



# MangoChat.net Developer Guide 3.0

Startup guide for the developers

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# 1. Overview

MangoChat.net is a full-featured ASP.NET chat component which allows website owners to add chat functionality to their website. It includes features such as high load support, font/color/customization, emoticons and many more! The best thing about MangoChat.net is that it's a web control and is really easy to implement.

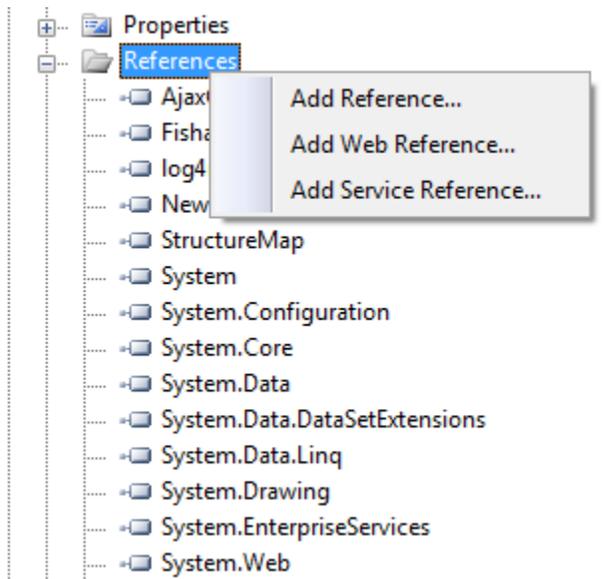
# 2. Getting Started

Integrating basic chat functionality to your website is really easy with MangoChat.net. Just follow the following steps and MangoChat.net will start its magic on your website. We have divided it into sections based on MangoChat.net configuration:

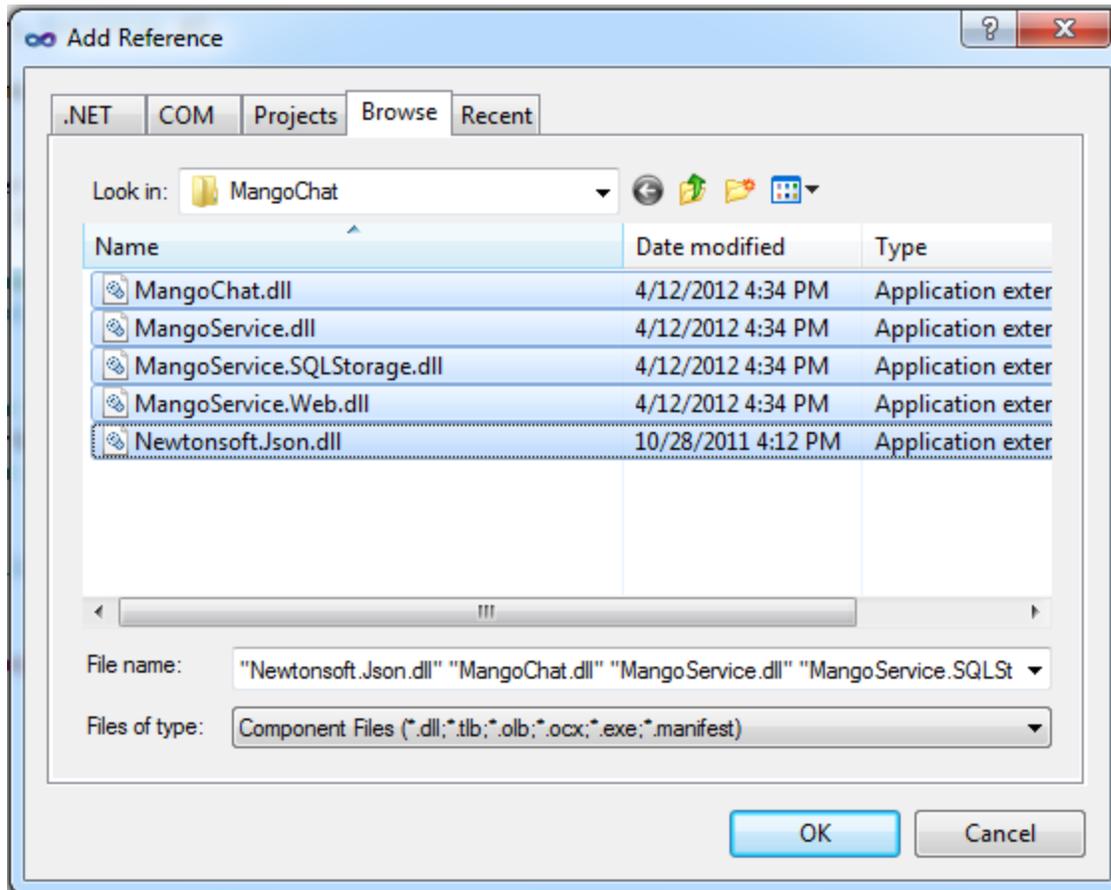
## 2.1. Web Project

To start using features of MangoChat.net you will have to add reference of MangoChat.net binaries in your project. The steps for adding reference are:

- 1) Right click on References folder in your web project and click Add Reference as shown in below image.



- 2) Select all the binaries from binaries folder as shown in image below and click OK. Now your project is ready to use features of MangoChat.net.



## 2.2. Web.config

MangoChat.net requires registration of httpHandlers in Web.config. These settings can vary from deployment on IIS 6 to IIS 7 web server:

### *IIS 6 Configuration:*

In `<httpHandlers>` section under `<system.web>` add:

```
<add verb="*" path="pub.axd"
type="MangoService.Web.Handlers.PublishHandler, MangoService.Web"
validate="false"/>

<add verb="*" path="sub.axd"
type="MangoService.Web.Handlers.SubscribeHandler, MangoService.Web"
validate="false"/>

<add verb="*" path="res.axd" type="MangoChat.ChatResourceHandler,
MangoChat" validate="false"/>
```



### *IIS 7 Configuration:*

In `<system.webServer>` section add:

```
<validation validateIntegratedModeConfiguration="false"/>
<handlers>

<add name="MangoServicePublishHanlder" verb="*" path="pub.axd"
type="MangoService.Web.Handlers.PublishHandler, MangoService.Web" />

<add name="MangoServiceSubscribeHanlder" verb="*" path="sub.axd"
type="MangoService.Web.Handlers.SubscribeHandler, MangoService.Web" />

<add name="MangoChatResourceHanlder" verb="*" path="res.axd"
type="MangoChat.ChatResourceHandler, MangoChat" />

</handlers>
```

## 2.3. Global.asax.cs:

These set of steps in Global.asax.cs starts the MangoChat.net service and instructs it from where to get the chat user details. We have also added comments in code for better understanding:

- 1) In Application\_Start add following code:

```
protected void Application_Start(object sender, EventArgs e)
{
    // Starts MangoChat.net service
    ChatService.Start();

    // Register delegates for retrieving chat user details
    ChatService.OnUserInfoRequired += new Action<OnUserInfoRequiredEventArgs>
        (ChatService_OnUserInfoRequired);
}
```

- 2) This delegate method will be used by MangoChat.net control for retrieving chat user details. We have used FakeDAL over here just to give an overview how it will look like. You can use your own code for retrieving user details here.

```
void ChatService_OnUserInfoRequired(OnUserInfoRequiredEventArgs obj)
{
    var dbUser = DAL.FakeDAL.GetUserById(Convert.ToInt32(obj.UserId));
    var user = new User { UserId = dbUser.UserId.ToString(),
        Username = dbUser.DisplayName};
    obj.User = user;
}
```



## 2.4. Master Page

Below lines of JavaScript will initialize MangoChat.net resources and render MangoChat.net control on page. It's generally recommended that a Master Page should be used but these lines can also be added for any other page where you want to show MangoChat.net control:

```
<%--For including resources of MangoChat.net control--%>
<script type="text/javascript" src="res.axd?v=49.0"></script>

<%-- Initializing and starting MangoChat.net control--%>
<script type="text/javascript">
    jq(function() {

        mcClient = new MangoChatClient();
        mcClient.start();
    });
</script>
```

## 2.5. Login-In Page

Add below code where you want to start user chat session. In most scenarios a website will like to start user chat session whenever a user is logged in system. Therefore the best practice will be to add below snippet where the user's logged in website. We have added comments in below code to aid in better understanding:

```
/*
 * This is a dummy method which returns currently logged in user.
 * You can have your own implementation here.
 */
var currUser = GetCurrentLoggedInUser();

// This method will start MangoChat.net user chat session
ChatService.StartUserSession(HttpContext.Current,
    new MangoChat.User
{
    // Unique user id by which MangoChat.net control will keep track of user
    UserId = currUser.AccountID.ToString(),
    // User name to display in control
    Username = currUser.Username,
    // User avatar or display picture absolute path to be shown in control
    ImageUrl = currUser.ProfileImageUrl
});
```



## 2.6. Log-Out Page

Add below code snippet when you want to log out user chat session. Best practice will be to add this code snippet whenever a user logs out from website:

```
ChatService.StopUserSession(HttpContext.Current);
```

Finally MangoChat.net is ready to show its magic. Run the application in two different browsers (e.g. Chrome and Firefox) to try it out.

## 3. Contact List

Generally different websites will like to have different logic for chat mechanism depending on their nature of business. For example a Social Networking site will like to allow a user to chat to his friends only whereas in a technical support website a customer will only be allowed to chat to technical support representatives. To cater this with MangoChat.net is really easy. All you have to do is to do following changes in Global.asax.cs:

- 1) In Application\_Start register a delegate for retrieving contact list:

```
protected void Application_Start(object sender, EventArgs e)
{
    // Starts MangoChat.net service
    ChatService.Start();

    // Register delegates for retrieving chat user details
    ChatService.OnUserInfoRequired += new Action<OnUserInfoRequiredEventArgs>
        (ChatService_OnUserInfoRequired);

    // Register delegates for retrieving contact details
    ChatService.OnContactsRequired += new Action<OnContactsRequiredEventArgs>
        (ChatService_OnContactsRequired);
}
```

- 3) Delegate method for retrieving contact list of logged in user. We have used FakeDAL over here just to give an overview how it will look like. You can use your own code for retrieving user details here.

```
void ChatService_OnContactsRequired(OnContactsRequiredEventArgs obj)
{
    var users = DAL.FakeDAL
        .GetAllContacts(Convert.ToInt32(obj.User.UserId)).ToList();

    foreach (DAL.User dbUser in users)
    {
        var user = new Contact
```



```
        {
            UserId = dbUser.UserId.ToString(),
            Username = dbUser.DisplayName,
            ImageUrl = VirtualPathUtility.ToAbsolute(dbUser.ImageUrl)
        };
        obj.Contacts.Add(user);
    }
}
```

## 4. Data Providers

### 4.1. Built in Data Providers

MangoChat.net provides you with two chat data storage options out of the box.

- In-Memory
- Microsoft SQL Server

In-Memory is the default option for MangoChat.net. Converting it to Microsoft SQL Server storage mode is really simple. All you have to do is to follow these steps.

- 1) MangoChat.net makes use of tables in SQL Server to execute in SQL Server storage mode. Schema.sql (included in package) will be needed to execute on your database
- 2) In Web.config add connection string under `<connectionStrings>` of your database, for example:

```
<connectionStrings>
<add name="MangoService.SQLStorage.Properties.Settings.MangoDBConnectionString"
      connectionString="Data Source=.\SQLEXPRESS;Initial Catalog=MangoDB;
      User ID=sa;Password=xxx"
      providerName="System.Data.SqlClient" />
</connectionStrings>
```

- 3) In Global.asax.cs add one line in Application\_Start to initialize `IStorageProvider` property i.e. Storage of `Service`:

```
protected void Application_Start(object sender, EventArgs e)
{
    // Initialize SQL server storage provider
    Service.Instance.Storage = new SQLServerStorageProvider();

    // Starts MangoChat.net service
```



```
ChatService.Start();

// Register delegates for retrieving chat user details
ChatService.OnUserInfoRequired += new Action<OnUserInfoRequiredEventArgs>
    (ChatService_OnUserInfoRequired);

// Register delegates for retrieving contact details
ChatService.OnContactsRequired += new Action<OnContactsRequiredEventArgs>
    (ChatService_OnContactsRequired);
}
```

Now MangoChat.net control is ready to execute in SQL Server storage mode. You can check it by checking rows in MangoChat.net tables that you created before on your database.

## 4.2. Custom Data Providers

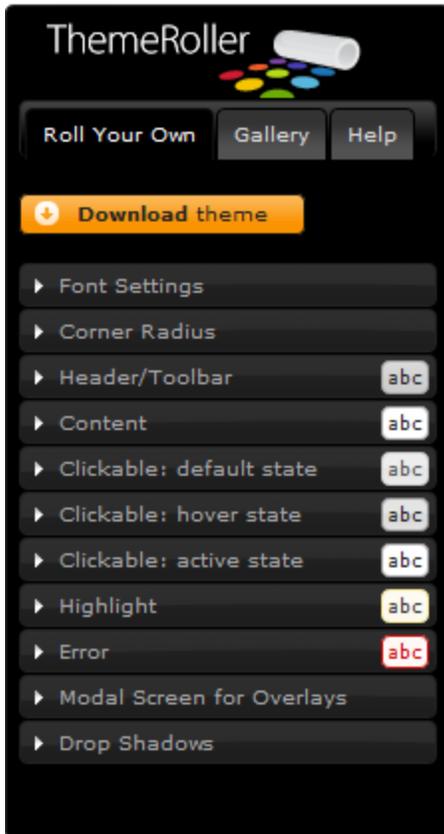
MangoChat.net also has the option of working with other data providers i.e. Oracle, MySql etc. All you have to do is to implement the `IStorageProvider` interface and initialize `Service.Instance.Storage` with your implementation in `Application_Start`. An example of its implementation can be found in demos.

# 5. Miscellaneous Features

## 5.1. Themes

MangoChat.net uses the jQuery UI CSS Framework to style itself. jQuery is the most used java script library due to its wide array for plug-in and exceptional ease of use. jQuery UI is the official set of UI widgets provider by the jQuery team.

What this means is that if you already use jQuery UI for your UI components, MangoChat.net can automatically use the theme that you are using for your application. If not you can design a custom theme using the brilliant 'ThemeRoller' tool provided by jQuery UI. You can find it at <http://jqueryui.com/themeroller/>. Once you have designed your theme just presses download and you'll get a zip file containing all the required css and image files.



Once you've imported the css files into your pages, you just need to add one line in JavaScript before MangoChat.netClient is initialized and started i.e.

```
<script type="text/javascript">
  // Change css folder path of chat control for changing theme
  MangoChatConfig.Stylesheets.ThemeStylesheetUrl =
  '<%= ResolveUrl("~/css/redmond/jquery-ui-1.8.18.custom.css") %>';

  jq(function() {

    mcClient = new MangoChatClient();
    mcClient.start();

  });
</script>
```

## 5.2. Grouping

Grouping can be enabled on MangoChat.net by following steps:

- 1) Add a single line in JavaScript before MangoChat.netClient is initialized and started i.e.



```
<script type="text/javascript">
  // Enables grouping feature in chat controls
  MangoChatConfig.GroupsEnabled = true;

  // Change css folder path of chat control for changing theme
  MangoChatConfig.Stylesheets.ThemeStylesheetUrl =
  '<%= ResolveUrl("~/css/redmond/jquery-ui-1.8.18.custom.css") %>';

  jq(function() {

    mcClient = new MangoChatClient();
    mcClient.start();
  });
</script>
```

2) Specify contact group when contact users are retrieved Global.asax.cs i.e.

```
void ChatService_OnContactsRequired(OnContactsRequiredEventArgs obj)
{
    var users = DAL.FakeDAL
        .GetAllContacts(Convert.ToInt32(obj.User.UserId)).ToList();

    foreach (DAL.User dbUser in users)
    {
        var user = new Contact
        {
            UserId = dbUser.UserId.ToString(),
            Username = dbUser.DisplayName,
            ImageUrl = VirtualPathUtility.ToAbsolute(dbUser.ImageUrl),
            // Users are grouped on the basis of first character in display name
            ContactGroup = dbUser.DisplayName.Substring(0,1)
        };
        obj.Contacts.Add(user);
    }
}
```

## 5.3. Localization

MangoChat.net makes it really easy to localize text. All you have to is to set properties of MangoChatConfig.Literals object in JavaScript e.g.

```
MangoChatConfig.Literals.Contacts = "Contacts";
MangoChatConfig.Literals.Available = "Available";
MangoChatConfig.Literals.Busy = "Busy";
MangoChatConfig.Literals.Offline = "Offline";
MangoChatConfig.Literals.AppearOffline = "Appear Offline";
MangoChatConfig.Literals.NoOnlineUsers = "No online users";
MangoChatConfig.Literals.Ungrouped = "Ungrouped";
MangoChatConfig.Literals.Minimize = "Minimize";
MangoChatConfig.Literals.Maximize = "Maximize";
MangoChatConfig.Literals.Close = "Close";
```



```
MangoChatConfig.Literals.UserIsTyping = "{Username} is typing...";
MangoChatConfig.Literals.NewMessagesFrom = "New Messages From: {Usernames}";
MangoChatConfig.Literals.AddContact = "Add Contact";
MangoChatConfig.Literals.GroupStartAnnouncement = "This is a group
conversation. You can add more contacts by dragging them here.";
MangoChatConfig.Literals.GroupMemberJoined = "{Username} has joined";
MangoChatConfig.Literals.GroupMemberLeft = "{Username} has left";
```

## 5.4. Time Stamp Format

Changing time stamp format in MangoChat.net is really easy. All you have to do is to set `MangoChatConfig.TimestampFormat` property in JavaScript. The patterns for setting date and time stamp format are:

- yy = short year
- yyyy = long year
- M = month (1-12)
- MM = month (01-12)
- MMM = month abbreviation (Jan, Feb ... Dec)
- MMMM = long month (January, February ... December)
- d = day (1 - 31)
- dd = day (01 - 31)
- ddd = day of the week in words (Monday, Tuesday ... Sunday)
- h = hour in am/pm (0-12)
- hh = hour in am/pm (00-12)
- HH = hour in day (00-23)
- mm = minute
- ss = second
- SSS = milliseconds
- a = am/pm marker

For example `MangoChatConfig.TimestampFormat = "hh:mm:ss"` will show time stamp format like 02:39:03 (two hours thirty nine minutes and three seconds).

## 5.5. Other Features

**MangoChatConfig** object has other properties as well which can be set before calling `MangoChatClient` start function:

No.	MangoChatConfig Property	Example
1	<b>MangoChatConfig.Stylesheets.LayoutStylesheetUrl</b> property specifies which style sheet to use for layout of chat control	MangoChatConfig.Stylesheets.LayoutStylesheetUrl = '<%= ResolveUrl("~/css/customlayout.css") %>';
2	<b>MangoChatConfig.SoundNotificationUrl</b> property specifies which notification sound to use at time of message receiving	MangoChatConfig.SoundNotificationUrl = '<%= ResolveUrl("~/sound/customsound.mp3") %>';
3	<b>MangoChatConfig.DefaultChatDialogState</b> property specifies default state of chat dialog (i.e. Minimized or Maximized) when control is first time loaded	Possible values: 0=>Maximized, 1=>Minimized MangoChatConfig.DefaultChatDialogState = 0;
4	<b>MangoChatConfig.DefaultContactsDialogState</b> property specifies default state of contacts dialog (i.e. Minimized or Maximized) when control is first time loaded	Possible values: 0=>Maximized, 1=>Minimized MangoChatConfig.DefaultContactsDialogState = 0;
5	<b>MangoChatConfig.HideOfflineUsers</b> property specifies whether to show or hide offline users	MangoChatConfig.HideOfflineUsers = <b>true</b> ;
6	<b>MangoChatConfig.AvatarsEnabled</b> property specifies whether to display avatars or not	MangoChatConfig.AvatarsEnabled = <b>false</b> ;
7	<b>MangoChatConfig.ContactsWindowVisible</b> property specifies whether to show contacts window or not	MangoChatConfig.ContactsWindowVisible = <b>true</b> ;
8	<b>MangoChatConfig.LeftAlignWindows</b> property specifies if the windows need to be aligned to the left edge of the browser window instead of to the right by default	MangoChatConfig.LeftAlignWindows = <b>true</b> ;
9	<b>MangoChatConfig.AvatarClicked</b> callback has been added to notify when the avatar of a user is clicked	MangoChatConfig.AvatarClicked = <b>function</b> (userId){ alert(userId); };



## 6. Code Sample

We have also included code samples which can help you in integrating MangoChat control in your website. Samples have been designed according to the section covered in documentation:

- 1) Getting Started
- 2) Contact List
- 3) Data Providers
- 4) Custom Data Providers
- 5) Miscellaneous Features

## 7. FAQ

1. Can I change the font size of text in the chat dialog?  
**Ans:** Yes it can be changed through *MangoChatConfig.Stylesheets.LayoutStylesheetUrl* property. Its reference can be found in section 5.4. CSS classes can be identified through any inspection tool in browser e.g. Firebug for Firefox, developer tools for IE etc.
2. Can I use mango chat with MySql? How do I do that?  
**Ans:** Yes it can be used. Refer to section 4.2 for further details
3. Chat is working ok on my development machine but when I deployed it on my production server it is not working.  
**Ans:** It might be due to different http handlers setting of IIS 7 in Web.config. Refer to section 2.2 for further details.
4. When I uploaded mango chat on my cloud hosting it has stopped working.  
**Ans:** Due to distributed environment of cloud hosting, it doesn't support In-Memory data storage option of MangoChat.net. You have to change it to SQL Server or Custom Data Provider data storage option. Refer to section 4 for further details.



5. I want to hide the Avatar image that shows in the chat dialog. Is there a way I can do that?

**Ans:** Yes it can be done through `MangoChatConfig.AvatarsEnabled` property. Refer to section 5.4 for further details.

6. Can I resize the chat dialog height? Also same for the contact list dialog. Also how can I have different height for the chat dialogs and contact list?

**Ans:** Yes it can be changed through `MangoChatConfig.Stylesheets.LayoutStylesheetUrl` property. Refer to section 5.4 for further details. CSS classes can be identified through any inspection tool in browser e.g. Firebug for Firefox, developer tools for IE etc.

7. My website has support for more than 10 languages. How do I implement that with mango chat so that when the language on my website changes the mango chat language also changes accordingly?

**Ans:** Yes can be done. Refer to section 5.3 for further details.

8. How does `DefaultContactsWindowState` work?

**Ans:** It has been changed in new version of MangoChat.net. It can be set by property `MangoChatConfig.DefaultContactsDialogState`. Refer to section 5.4 for further details.

9. How can I turn the sound off which is played on message received and sent?

**Ans:** Yes it can be turned off by setting `MangoChatConfig.SoundNotificationUrl` to null. Refer to section 5.4 for further details.

10. How can I completely disable emoticons from mango chat? I do not want the emoticons to work at all.

**Ans:** Not possible in current version. We have planned it for future version.

11. How can I remove some of the emoticons? Some of them are causing an issue and I do not want them.

**Ans:** Not possible in current version. We have planned it for future version.

12. Can I change the position of the contact list?

**Ans:** Yes by setting value of `MangoChatConfig.LeftAlignWindows`. Refer to section 5.4 for further details.

13. Can I get a list of online users?

**Ans:** Yes by using `Service.Instance.Storage.GetAllClientIds()` method from code behind which returns list of client id for online users.

14. Can I get the status online/offline/busy of a user outside of the chat box? I want to show the user status on the profile page of my site.  
**Ans:** Yes this can be checked by using `ChatService.GetUserCustomStatus(int userId)` method from code behind where `userId` is unique id of chat user.
15. Can I open the chat dialog on a button click? I don't want to show the contact list. Instead I want to have a button on which the chat dialog should open.  
**Ans:** Chat list can be hidden by setting `MangoChatConfig.ContactsWindowVisible` property. Refer to section 5.4 for further details. But there is not direct way of opening chat dialog on button click. Instead you can use CSS to hide or show chat dialog
16. When User A and B are chatting and if B goes offline I want a notification to go to A that B has left the chat and is not online. Can I do that?  
**Ans:** No a message is not shown but the icon color is changed from green to gray.
17. Does mango chat have support for offline messages? If User A and B are chatting and if user B goes offline any messages sent by A after that will be shown to B when they next login?  
**Ans:** Yes it's available.
18. Can I show offline users in the contact list?  
**Ans:** Yes by setting `MangoChatConfig.HideOfflineUsers` property value. Refer to section 5.4 for further details.
19. How many over load of `StartSession` are there? How do I know which one to call?  
**Ans:** In previous versions of `MangoChat.net` we used to have more than one overload of `StartSession`. But in current version there are no overloads of `StartSession` available due to avoiding complexity. Refer to section 2.5 for further details.
20. Is there a logout button in `MangoChat.net`? How do I implement logout?  
**Ans:** No there's no logout button available in `MangoChat.net`. One has to call explicitly `ChatService.StopUserSession(HttpContext.Current)` method from code behind. Refer to section 2.6 for further details.
21. Chat photo name is not displaying. What are the available URL formats for the photo URL?  
**Ans:** It's recommended that Absolute URL of photo should be provided.
22. Does mango chat work with medium trust?  
**Ans:** Yes it works.

23. My contact list shows up when the user first logs in but then after few seconds it disappears. Why is this happening? I am using a custom contact list provider.

**Ans:** It's because you are trying to use session variable in custom contact list provider. MangoChat.net has avoided using session in request handlers due to the benefit of performance. Otherwise using session can apply lock on it affecting performance in negative manner.

24. Is there a way we can encrypt messages that are being saved in the Database?

**Ans:** Yes it can be done easily in overridden implementation of IStorageProvider where you can use your own method for encryption and decryption of message.

25. I noticed that the database is being called every time few second. How can I reduce the number of database calls being made?

**Ans:** Again it's in your hands where you can implement cache in overridden implementation of IStorageProvider.

26. I am getting the error there is already a chat session active for the current user. Please stop it first.

**Ans:** ChatService.StartUserSession() will always stop previous user session before starting a new one. So, this error won't be shown in current version of MangoChat.net