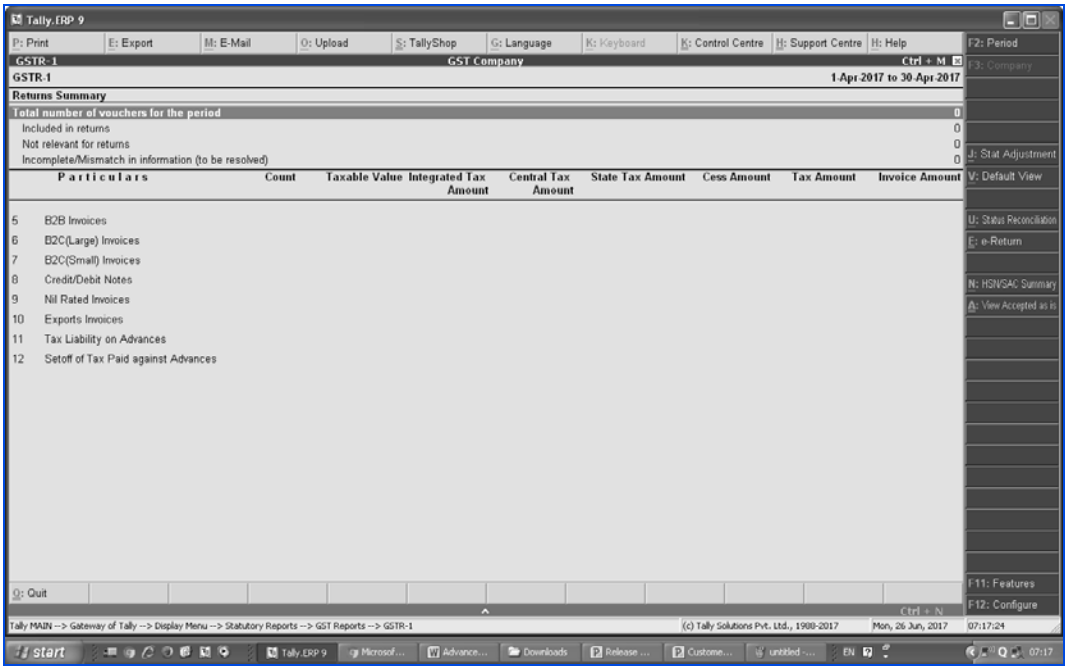


Fig 3.10.3 GSTR-1 Report

GSTR-1 status reconciliation report can be obtained by clicking “Status Reconciliation” (Alt+U) button on right hand side button bar on this screen. It will be displayed as shown in Fig 3.10.4.

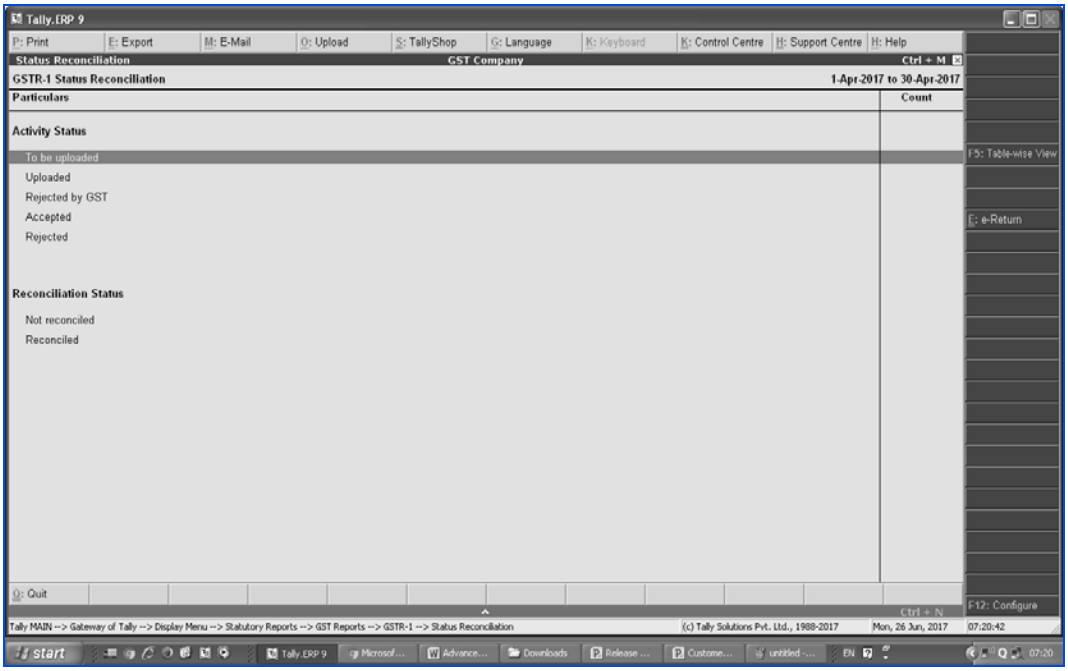


Fig 3.10.4 GSTR-1 Status

HSN (Harmonized System of Nomenclature) / SAC (Service Accounting Code) wise summary can be obtained as shown in Fig 3.10.5.

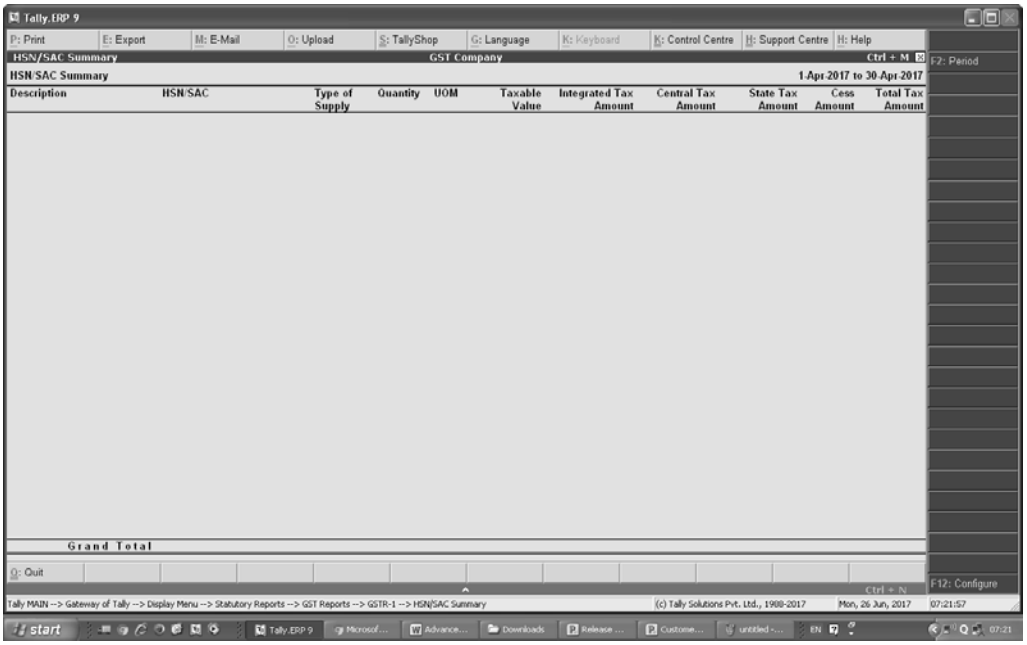


Fig 3.10.5 HSN/ SAC

Data for GSTR-2 shall be displayed in following format as shown in Fig 3.10.6.

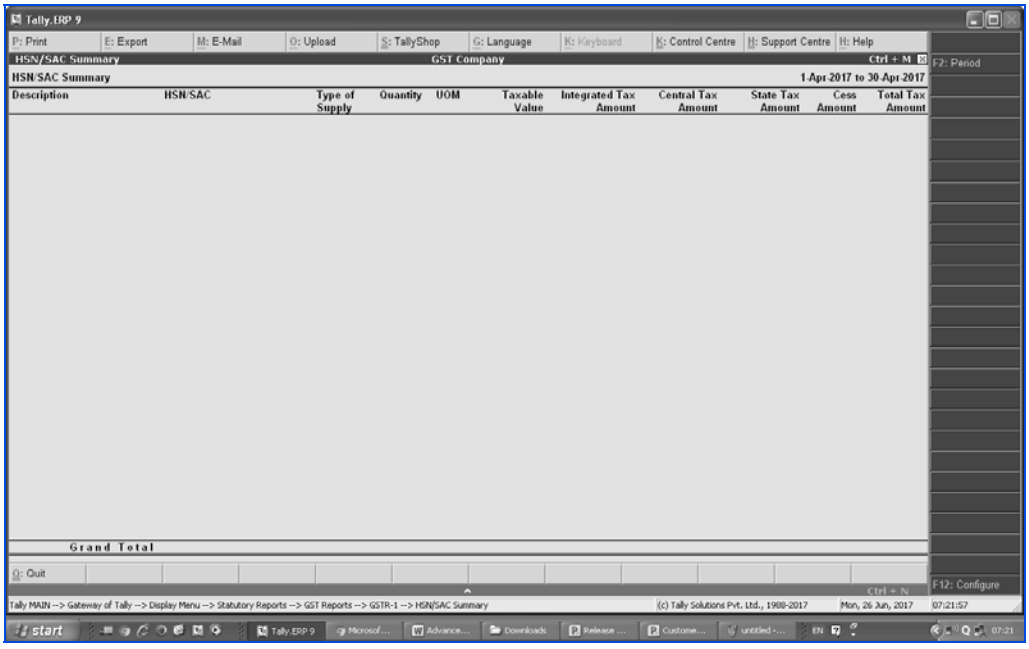


Fig 3.10.6 Data for GSTR-2

Challan Reconciliation Report is displayed as shown in Fig 3.10.7.

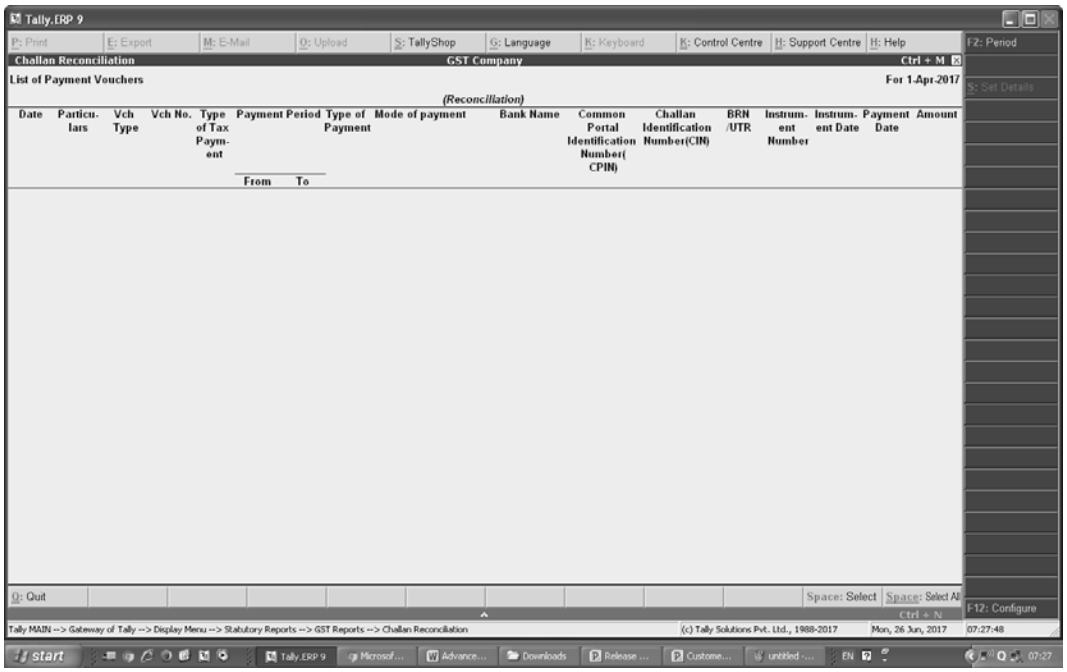


Fig 3.10.7 Challan Reconciliation

CHAPTER

4 E-FILING

LEARNING OBJECTIVES

- eVAT Returns in Tally.ERP 9
- eTDS in Tally.ERP 9
- eTCS in Tally.ERP 9

E-Filing of Returns refers to the process of electronically filing your tax returns through the Internet.

Salient Features of eFiling

- Reduces compliance cost for deductors
- Offers convenience of time & place to tax payers
- Reduces interface between assessee and tax officials
- Helps to correlate deduction of taxes against deposit of the deducted tax in the Government A/c
- Helps to correlate deduction of tax by the deductors with the corresponding credits claimed by the deductees

Tally.ERP 9 provides e-Filing capabilities for the following Statutory compliances:-

- eVAT Returns
- eTDS Returns
- eTCS Returns

4.1 eVAT Returns

There are two ways of filing eVAT Returns namely,

- Return Online: Fill up the details online and submit returns
- Upload as Excel File: select **Alt+E** from the required Return/Form/Annexure to export to .xls format and then upload the same

Go to **Gateway of Tally** > **Display** > **Statutory Reports** > **VAT Reports** > **E-VAT Annexures** > **EVAT Purchases**

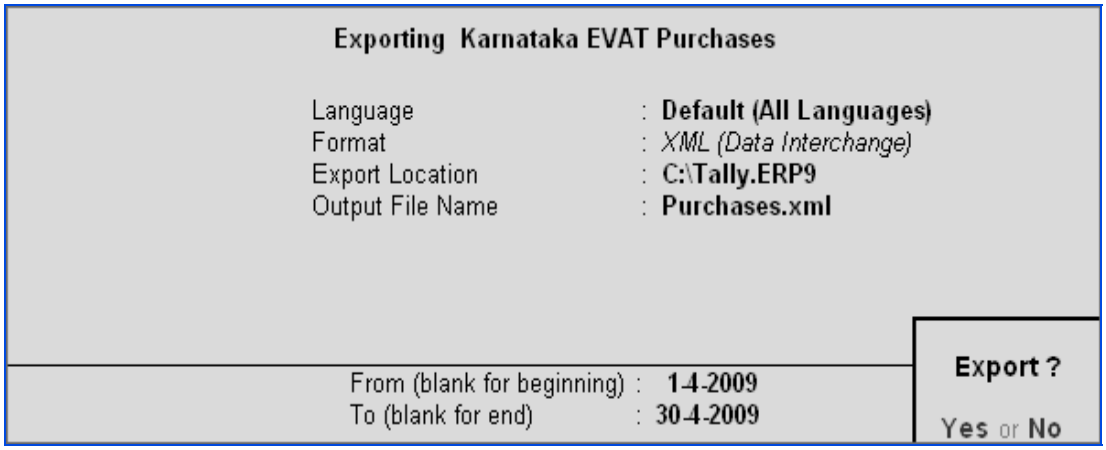


Fig. 4.1.1 eVAT Purchases Exporting screen

The exported file will be saved in the path specified in the output file name. Similarly, you can export other annexures required for eFiling.

4.2 eTDS Returns

Tally.ERP 9 allows you to export the ETDS Forms in NSDL compliant formats as well as facilitates printing of TDS Forms in Physical Form. The ETDS forms available in Tally.ERP 9 are Form 26, Annexure to 26, Form 27, Annexure to 27, Form 26Q, Annexure to 26Q, Form 27Q, Annexure to 27Q.

Export ETDS Forms

To export ETDS Forms, go to **Gateway of Tally** > **Display** > **Statutory Reports** > **TDS Reports** > **E-Return**

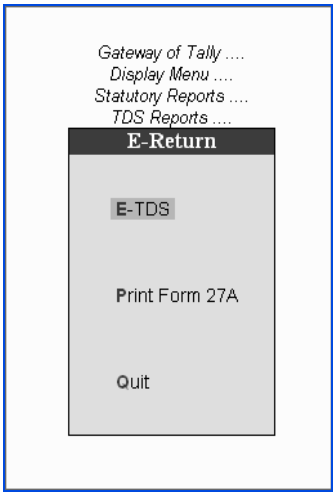


Fig. 4.2.1 TDS E-Return Menu

- Select **E-TDS** and press **Enter**, the **eTDS Forms** menu is displayed.

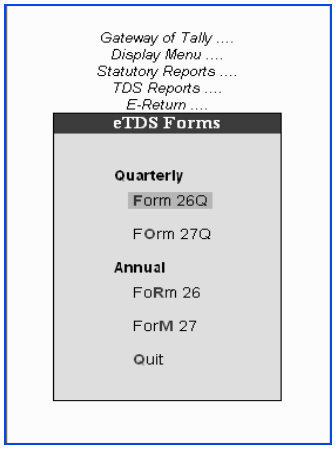


Fig. 4.2.2 eTDS Forms Menu

- Select 26Q and press Enter
- In the Exporting eTDS Forms Printing configuration screen, enter the required information as shown in Fig. 4.2.3

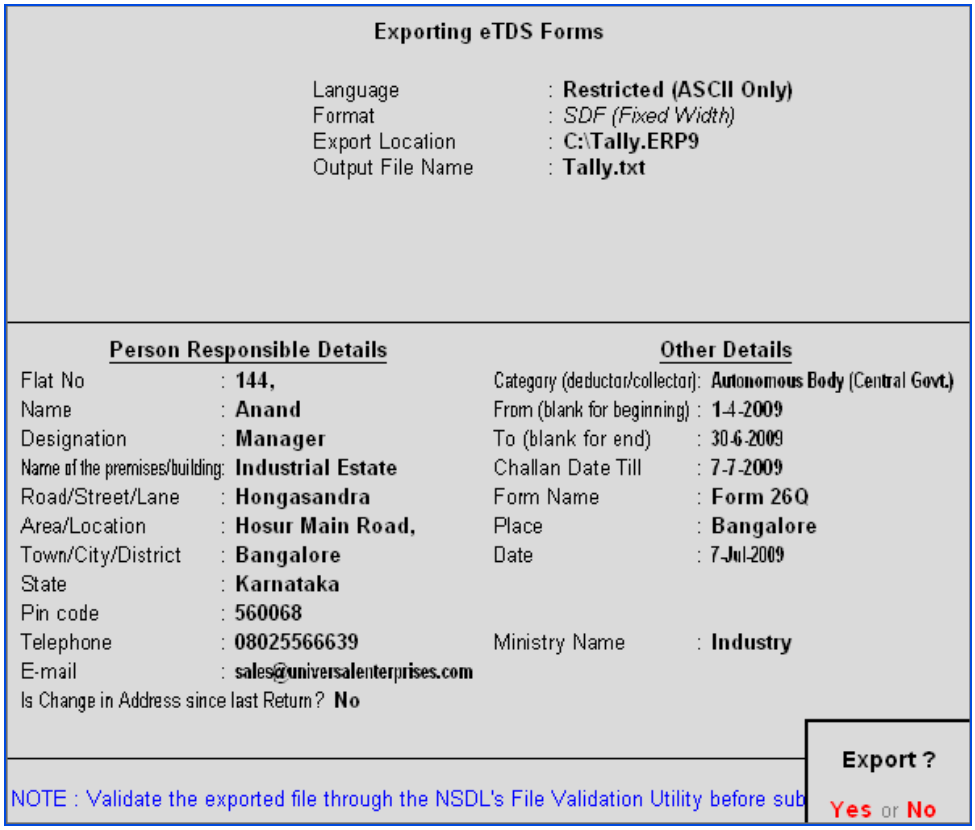


Fig. 4.2.3 eTDS Forms Printing Configuration screen

- Press Y or Enter to export eTDS Form 26Q

The exported file will be saved in the path specified in the output file name. The file can be validated through NSDL's freely downloadable utility called **'File Validation Utility'**. This can be used to verify whether the ETDS return filed by the deductors conforms to the prescribed format. For more details, refer NSDL's website (http:// www.tin-nsdl.com/eTDSfvu.asp).

Similarly, you can export other eTDS forms.

4.3 eTCS Returns

Tally.ERP 9 allows you to export the ETCS Forms in NSDL compliant formats. The ETCS forms available in Tally.ERP 9 are Form 27E and Form 27EQ.

Export ETCS Forms

To export ETCS Forms, go to Gateway of Tally > Display > Statutory Reports > TCS Reports > ETCS Forms

- In the Exporting eTCS Forms Printing configuration screen, enter the required information as shown in Fig. 4.3.1

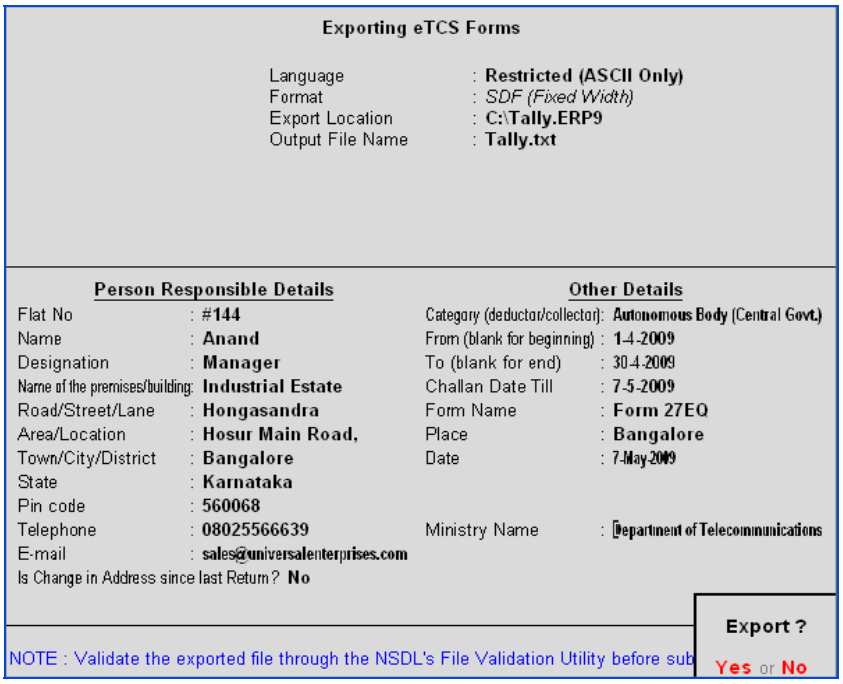


Fig. 4.3.1 Exporting eTCS Forms

- Press Y or Enter to export eTCS Form 27EQ

The exported file will be saved in the path specified in the output file name. The file can be validated through NSDL's freely downloadable utility called 'File Validation Utility'. This can be used to verify whether the ETCS return filed by the deductors conforms to the prescribed format. For more details, refer NSDL's website (http:// www.tin-nsdl.com/eTDSfvu.asp).

Similarly, you can export other eTCS forms.