

# **E-Book**

## **Explicating Exchange**

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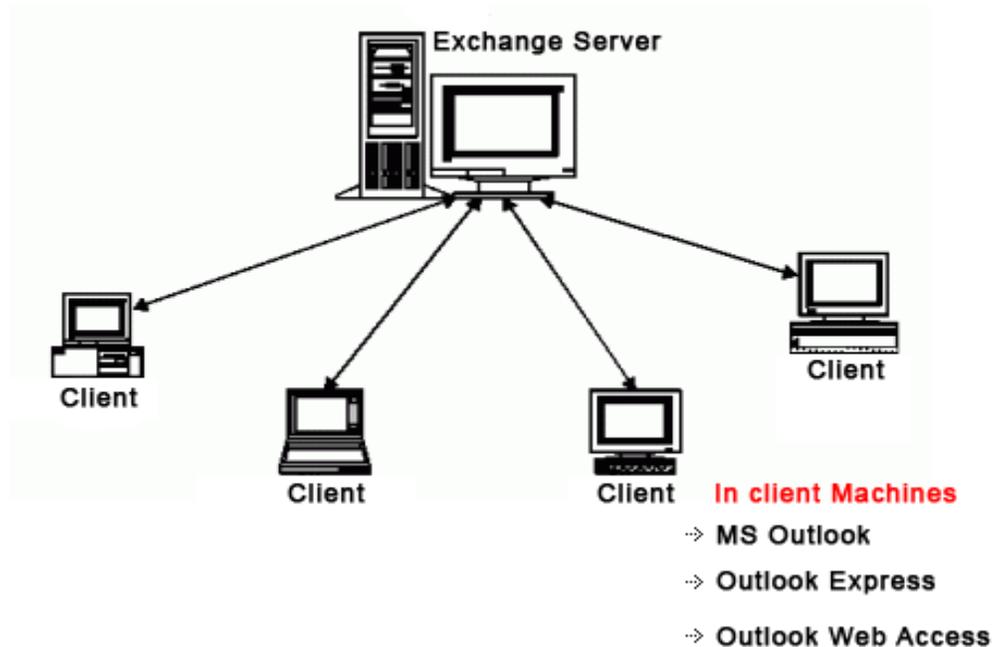
## Suggested solutions:

- Exchange BKF Recovery: [www.exchangebkfrecovery.org](http://www.exchangebkfrecovery.org)
- Exchange Server Recovery: [www.edbrecovery.com](http://www.edbrecovery.com)
- OST Recovery: [www.convertost.org](http://www.convertost.org)
- Exchange Export/Import Wizard:  
[www.systoolsgroup.com/exchange-export-import-wizard.html](http://www.systoolsgroup.com/exchange-export-import-wizard.html)

## Microsoft Exchange Server

Exchange Server is an e-mail-based collaborative communications server for businesses provide by Microsoft. Each and every user system will be connected with an Exchange server through LAN connection, home users typically do not have an Exchange Server e-mail account; instead they use a POP3 e-mail account with an Internet service provider and the network connection is like the schematic representation below.

### Microsoft Collaborated Client-Server Email Environment



### Versions of Exchange Server

The Microsoft Exchange server is organized in the following sections:

- Microsoft Exchange Server 2010
- Microsoft Exchange Server 2007
- Microsoft Exchange Server 2003 and 5.0, 5.5

### Edition of Exchange Server

Exchange server 2007 comes in two editions as:

1. Exchange Server 2007 Standard edition : Standard edition can have 5 Storage groups with 5 databases each
2. Exchange Server 2007 Enterprise edition: Enterprise edition is extended to 50 Storage group and 50 databases per storage group.

If user wants to install an Exchange Server then, user has to configure the Exchange Server because configuration of Exchange Server is like a root of Exchange Server.

## **Configuration in Exchange Server**

### **Client Machines**

The Client machines should be configured to

- MS Outlook
- Outlook Express
- Outlook Web Access (OWA)

Before installing Exchange server, there is the need of creating Active directory, which give permissions to enable server. Formation of Active Directory, Domain and schema are the initial steps of Exchange server installation, let's have a look on what an active directory, Domain and Schema is all about.

### **Active Directory**

Active Directory is used by system administrators to store information about users, assign security policies, and deploy software. AD is used in many different types and size of environments from the very small to large number of users worldwide. There will be one Active Directory for the exchange server.

Active Directory networks are organized using four types of divisions or container structures. These four divisions are forests, domains, organizational units and sites.

- *Forests*: The collection of every object, its attributes and attribute syntax in the Active Directory.
- *Domain*: A collection of computers that share a common set of policies, a name and a database of their members.
- *Organizational units*: Containers in which domains can be grouped. They create a hierarchy for the domain and create the structure of the Active Directory's company in geographical or organizational terms.
- *Sites*: Physical groupings independent of the domain and OU structure. Sites distinguish between locations connected by low- and high-speed connections and are defined by one or more IP subnets.

Active Directory offers a means of easily promoting and demoting domain controllers and member servers. Systems can be managed and secured via Group Policies. It is a flexible hierarchical organizational model that allows for

easy management and detailed specific delegation of administrative responsibilities. Active Directory is capable of managing millions of objects within a single domain.

## Active Directory Domain

Active Directory domain is a collection of computers that share a common set of policies, a name and a database of their members. In other words, domain is a container object in which computers and users are a member, making security access universal to all objects within the domain. In other words; a single domain account's security is defined on all the computers and resources within a domain. This does not necessarily mean user have access to these resources unless the correct permissions are applied.

## Schema

The guide of attributes of an object, For example a user account's schema could be made up of: username, password, department, and e-mail.

## Preparation of Active Directory and its domain

To prepare legacy Exchange permissions in every domain that contains the Exchange Enterprise Servers and Exchange Domain Servers groups, run the following command:

- To prepare legacy Exchange permissions

**setup /PrepareLegacyExchangePermissions**.or **setup /pl**

- To prepare legacy Exchange permissions in a specific domain runs the following command:

**setup /PrepareLegacyExchangePermissions**

The main domain will be like *companyname.com*

Users have ID like [username@ companyname.com](#)

The sub domain will be like [Username@officelocation.companyname.com](#)

## Basic needs that should be satisfied while setting the domain and user name

### User name:

- User name is most likely the name use to log onto computer.
- The user name is not case-sensitive and may include spaces.
- If users have hosted Exchange account, the user name would most likely be the same as the one you use to access your email on your computer.

**Password:**

- User password is most likely the password you use to log-on to your computer.
- The password is case-sensitive.
- If user hosted Exchange account, the password would be the same as the one use to access email on computer.

**Server Name:**

The Exchange Server settings require a publicly accessible server name for the front-end Exchange Server:

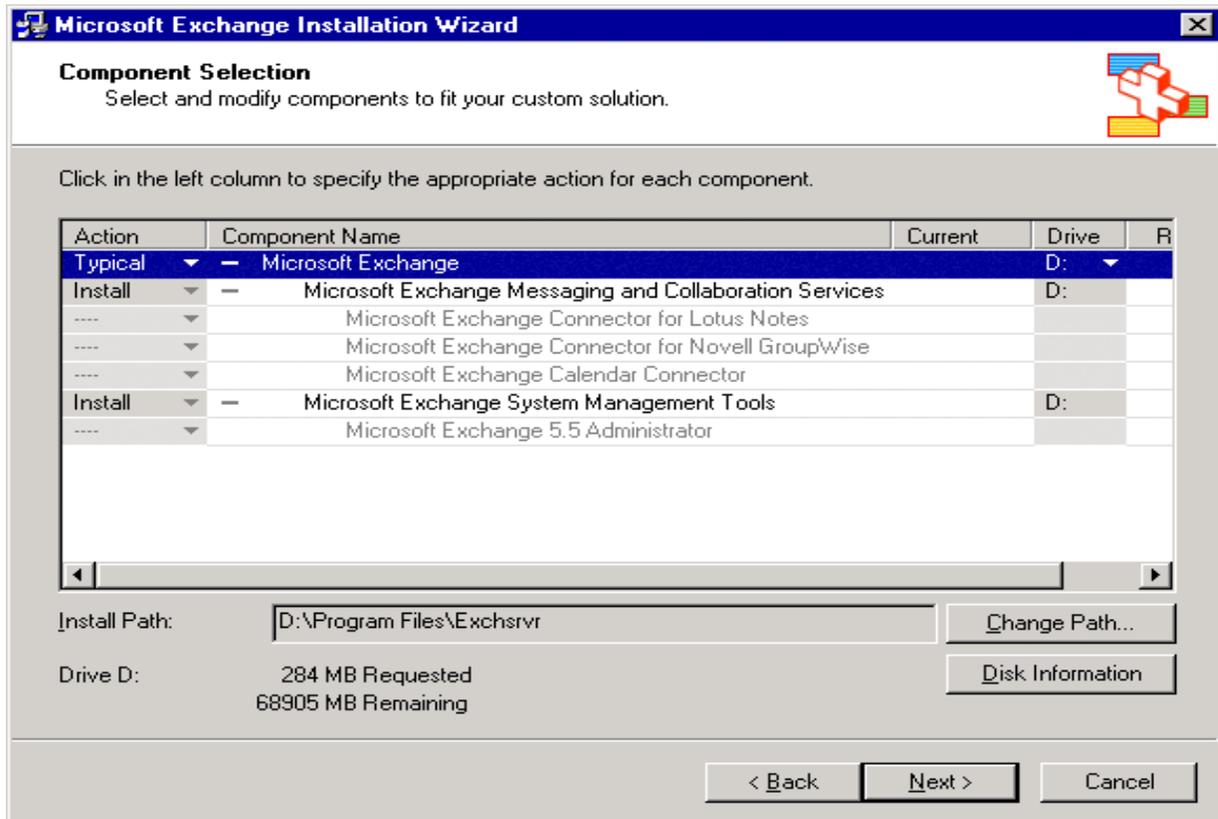
- The server name will **not** include http://.
- The server name will **not** include other web address sections such as slashes (/) or '.html'.
- The server name will be in the form '**exchange.company.com**' (Alternatively, an IP address can be used. This IP address must point to the front-end Exchange Server.)

The domain creation will be carried out along with the installation of the Exchange server, the exchange server installation include several steps and is a long process, let us have a look on it, taking the example of installing the Exchange server 2003

**Installation of Exchange Server**

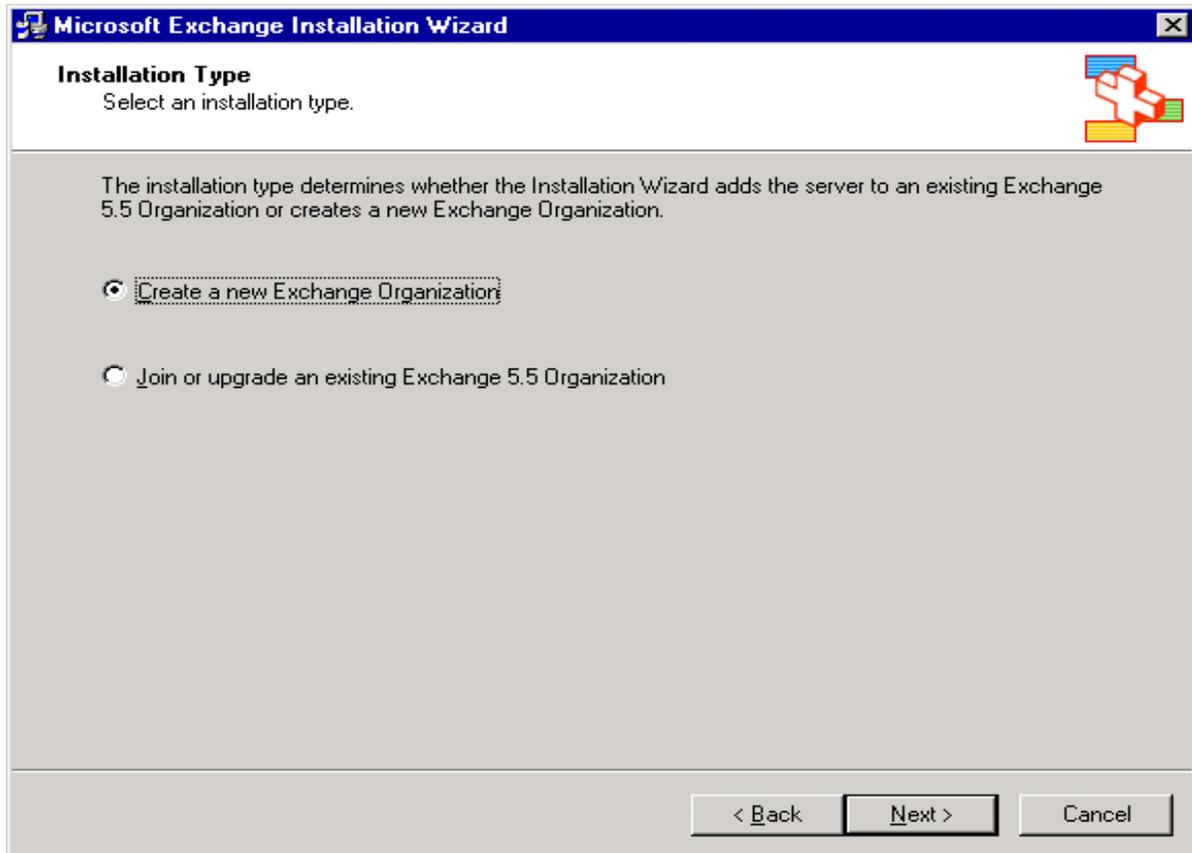
- I. Log on to the server on which user want to install Exchange. Insert the Exchange Server CD into CD-ROM drive.
- II. On the Start menu, click Run and then type *E:\setup\i386\setup*, where *E* is the CD-ROM drive.
- III. From the Welcome to the Microsoft Exchange Installation Wizard page, select Next.
- IV. On the License Agreement page, read the agreement. If agree to the terms, click 'I agree', and then Next.
- V. On the Product Identification page, type 25-digit product key, and then select Next.
- VI. On the Component Selection page, in the Action column, use the drop-down arrows to specify the appropriate action for each component, and then Next.

## VII. The Component Selection page



- VIII. On the Installation Type page, click Create a new Exchange Organization, and then select Next option.

## The Installation Type page

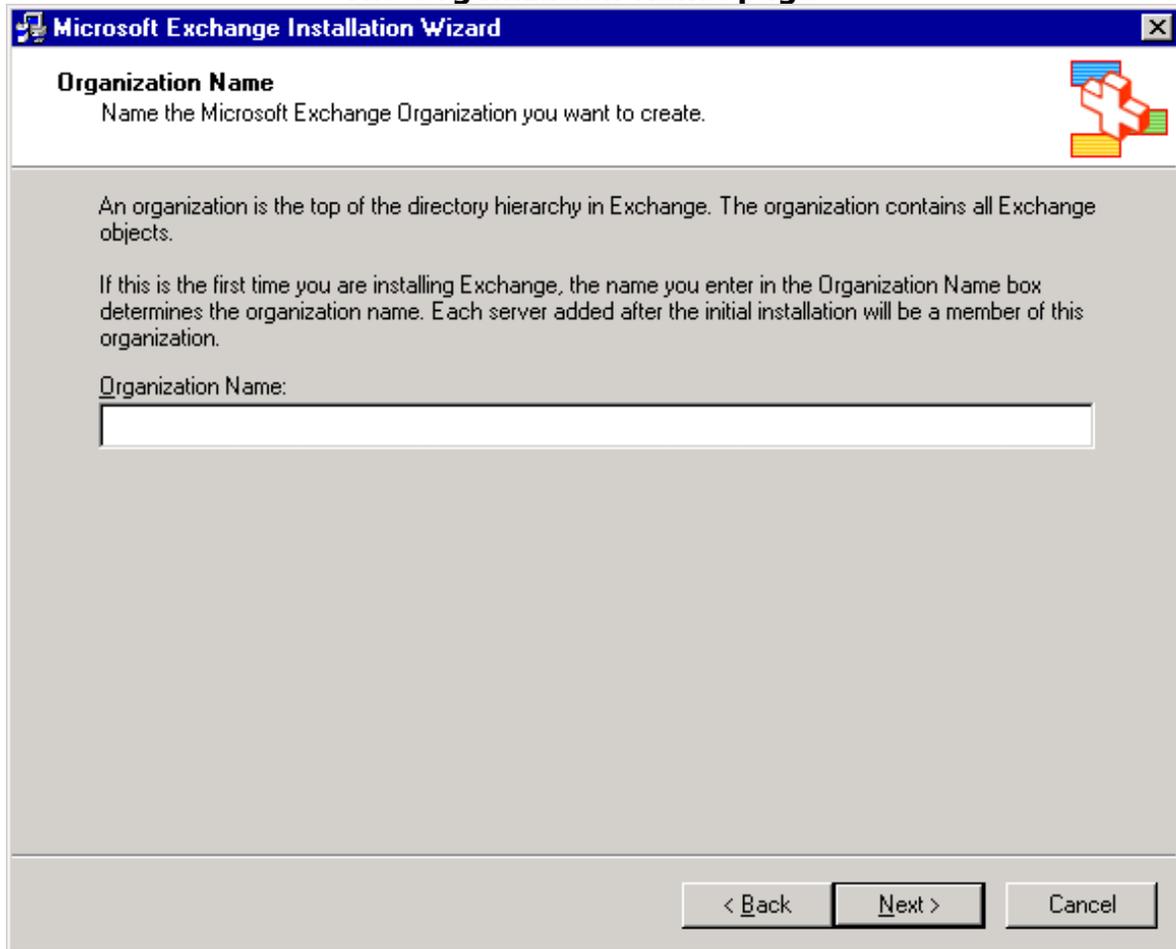


- IX. On the Organization Name page, in the Organization Name box, type new Exchange organization name, and then select Next option.

The organization name should contain, 1 character must and do not exceed than 64 characters. The type can be

- a. A through Z
- b. a through z
- c. 0 through 9
- d. Space
- e. Hyphen or dash

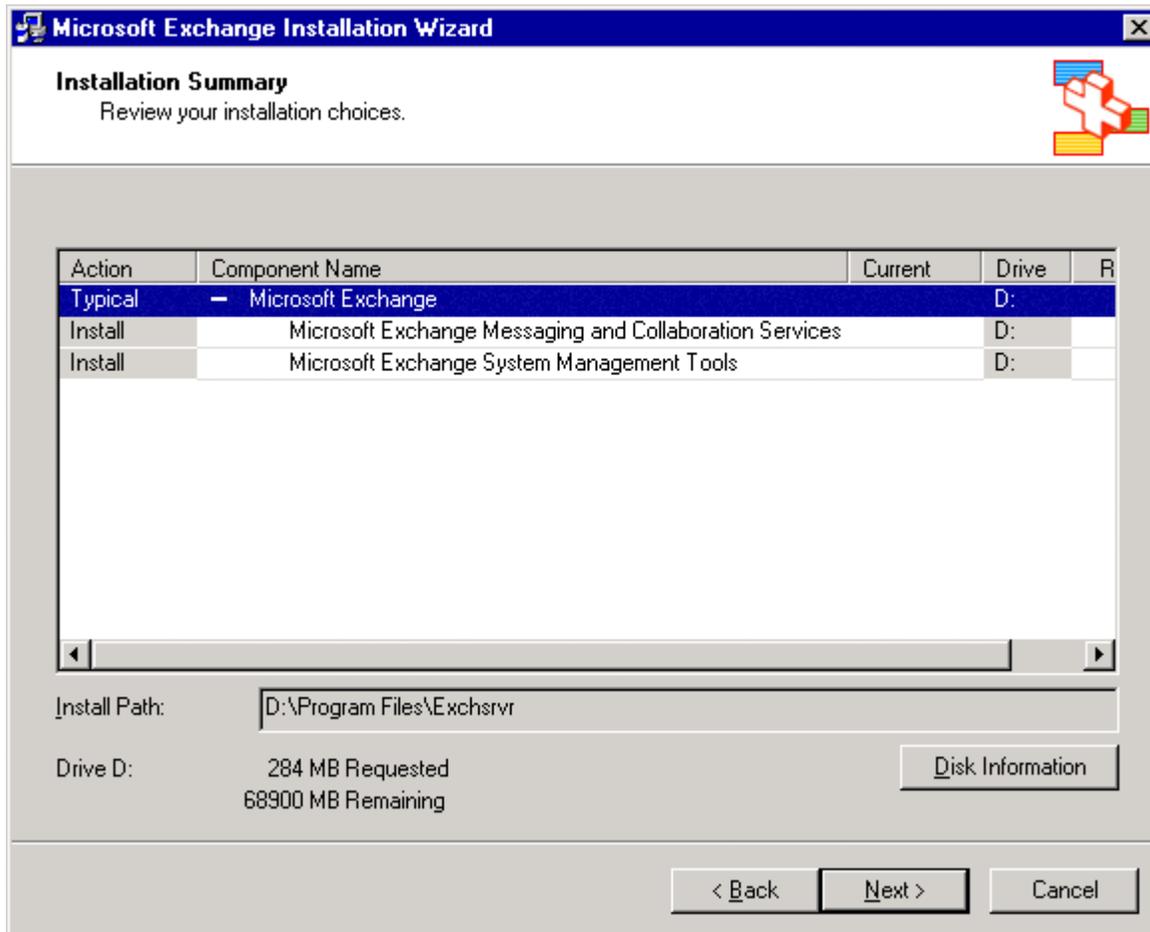
## The Organization Name page



The screenshot shows a window titled "Microsoft Exchange Installation Wizard" with a close button (X) in the top right corner. The main heading is "Organization Name" with a sub-instruction: "Name the Microsoft Exchange Organization you want to create." To the right of this text is a colorful 3D cube icon with a white cross on its top face. Below the instruction, there is a paragraph of explanatory text: "An organization is the top of the directory hierarchy in Exchange. The organization contains all Exchange objects. If this is the first time you are installing Exchange, the name you enter in the Organization Name box determines the organization name. Each server added after the initial installation will be a member of this organization." Underneath this text is a label "Organization Name:" followed by a large, empty text input field. At the bottom of the window, there are three buttons: "< Back", "Next >", and "Cancel".

- X. On License Agreement page, read the agreement. If agree to the terms, click 'I agree that I have read and will be bound by the license agreements for this product', and then Next.
  
- XI. On the Component Selection page, in the Action column, use the drop-down arrows to specify the appropriate action for each component, and then Next.
  
- XII. On the Installation Summary page, confirm Exchange installation choices are correct, and then Next.

## The Installation Summary page



- XIII. On the Completion of the Microsoft Exchange Wizard page, select the Finish option.

***Now the exchange server is configrated to the system, the exchange server collaborated email environment will be on function mode after the configuration.***

Sometimes, user faces the problem of corruption due to many reasons in Exchange Server, which plays a major role in causing business downtime.

**Reasons for Corruption in Exchange Server:** There are two types of corruption in Exchange Server, Physical and Logical.

**Physical Corruption:** After physical corruption in Exchange Server, it becomes difficult to perform work operations in Exchange Server database. Several physical reasons can corrupt Exchange Server:

- Virus Attack
- Trojan Infection
- Hardware or software malfunctioning
- Abrupt System shutdown

Some rare reasons are also there to cause Exchange Server Corruption.

**Logical Corruption:** You may encounter logical corruption due to any of the following reasons:

1. Run the software incorrectly after restoring database from an online backup, it replays only log files and ignores the patch files. It may result in logical corruption. Extensible Storage Engine 98 does not allow to recovery on an EDB file that needs hard recovery. Trying this, the following Jet error appears in Application Event Log of Exchange Server:
2. Initializing an inconsistent EDB file, the process checks whether that log range specified in database header is there in directory of log, and signatures of both log and database are correct. In case it does not find the specified values, it logs the below event.

User can easily know that Exchange Server has been corrupted with some errors.

**Error Message Appears Because of above mentioned Scenarios:**

- *"JET\_errRequiredLogFilesMissing (-543)"*
- *"JET\_errSoftRecoveryOnBackupDatabase (-544)"*

Any issues with Exchange makes PST files corrupt, so, at this point of time OST cannot be import on other. OST become unusable but can be accessed.

**Due to Corruption, Users Encounter Error Messages:**

- -510 JET\_errLogWriteFail The log files are out of disk space or there is a hardware failure with the log file disk.
- -1022 (JET\_errDiskIO) The hardware, device driver, or operating system is returning errors

- -1018 (JET\_errReadVerifyFailure) The data read from disk is not the same as the data that was written to disk.
- "errors have been detected in the file outlook.ost" error.
- error-8004011d-526-80040115-0-2314158"
- When running Scan OST utility, then synchronization problem error appears:  
80004005-501-4B9-560

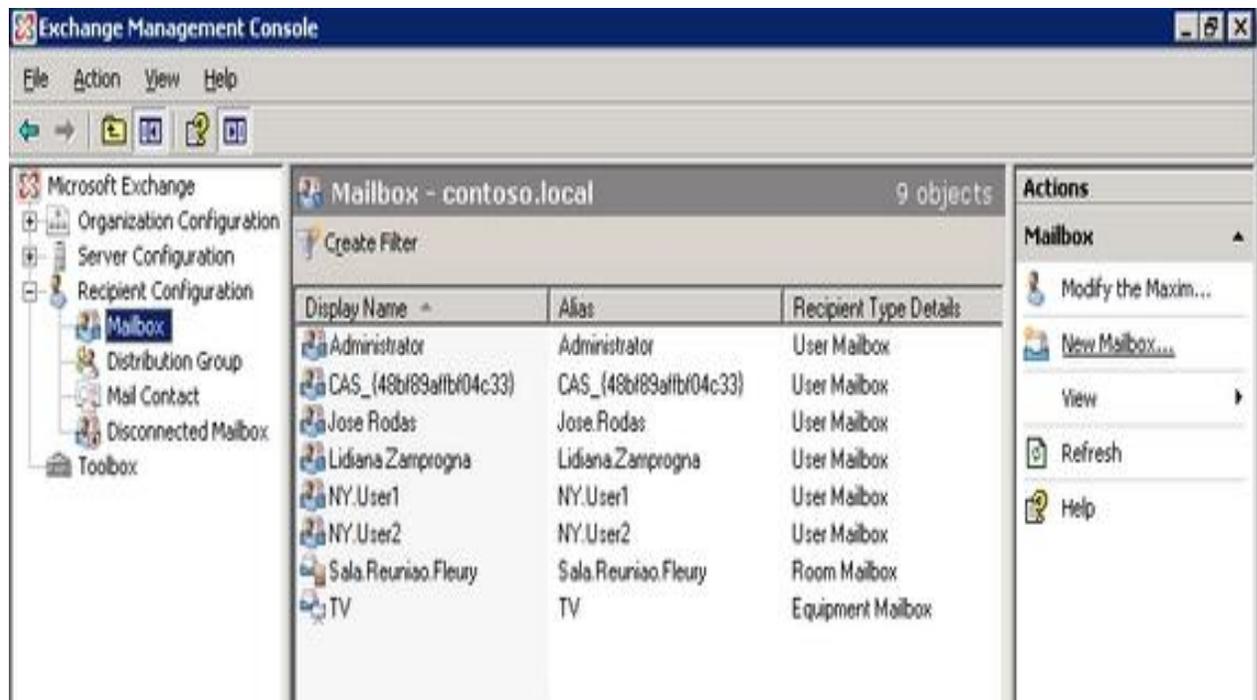
Exchange Server Corruption imposes a great impact on business but, user can overcome these critical situations with different methods.

**Exchange Damage Causes Business Downtime:** After corruption in Exchange Server users wait for little time so that Exchange Server get recover, however, more delay can lead to serious issues so conversion from OST to PST is required at this point of time.

If Administrator has installed Exchange Server and now he wants to assign different mailboxes to different clients then, he can easily do this with two different methods of creating user mailbox. One is windows based method and one is console method.

### **How to create different Objects (Mailboxes, Contacts, Mail Users and Distribution Groups) in Exchange Server:**

1. Open **Exchange Management Console**
2. Expand **Recipient Configuration**
3. Select **Mailbox** option.
4. Select **New Mailbox** option in **mailbox pane**.(Screenshot 01)

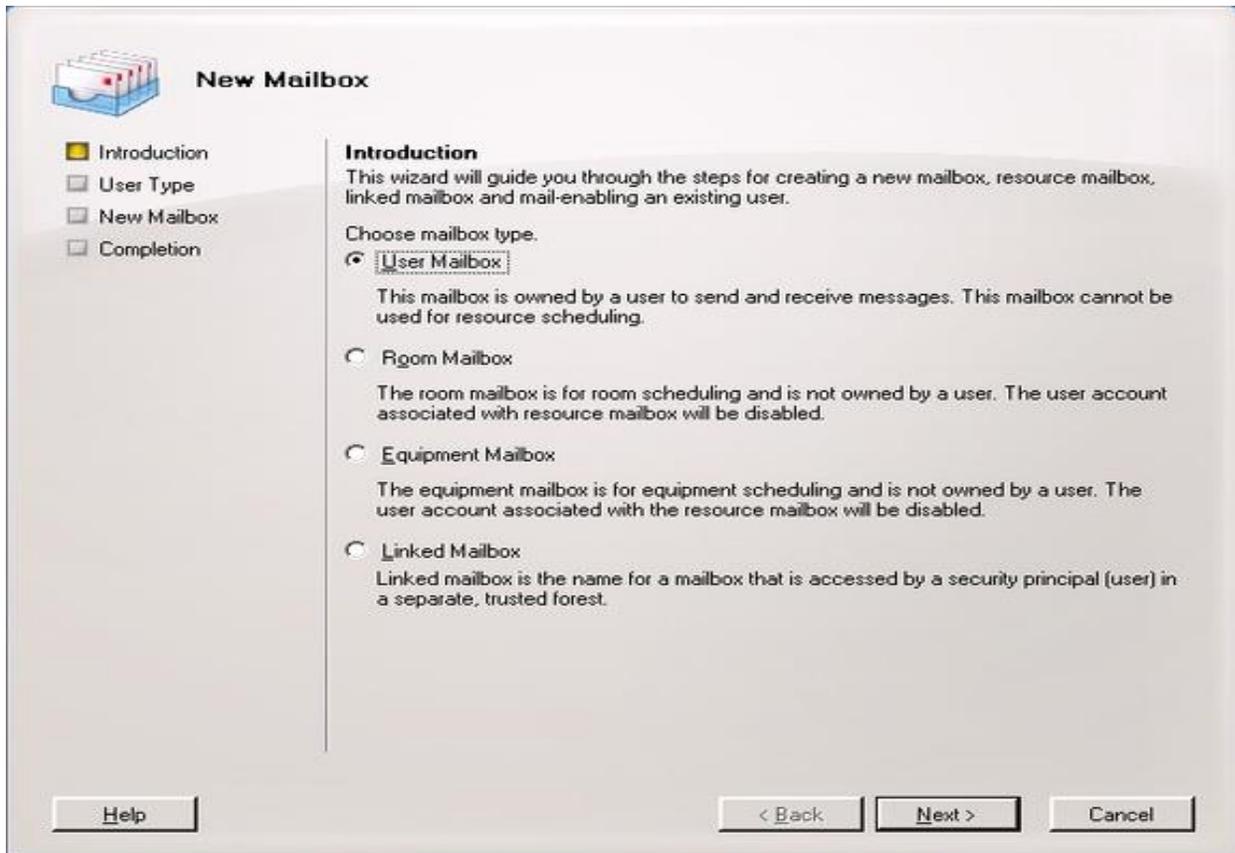


**Screenshot 01:** Creation of new user in the Exchange Management Console

5. **Introduction:** Administrator has to choose what kind of object which he is creating in Exchange Server 2007. User can get four different mailbox types:

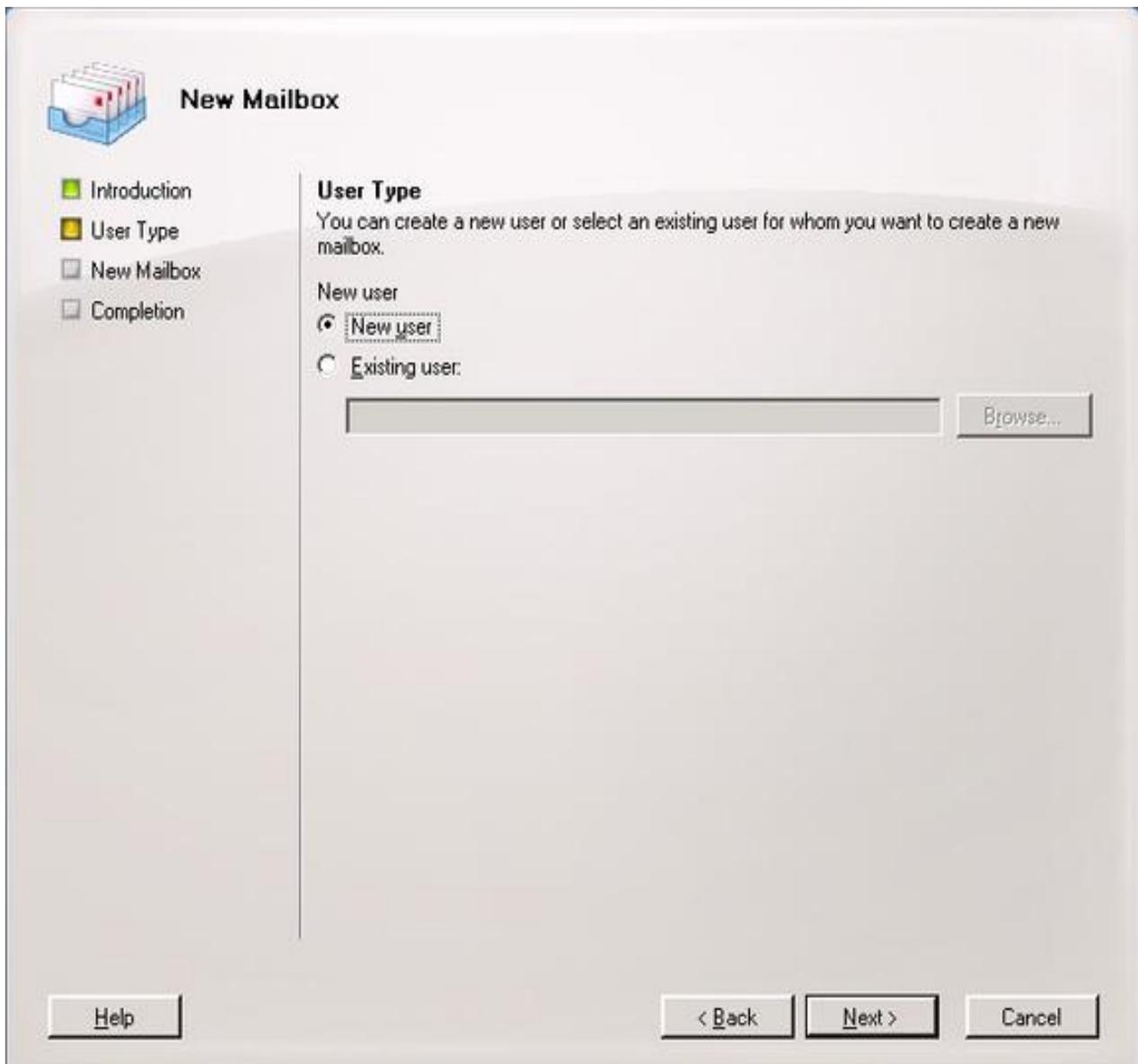
- **User mailbox:** This is a traditional mailbox.
- **Resource mailbox:** This mailbox is specifically assigned to Meeting Rooms. Its associated user account will be disabled in Active Directory.
- **Equipment mailbox:** This mailbox is specific to resources, (i.e. TV, Projector etc). As with a Resource mailbox, this kind of mailbox will disable a user in Active Directory.
- **Linked Mailbox:** This kind of mailbox will be used in environments with multiple forests. Forest means the collection of every object, its attributes and attribute syntax in the Active Directory.

In the **Introduction** window, select the appropriate mailbox type and then select **Next** to continue. (Screenshot 02)



**Screenshot 02:** Choosing of the kind of mailbox that will be created

6. **User Type:** In the **User Type** window, Administrator can choose either to create a new user or to assign an existing user to the new mailbox. If Administrator chooses to assign it to an existing user, Administrator will have to check, if the account already has a mailbox associated with it or not. Select **Next** to continue (Screenshot 03).



**Screenshot 03:** Creation of a new user for a new mailbox

7. **User Information:** In the **User Information** window, Administrator has to fill the personal information of the user and select the Organization Unit where it will be created. After this Select **Next** (Screenshot 04).

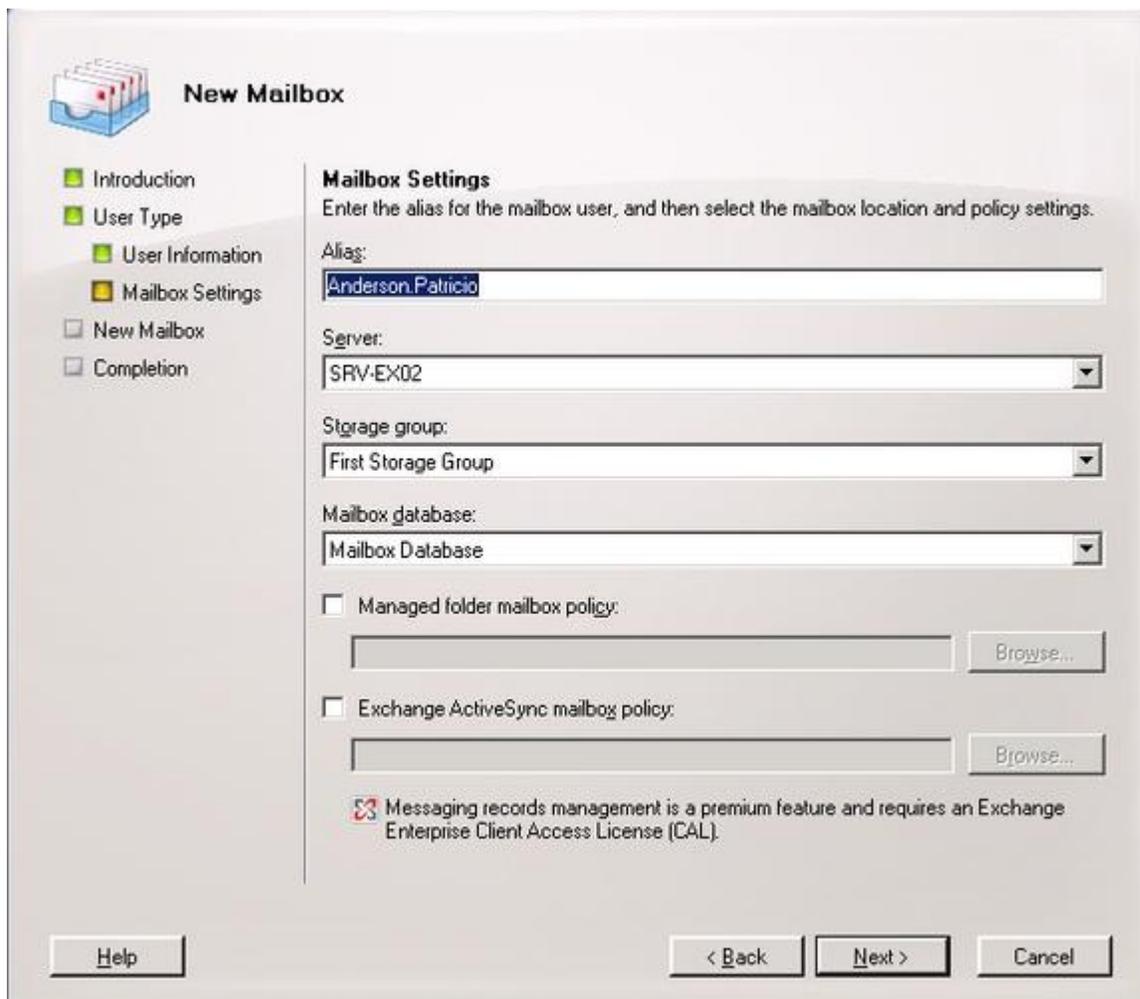
The screenshot shows the 'New Mailbox' wizard in a Windows environment. The title bar reads 'New Mailbox'. On the left, a navigation pane shows the following steps: Introduction (selected), User Type, User Information (highlighted in yellow), Mailbox Settings, New Mailbox, and Completion. The main area is titled 'User Information' and contains the following fields and controls:

- Organizational unit:** A text box containing 'contoso.local/Users' and a 'Browse...' button.
- First name:** A text box containing 'Anderson'.
- Initials:** An empty text box.
- Last name:** A text box containing 'Patricio'.
- Name:** A text box containing 'Anderson Patricio'.
- User logon name (User Principal Name):** A text box containing 'Anderson.Patricio' and a dropdown menu showing '@contoso.local'.
- User logon name (pre-Windows 2000):** A text box containing 'Anderson.Patricio'.
- Password:** A text box with masked characters (dots).
- Confirm password:** A text box with masked characters (dots).
- User must change password at next logon**

At the bottom of the window, there are four buttons: 'Help', '< Back', 'Next >', and 'Cancel'.

**Screenshot 04:** Filling out the personal user data and OU localization

8. **Mailbox Settings:** On the **Mailbox Settings** page, Administrator can define the mailbox information such as Alias, Mailbox Server, and Mailbox Store where the new mailbox will be located. The policies for Mailbox and ActiveSync can also be defined in this step. Administrator can choose which fields we are going to fill out and then click **Next** to continue. (Screenshot 05).



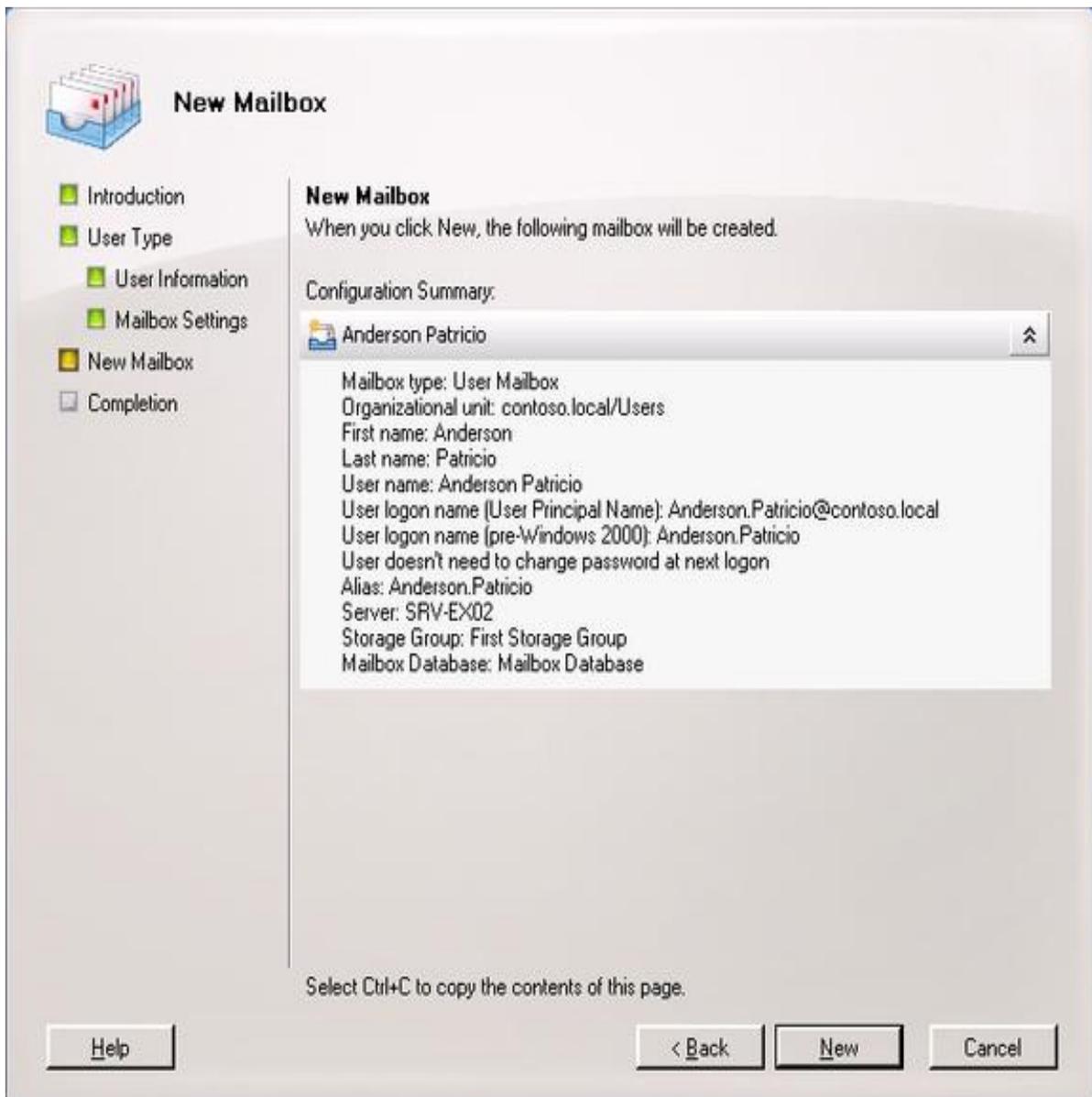
The screenshot shows the 'New Mailbox' wizard in Exchange Server. The 'Mailbox Settings' step is active, indicated by a yellow square in the left-hand navigation pane. The main area contains the following fields and options:

- Alias:** A text box containing 'Anderson,Patricio'.
- Server:** A dropdown menu with 'SRV-EX02' selected.
- Storage group:** A dropdown menu with 'First Storage Group' selected.
- Mailbox database:** A dropdown menu with 'Mailbox Database' selected.
- Managed folder mailbox policy:** An unchecked checkbox with an empty text box and a 'Browse...' button.
- Exchange ActiveSync mailbox policy:** An unchecked checkbox with an empty text box and a 'Browse...' button.
- Message records management:** A red 'X' icon followed by the text: 'Messaging records management is a premium feature and requires an Exchange Enterprise Client Access License (CAL)'.

At the bottom of the wizard, there are three buttons: 'Help', '< Back', and 'Next >', and a 'Cancel' button.

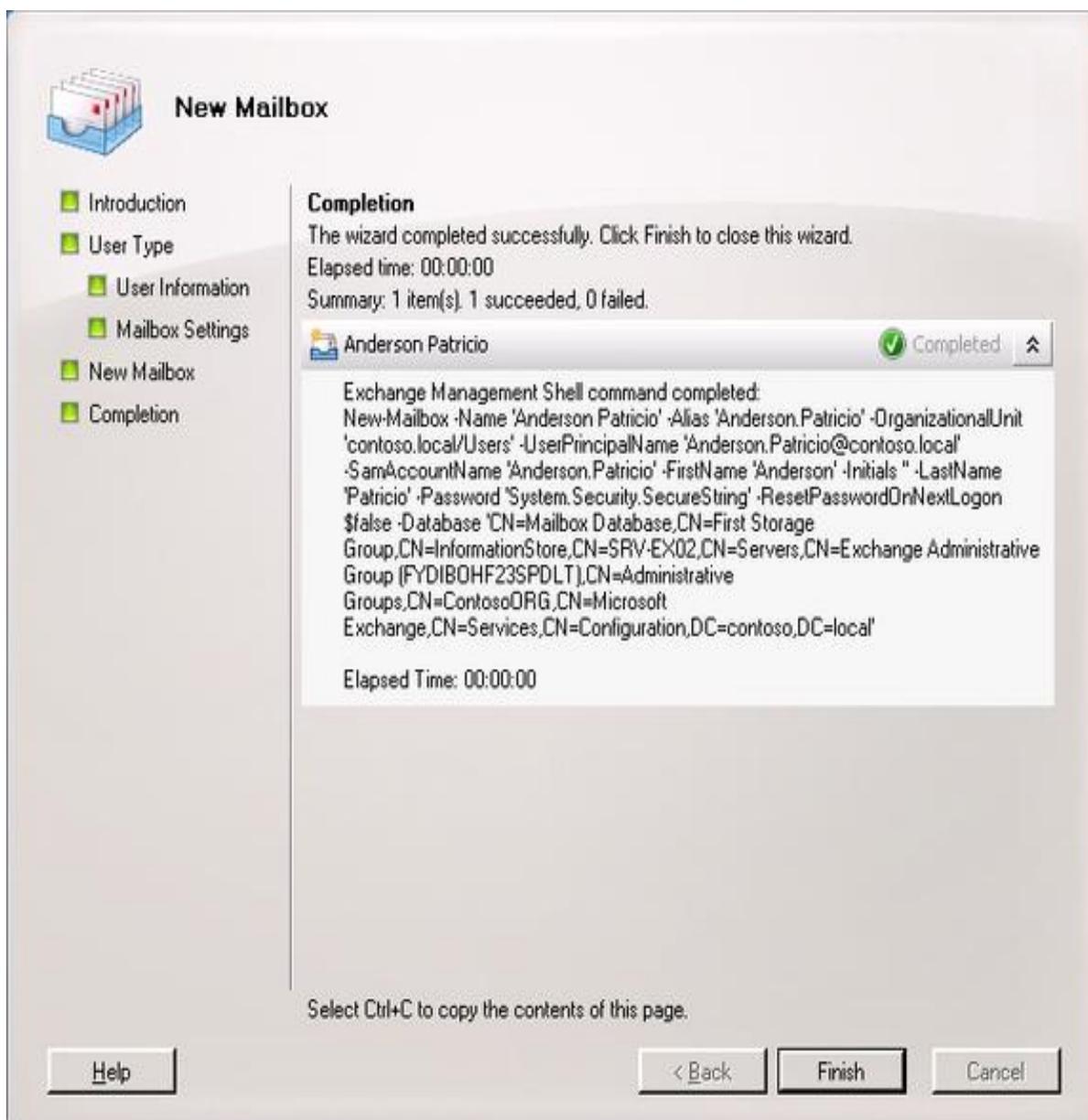
**Screenshot 05:** Choosing Server, Storage Group, Mailbox database and policies during the mailbox creation process

9. **New Mailbox:** In the **New Mailbox** Window, administrator will get a summary of all the information that he selected in the previous steps. These parameters will be used by the Power Shell engine for the creation of this mailbox object. To create the mailbox, click on **New** (Screenshot 06).



**Screenshot 06:** The parameters that will be used in the creation of the new mailbox

10. **Completion:** In the **Completion** window, Administrator will see the cmdlet New-mailbox and the parameters which he used in the creation process of this new mailbox.



**Screenshot 07:** The final screen of the New Mailbox Wizard, shows the cmdlet used in the creation of the mailbox

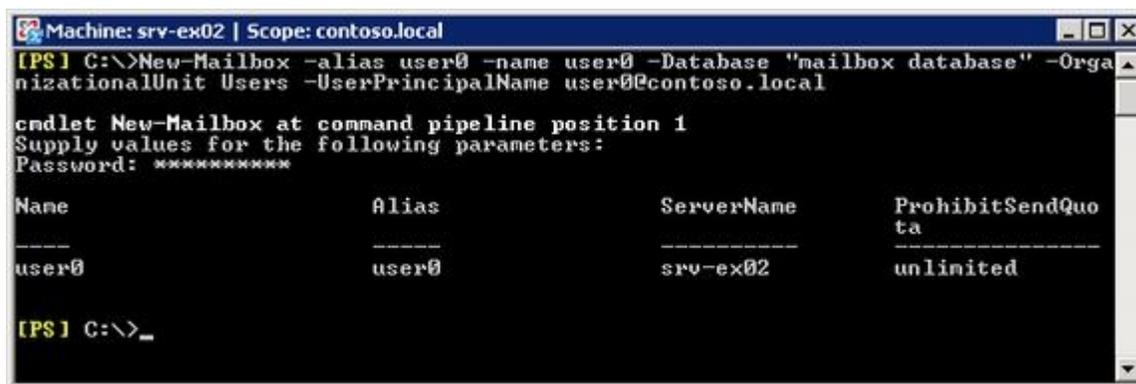
**Another way** to create users is by using the Exchange Management Shell. To do this, Administrator can use a cmdlet called New-Mailbox. There are many parameters associated with this commandlet, and the required parameters for the cmdlet are the following:

- Alias
- Name
- Database
- Organizational Unit
- User Principal Name

To create a user using Exchange Management Shell, Administrator can run the following cmdlet:

```
New-Mailbox -alias <alias> -name <name> -Database <Database name> -Organization Unit Users -UserPrincipalName <UPN value, example: Anderson@contoso.local>
```

If Administrator does not type all the required parameters, Administrator will get a prompt asking for the parameters that are missing. In Figure 08, Password prompt is visible to fill out the password. Users get created after entering the password.



```
Machine: srv-ex02 | Scope: contoso.local
[PS] C:\>New-Mailbox -alias user0 -name user0 -Database "mailbox database" -OrganizationalUnit Users -UserPrincipalName user0@contoso.local

cmdlet New-Mailbox at command pipeline position 1
Supply values for the following parameters:
Password: *****

Name                Alias                ServerName           ProhibitSendQuota
-----                -
user0                user0                srv-ex02             unlimited

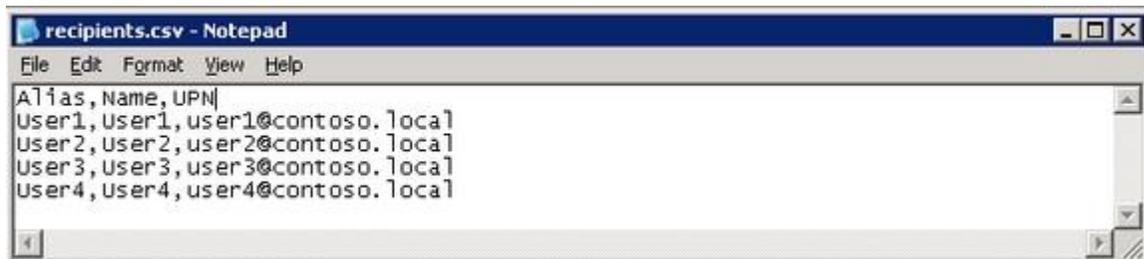
[PS] C:\>_
```

**Screenshot 08:** Creating a mailbox through the cmdlet New-Mailbox in the Exchange Management Console

### Using \*.csv files to create mailboxes

Another interesting feature is the one that lets an administrator to create several users from a \*.csv file. In the following section, Administrator will review a step by step procedure to create mailboxes:

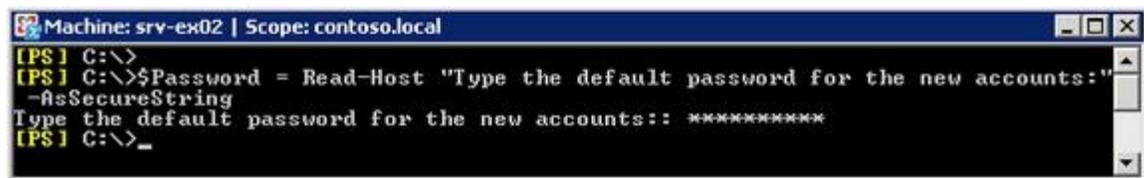
1. First of all, we will have to create a \*.csv file called **recipients.csv** on the root drive (**C :**) and administrator will type the column names for the file in the first line. Those columns will be the **Alias**, the **Name** and **UPN** in the following lines Administrator will complete the user information (Screenshot 09).



**Screenshot 09:** Creating a csv file to be used in the creation of users through Exchange Management Shell

2. Once the user information is complete, Administrator will have to create a variable in the Exchange Management Shell that will keep the initial password for all of the accounts on the recipients.csv file. To do so, Administrator can type the following:

```
$Password = Read-Host "Type the default password for the new accounts:" -AsSecureString
```



**Screenshot 10:** Creating a variable to keep the initial password on the new accounts

3. In the following step, Administrator can run two cmdlets using a pipe to create the new users using the \*.csv file. This is the syntax of our cmdlet:

```
Import-Csv recipients.csv | foreach { New-Mailbox -alias $_.Alias -name $_.Name -UserPrincipalName $_.UPN -Database "mailbox database" -OrganizationalUnit Users -Password $Password -ResetPasswordOnNextLogon:$true
```

The options are explained here:

- *\$\_.<Name>*: This is the name of each column of the recipients.csv file.
- *Foreach*: For each line of the file; Note: the first line is the header.
- *\$Password*: variable that administrator just typed in the previous step.

- *-ResetPasswordOnNextLogon:\$true*: If administrator set this parameter to true, all the users will have to change their password on the first logon.



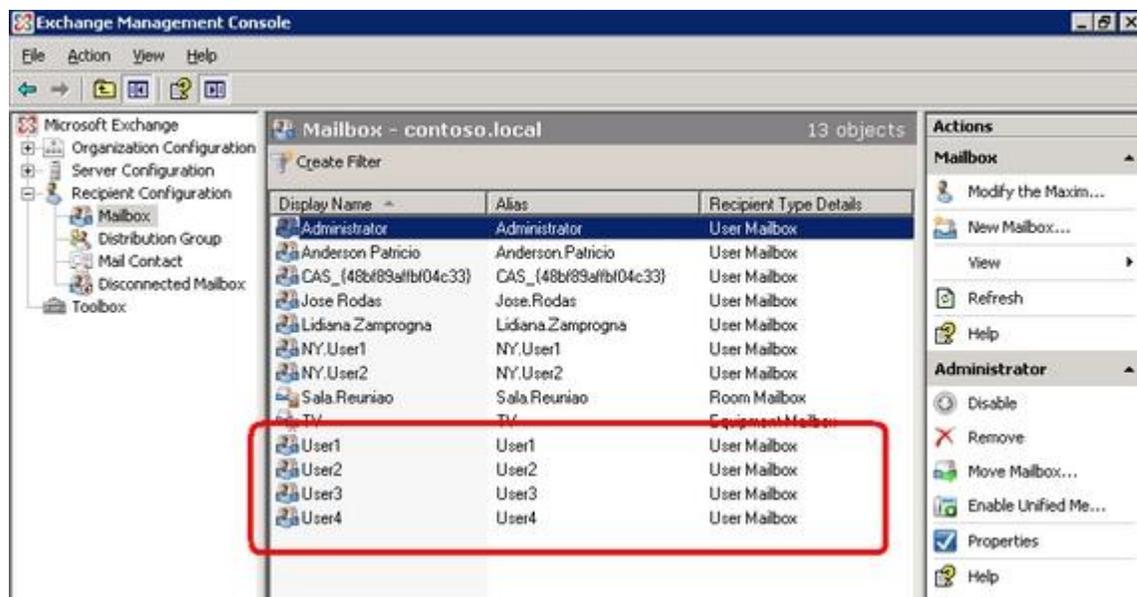
```

Machine: srv-ex02 | Scope: contoso.local
[PS] C:\>Import-Csv recipients.csv | foreach { New-Mailbox -alias $_.Alias -name
$_.Name -UserPrincipalName $_.UPN -Database "mailbox database" -OrganizationalUnit
nit Users -Password $Password -ResetPasswordOnNextLogon:$true }
Name                Alias                ServerName           ProhibitSendQuota
-----
User1                User1                srv-ex02             unlimited
User2                User2                srv-ex02             unlimited
User3                User3                srv-ex02             unlimited
User4                User4                srv-ex02             unlimited
[PS] C:\>_

```

**Screenshot 11:** Creating users through a \*.csv file

4. To check if the users were created, administrator will go to the **Exchange Management Console** (Screenshot 12).



**Screenshot 12:** The new users created through the csv file

## Managing Mailbox Features

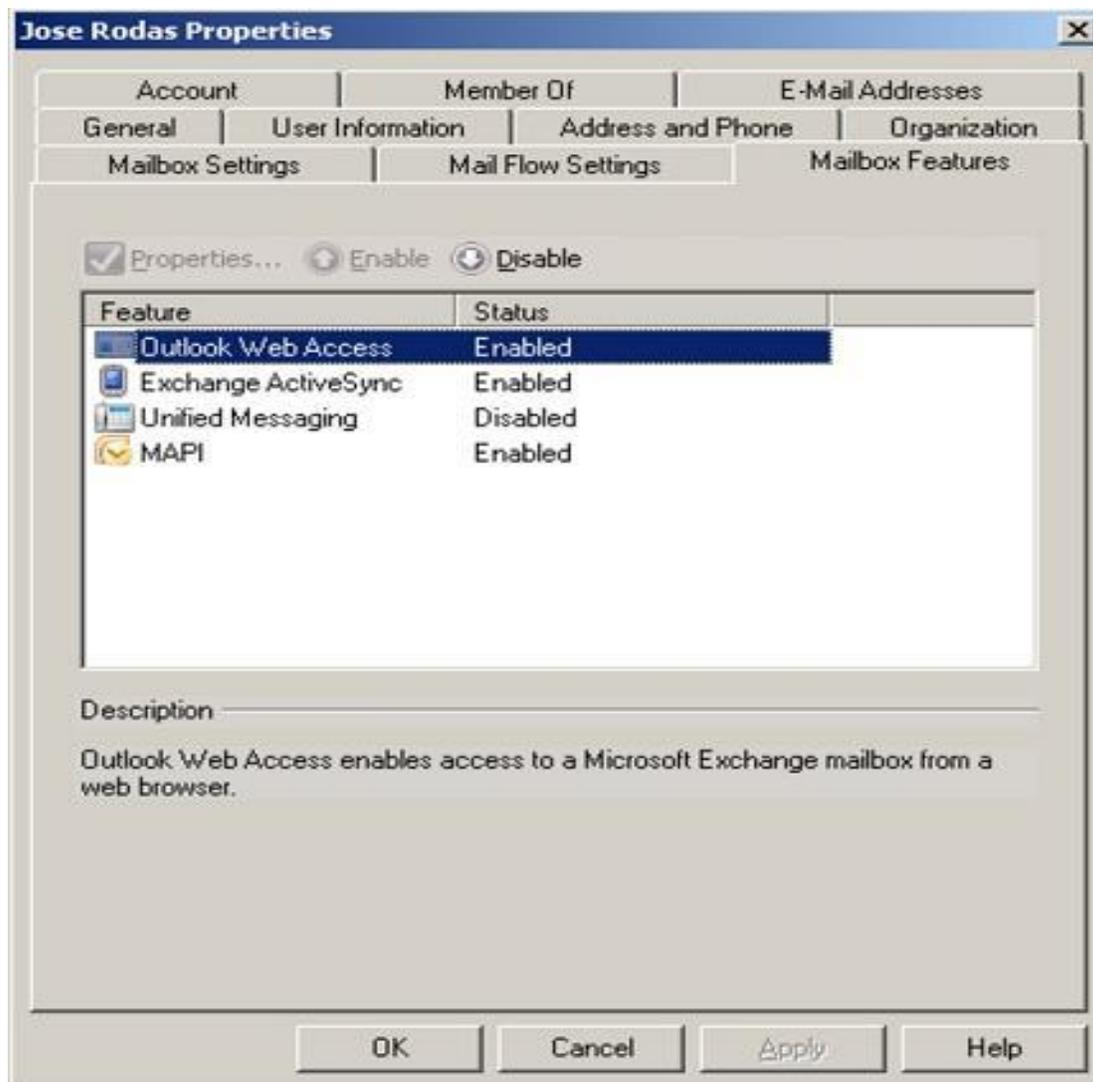
Administrator can manage functionalities at the user level, enabling or disabling the following features:

- OWA
- Exchange ActiveSync
- Unified Messaging
- MAPI access.

This task can be completed in two different ways; both will be detailed in the following sections:

### **Using the Exchange Management Console**

1. Open **Exchange Management Console**
2. Expand **Recipient Configuration**
3. Click on **Mailbox**
4. Click on the user and in **Toolbox Actions**, click on **Properties**
5. Click on **Mailbox Features** tab
6. Now administrator can see all the mailbox features of the user and administrator can disable or enable each functionality

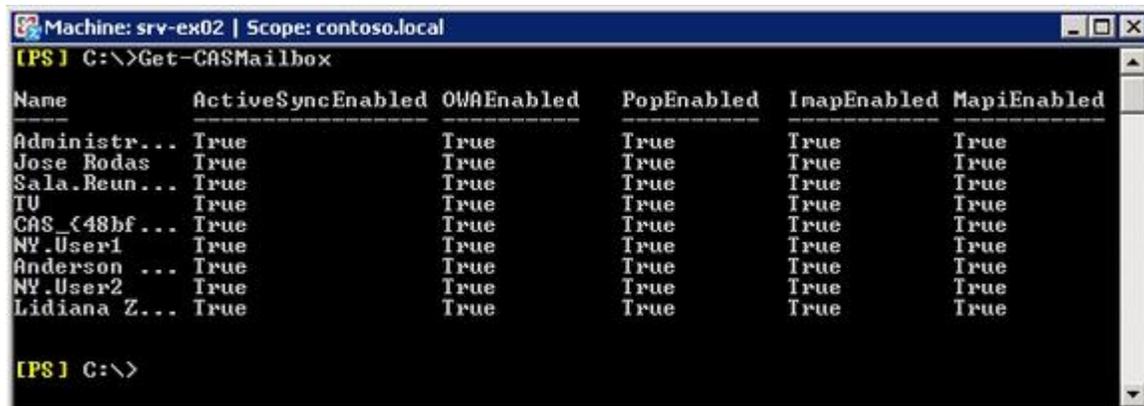


**Screenshot 13:** Managing Mailbox Features at user level

## Listing all the users and their features...

In some cases, Administrator has to verify the functionalities that users have, and there is no way to do this user by user. In Exchange Server 2007, this task is very easy, and can be done with a cmdlet called **get-casmailbox** (Screenshot 14).

Using this cmdlet, Administrator can export the results to a \*.csv file and can analyze it in Microsoft Excel and generate reports or analyze it any way he wants.



```
Machine: srv-ex02 | Scope: contoso.local
[PS] C:\>Get-CASMailbox
```

Name	ActiveSyncEnabled	OWAEnabled	PopEnabled	ImapEnabled	MapiEnabled
Administr...	True	True	True	True	True
Jose Rodas	True	True	True	True	True
Sala.Reun...	True	True	True	True	True
TU	True	True	True	True	True
CAS_(48bf...	True	True	True	True	True
NY.User1	True	True	True	True	True
Anderson ...	True	True	True	True	True
NY.User2	True	True	True	True	True
Lidiana Z...	True	True	True	True	True

```
[PS] C:\>
```

**Screenshot 14:** All the users with their functionalities through Exchange Management Shell

## Using Exchange Management Shell to change user features

To manage features using the Exchange Management Shell, administrator can use the cmdlet called **set-casmailbox**, as follows:

```
Set-casmailbox <User> -OWAEnabled:<Value>
```

Where: <user> is the user name; <Value> can be \$true or \$false

To show you the real impact of the use of the Exchange Management Shell, here is an example.

**Scenario:** There is a company with fifty (50) branch offices and administrator has to disable MAPI access for all users in Toronto.

How can he do this with the least administrative work?

First of all, administrator must insure that all the Active Directory information is consistent. In our scenario, all of the users have the attributes **City** and **StateorProvince** filled out correctly. One example of this is shown in the Figure 15 through cmdlets **get-user | select name, recipientType, City, StateorProvince**

```

Machine: srv-ex02 | Scope: contoso.local
[PS] C:\>get-user | select Name,RecipientType,City,StateOrProvince
Name                               RecipientType City           StateOrProvince
-----
Administrator                       UserMailbox Porto Alegre    RS
Guest                                 User
SUPPORT_388945a0                     User
krbtgt                                User
IUSR_SRU-EX02                         User
IWAM_SRU-EX02                         User
Jose Rodas                           UserMailbox Toronto      Ontario
Alexandre Nakano                     User
Rob Ranches                           MailUser
Sala.Reuniao.Fleury                  UserMailbox
TU                                    UserMailbox
CAS_<48bf89affbf...                 UserMailbox
Anderson Teste                       User
NY.User1                              UserMailbox
Anderson Patricio                    UserMailbox Toronto      Ontario
NY.User2                              UserMailbox
Lidiana Zamprogna                    UserMailbox Toronto      Ontario

[PS] C:\>_

```

**Screenshot 15:** Verifying the attributes City, State or Province of all the users

If all of the Active Directory information is consistent, Administrator can use the pipe resource on the Windows Power Shell, where an output from one command is used as input for another cmdlet.

Administrator will need some specific user attributes that he cannot get through **get-mailbox** because this cmdlet only returns mailbox information. Administrator will have to use the **get-user** cmdlet to filter the city attribute from users and combine these results with the **set-casmailbox** cmdlet.

To resolve this, Administrator can use this subset of cmdlets, as is shown in Screenshot 16.

```
Get-User | Where-Object {$_.City -eq "Toronto"} | Set-CasMailbox -OWAEnabled:$false
```

```
Machine: srv-ex02 | Scope: contoso.local
[PS] C:\>
[PS] C:\>Get-User | Where-Object < $_.City -eq "Toronto" > | Set-CASMailbox -OWAEnabled:$false
[PS] C:\>
[PS] C:\>Get-CASMailbox
```

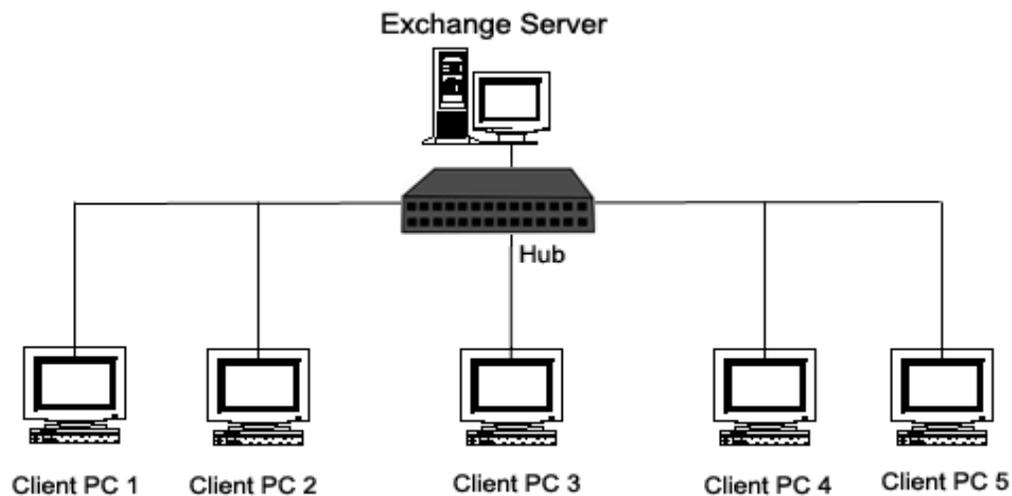
Name	ActiveSyncEnabled	OWAEnabled	PopEnabled	ImapEnabled	MapiEnabled
Administr...	True	True	True	True	True
Jose Rodas	True	False	True	True	True
Sala.Reun...	True	True	True	True	True
TU	True	True	True	True	True
CAS_<48bf...	True	True	True	True	True
NY.User1	True	True	True	True	True
Anderson ...	True	False	True	True	True
NY.User2	True	True	True	True	True
Lidiana Z...	True	False	True	True	True

```
[PS] C:\>_
```

**Screenshot 16:** Disabling OWA access of all of the users located in Toronto city and Ontario State and after that a list of the new user features

Now, administrator has setup mailboxes but, he wants to get connected to its clients then, he requires for connection. LAN plays the most important role in connecting with the users.

### LAN in Exchange Server



LAN means Local Area Network as it is understandable with the name; it connects machines in close geographical proximity, although exactly what "proximity" means can be stretched. The term "Wide Area Network" (WAN) is used for networks that expand beyond the campus or office; the Internet is the best known example of a WAN. (The Internet is also an "internet", a collection of networks acting as one.) Usually a WAN will have one or more slow links, perhaps over telephone lines between cities, whereas all the links

in a LAN will be fast. This difference in speed is important for optimizing the overall network performance. The usual use of the term "LAN," however, implies more services than simply making connections between local machines. On a LAN, we expect to share files, programs, or printers, all without being aware of the location of physical resources.

### **Types of LANs:**

#### Peer-to-peer LANs

All the machines on a peer-to-peer LAN are equal. Provided that the file's owners give permission, a file on machine A can be accessed from machine B, and vice versa. Peer-to-peer LANs do not require any one machine to be a dedicated, high-performance server; service by a peer-to-peer LAN is often cheaper for this reason. Peer-to-peer LANs work well when only a small number of machines are connected to it. But as the size of the LAN grows, peer-to-peer services can become quite disorganized, and because each machine on the LAN must be powerful enough to serve all of its peers, the cost increases. For larger LANs, the dedicated client-server LAN architecture becomes more cost effective.

#### Client-server LANs

A client-server LAN consists of one or more server machines on which shared files and programs reside and many client machines where people do their work. The LAN server machines are usually big and fast because they must serve many users, while the client machines need only be fast enough for one person to use at a time. Shared printers are either attached directly to a server, or to a print server (a specialized computer attached to the network), or to a personal computer on network that acts as a print server.

### **Importance of LAN in Exchange Server:**

Local area networks (LANs) have become a major tool to many organizations in meeting data processing and data communication needs. Prior to the use of LANs, most processing and communications were centralized; the information and control of that information were centralized as well. Now, LANs logically and physically extend data, processing and communication facilities across the organization. Security services that protect the data, processing and communication facilities must also be distributed throughout the LAN. For example, sending sensitive files that are protected with stringent access controls on one system, over a LAN to another system that has no access control protection, defeats the efforts made on the first system. Users must ensure that their data and the LAN itself are adequately protected. LAN security should be an integral part of the whole LAN, and should be important to all users. Electronic mail (email), a major application provided by most LANs, replaces much of the Inter office and even inter-organizational mail that is written on paper and placed in an envelope. This envelope provides some confidentiality between the sender and receiver, and it can even be argued that the integrity of the

paper envelope provides the receiver with some degree of assurance that the message was not altered. Electronic mail does not provide these assurances. Simple transfers on unprotected LANs or inadequately protected electronic mail messages can be captured and read or perhaps even altered. For some LANs, there can be no assurance that the message actually was sent from the named sender. Fortunately tools such as encryption, digital signatures, and message authentication codes help solve these problems and can help provide some assurance. Understanding the necessity to provide security on a LAN and how to decide the appropriate security measures needed are major goals of this document.

If the administrator wants to stop the access of Exchange Server mailbox among its clients then he is provided with two different options; Mounting and Dismounting of Exchange Server.

### **Mounting or Dismounting in Exchange Server**

**Mount in Exchange:** In some cases the Exchange Information Store Service (ISS) will detect that the Exchange databases have been restored from a backup copy. If so, ISS will refuse to mount the Exchange databases until you inspect them. You will need to manually mount the databases using the Exchange System Manager.

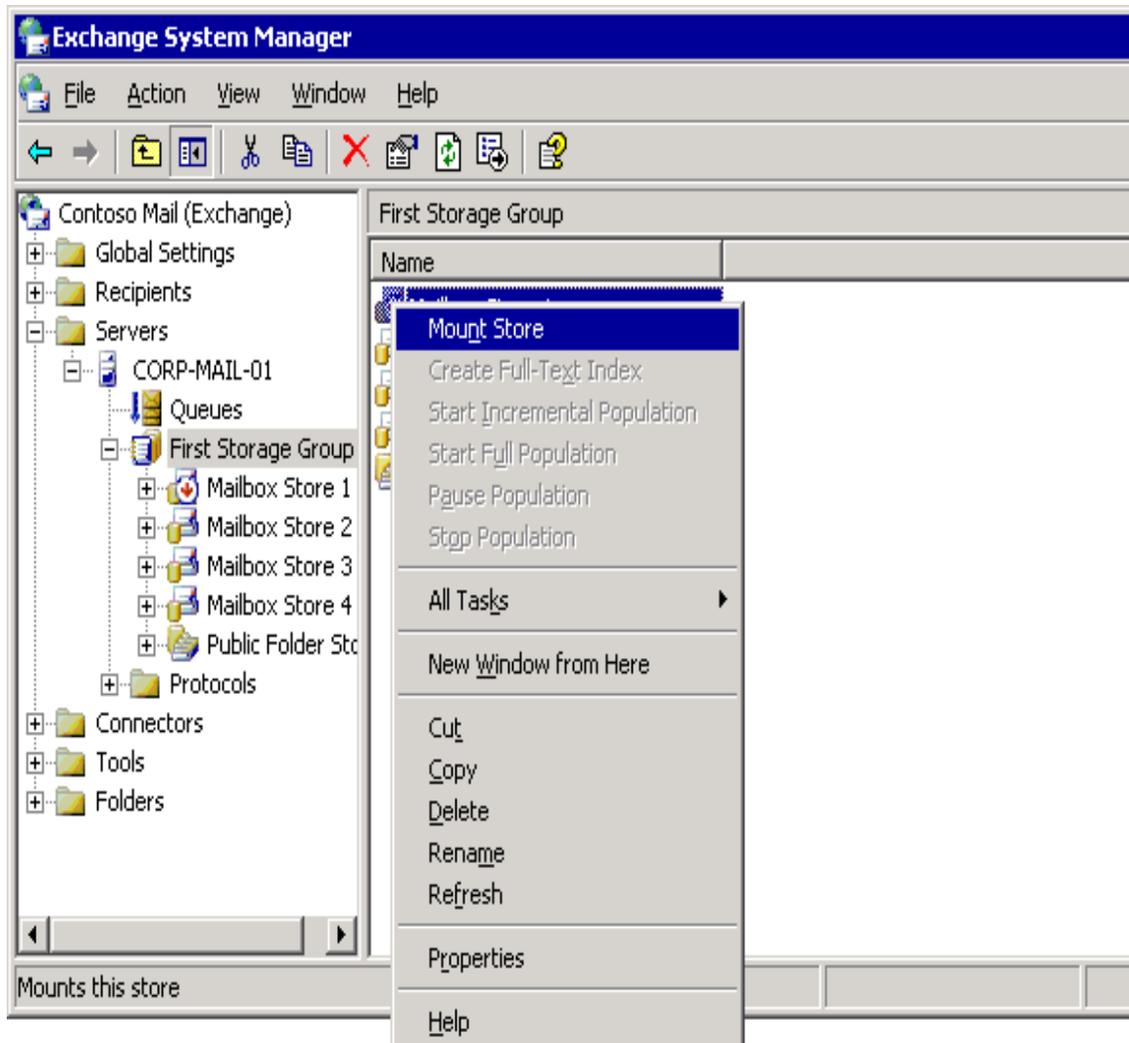
User can figure out if the Exchange databases are not mounted by looking at the Event Log. The Application Log will contain red error messages from the Exchange services. The messages will report "Mail store is not available" and "Exchange Server computer is not available."

### **How to Mount an Exchange Server?**

A simple procedure to mount Exchange Server:

1. First and foremost step is to open Exchange System Manager. Then, click 'Start' > 'Programs' > 'Microsoft Exchange', click 'System Manager'.
2. In Exchange System Manager, navigate to the database that you want to mount > right-click the database > click Mount Store.

To get it clearer see the screenshot depicted below:

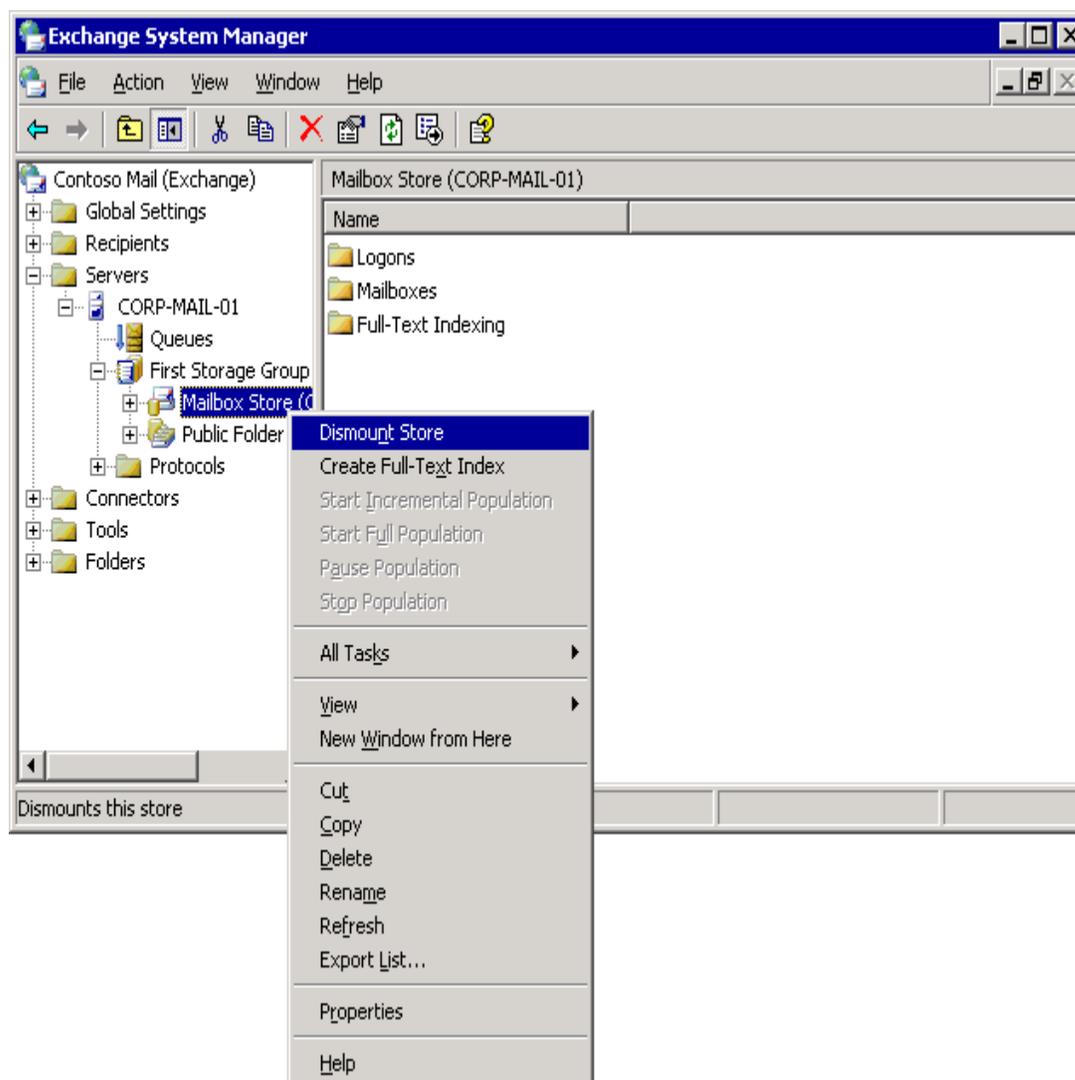


**Dismount in Exchange:** When user do not want to use Exchange then it is possible to 'Dismount' Exchange. To access Exchange externally, use POP3 service (which is not available), so for this, POP3 connector is required to be used.

### How to Dismount an Exchange Server?

1. Open Exchange System Manager. Click **Start**, point to **Programs**, point to **Microsoft Exchange**, and then click **System Manager**.
2. In Exchange System Manager, navigate to the database that you want to dismount, right-click the database, and then click **Dismount Store**.

## Dismounting a mailbox store



Whatever the database gets created in Exchange Server, it gets saved as an EDB file.

### What is EDB File?

EDB file is a Database created by Microsoft Exchange Server; serves as the main repository for the mailbox data saved by Exchange; stores both in-process and stored non-SMTP messages; formatted using a b-tree structure, which includes a top level node and many child nodes.

Priv1.edb and Pub1.edb are the main EDB files used for the Exchange information store. They each have a corresponding STM file that contains SMTP messages.

### **Types of EDB files:**

**Private Folder:** There is one storage group for all the mailboxes in Exchange Server. One EDB file is created for each Mailbox. Storage group is a folder that stores all the EDB files. The default name for an EDB file is priv1.edb, when the user creates one mailbox, its EDB file gets created automatically by the default name priv1.edb. When user creates second mailbox then, the EDB file creates with the name priv2.edb file. As User keeps on creating mailboxes, the EDB file creates automatically with the mailbox by its default name. At the time of the creation of an EDB file with new mailbox, two supportive files .stm and .log of EDB file also get created. STM file which is supportive file of EDB file includes all multimedia contents of an EDB file and supportive LOG file of EDB file includes all the information of Exchange Server.

The default location of the windows.edb files depends upon the system upon which it is installed. In Windows Vista and Windows 7 the default location is:

*C:\ProgramData\Microsoft\Search\Data\Applications\Windows\Windows.edb*

In Windows XP the default location is:

*C:\Documents and Settings\Application Data\All Users\Microsoft\Search\Data\Applications\Windows\Windows.edb*

In Exchange Server and Outlook, all the items are same except Public Folder.

**Public Folder:** To send one email to many users at a time, user (post) to send to all users. It is required to 'post' in Public Folder. This is sent to all the users. In order to exclude particular users it is possible to restrict, by using Active Directory or AD. The file created here is pub1.edb by default. One public folder is equal to pub1.edb. Now, the number of storage groups is equal to number of pub.edb.

### **EDB File Corruption:**

Working in MS Outlook environment, having Exchange Server in organization, every user is assigned with a mailbox. Suppose some of the employees have left the job, but users have been deleted without freeing their mailboxes from Exchange Server. In that situation when mailbox is not freed then there are chances of corruption in .edb files.

**Reasons for EDB file Corruption:** Some common reasons for EDB file corruption are improper system shutdown, malfunctioning operating system, system crash, and hardware failure or power outage. If Exchange Server's Information Store Service gets terminated inappropriately, the EDB file may get corrupt and become inaccessible.

**Penchant Exchange Server Recovery Software:** Using Exchange Server Recovery software, user can convert unusable EDB files into PST file format of Outlook. This software package is essential to retrieve inaccessible email data that has become inaccessible as a result of corruption. Using this software, tool it is easy to recover email messages, attachments, notes and journals, images, folders, tasks, appointments, Sent Items, permanently deleted items, email properties and all other items that are saved in user mailbox over Exchange Server.

### **What is Outlook.OST File?**

OST file means Offline Storage Table file of MS Outlook. Offline folders allow the users to work offline i.e. at times of disconnection of Exchange Server and then synchronize the changes later when they connect with the Exchange Server. The capability of working offline, that these OST files offer, is ideal for environments having limited or unreliable network connectivity. This feature of OST files allows a user to work in Server downtime situations too.

**Default Location of Outlook .ost File:** By default Outlook.ost files are created. Connected with Exchange Server go to Profile, the file created here is Outlook.ost. If using OS XP, then the default location is:

C:\Documents and Settings\user id\Local Settings\Application Data\Microsoft\Outlook

**Default Location of Outlook.ost file When Using Win 7:** When you are using Win7, then default location for Outlook.ost file is:

C:\Users\User Name\AppData\Local\Microsoft\Outlook\outlook.ost.

**Rename Outlook.ost File:** To rename Outlook.ost file, Browse >> Right Click and rename Outlook .ost.

**Corruption in Outlook.ost File:** When there is corruption in Exchange Server, then OST files become unusable. It becomes difficult to use those OST files for performing any operations, users can access OST files however it becomes difficult to use them for any work operations. Users cannot use them because it is just the copy of Exchange account in encrypted format. It is used by Outlook internally. Users cannot view OST files Outlook uses it to show the contents of account when connection to Exchange is not possible, since OST file is in encrypted format user can't view it in any ways. When Exchange server crashes it is still possible to view emails, sent items using

Outlook but cannot use them.

**Scenarios When Outlook.ost Files Become Unusable:** Using MS Outlook, all the data is stored in PST files. While working with Exchange Server all the database is stored in OST files (Offline Storage File) which has various items like calendars, contacts, journals, to do list, tasks, notes, appointments., meetings, etc. Outlook.ost files get damaged because of various reasons like:

- Trojan Infection
- Virus Attack
- Exchange Server Crash
- OST Corruption
- Damaged database
- Hardware failures
- Software malfunctioning
- Unexpected application or Server shutdowns
- Bad sectors
- In sufficient storage space to back up enormous OST files
- Email account of some users from the Server mistakenly deleted
- OST desynchronized with Server, or old Server upgrade to new
- Rebuilding information stores in Exchange, or Surfacing of CRC errors while copying heavy OST file from one location to other

**Need to Repair OST File** - If you work with an organization or company means if you are using Exchange server, then you need to repair OST files in case they are damaged. Entire metadata or mailboxes of Outlook stores in OST file. After corruption in OST files it is important to repair OST files.

### **Methods to Repair OST File**

**Conversion from OST to PST Can Curb Downtime and User Can Return to Work:** If user does not want to wait till the Exchange server is live state again and Converting OST to PST is the solution left. Since both Exchange is crashed and OST is corrupted and to see emails before Exchange is reusable state. It also supports header overwritten OST file to convert into PST. Corruption will not allow you to access OST files and its components. Corruption in Exchange Server hit the communication channels and this brings halt to work operations. After Exchange Server crash, error message encountered when user try to open damaged OST files:

**Manual Method to Convert OST to PST:** When Exchange Server is live and in functional state then manual method to convert OST to PST can be used:

- Search damaged OST files after corruption
- Convert OST files, from OST to PST format (After Conversion of OST

to PST; Import that PST into Exchange server

- Exchange Server will generate OST file again

**Impeccable OST to PST Solution:** In case, when Exchange Server is not live then third-party solution is helpful. One commercial software can be used is SysTools OST Recovery software. This software can convert OST files to PST so that unusable OST files can become usable and various operations can be performed. This software application is helpful and has large number of features galore in its basket.

- This software recovers corrupted PST files, export recovered file in PST format, export recovered file in EML format, export recovered file in MSG format.
- Software can open OST and can recover file as PST, EML, and MSG
- Software Display Hierarchy while converting OST to PST
- This software package can convert OST emails into PST and can recover "from", "To", "CC", "Subject", "Body", "HTML", "Attachment", "inline images", "Sent Date &Time"
- Software can Set "Sent" Property when converting from OST to PST.
- Software can convert "Contacts", "Account", "Address Selected", "Address Selector", "Anniversary", "Assistant's Name", "Assistant's Phone", "Attachment", "Billing information", "Birthday", "Business Address", "Business Address City, Country, PO Box, Address Postal Code, State, Street, Fax, Phone, call back, Call Back, Categories"
- Software can convert OST "City", "Company Main Phone", and "Network name" to PST
- Software can convert Contacts including "Country/region", "Customer ID", and "Department"
- Software can work smoothly with Outlook versions 2010, 2007, 2003, 2002 and 2000
- Original formatting of RTF and HTML retained
- There is helpdesk for the software where user can resolve their issues, if any, as support team is there to help them.

**FREE Demo Version:** The software is provided in FREE demo version facility which contains complete working process and features of the software to understand the software is a proper way. Download the demo version of the software FREE of cost to see what the software is up to. Demo version will help users to preview the entire recoverable and converted items from OST to PST. Using Demo Version, it is not possible to save them because saving option is restricted in demo version.

**Full Licensed Version:** Full Licensed version of the software is available to save the converted items of OST to PST. The software is available in three licenses which can be bought as per the requirement of the user. For more info go to the website: <http://www.ost-to-pst.com/>