JAVAMAIL API - CORE CLASSES

The JavaMail API consists of some interfaces and classes used to send, read, and delete e-mail messages. Though there are many packages in the JavaMail API, will cover the main two packages that are used in Java Mail API frequently: *javax.mail* and *javax.mail.internet* package. These packages contain all the JavaMail core classes. They are:

Class	**Description**
javax.mail.Session	The key class of the API. A multithreaded object represents the connection factory.
javax.mail.Message	An abstract class that models an e-mail message. Subclasses provide the actual implementations.
javax.mail.Address	An abstract class that models the addresses *fromandtoaddresses* in a message. Subclasses provide the specific implementations.
javax.mail.Authenticator	An abstract class used to protect mail resources on the mail server.
javax.mail.Transport	An abstract class that models a message transport mechanism for sending an e-mail message.
javax.mail.Store	An abstract class that models a message store and its access protocol, for storing and retrieving messages. A Store is divided into Folders.
javax.mail.Folder	An abstract class that represents a folder of mail messages. It can contain subfolders.
javax.mail.internet.**MimeMessage**	Message is an abstract class, hence must work with a subclass; in most cases, you'll use a MimeMessage. A MimeMessage is an e-mail message that understands MIME types and headers.
javax.mail.internet.**InternetAddress**	This class represents an Internet email address using the syntax of RFC822. Typical address syntax is of the form *user@host.domain* or *Personal Name <user@host.domain>*.

Let us study each of these classes in detail and in the subsequent chapters we shall study examples using each of these.

Session Class

The *Session* class is the primary class of the JavaMail API and it is not subclassed. The *Session* object acts as the connection factory for the JavaMail API, which handles both configuration setting and authentication.

Session object can be created in the following ways:

- By looking up the administered object stored in the JNDI service

```
InitialContext ctx = new InitialContext();
Session session = (Session) ctx.lookup("usersMailSession");
```

  usersMailSession is the JNDI name object used as the administered object for the Session object. *usersMailSession* can be created and configured with the required parameters as name/value pairs, including information such as the mail server hostname, the user account sending the mail, and the protocols supported by the Session object.

- Another method of creating the Session object is based on the programmatic approach in which you can use a *java.util.Properties* object to override some of the default information, such as the mail server name, username, password, and other information that can be shared across your entire application.

The constructor for *Session* class is *private*. Hence the *Session* class provides two methods *listedbelow* which get the *Session* object.

- **getDefaultInstance**: There are two methods to get the session object by using the getDefaultInstance method. It returns the default session.

```
public static Session getDefaultInstance(Properties props)
public static Session getDefaultInstance(Properties props,Authenticator auth)
```

- **getInstance**: There are two methods to get the session object by using the getInstance method. It returns the new session.

```
public static Session getInstance(Properties props)
public static Session getInstance(Properties props,Authenticator auth)
```

Message Class

With Session object created we now move on to creating a message that will be sent. The message type will be *javax.mail.Message*.

- *Message* is an abstract class. Hence its subclass *javax.mail.internet.MimeMessage* class is mostly used.

- To create the message, you need to pass session object in MimeMessage class constructor. For example:

```
MimeMessage message=new MimeMessage(session);
```

- Once the message object is created we need to store information in it. *Message* class implements the javax.mail.Part interface while javax.mail.internet. MimeMessage implements javax.mail.internet.MimePart. You can either use message.setContent or mimeMessage.setText to store the content.

- Commonly used methods of MimeMessage class are

Method	**Description**
public void setFrom*Addressaddress*	used to set the from header field.
public void addRecipients *Message. RecipientTypetype, Stringaddresses*	used to add the given address to the recipient type.
public void setSubject*Stringsubject*	used to set the subject header field.
public void setText*Stringtextmessage*	used to set the text as the message content using text/plain MIME type.

Address Class

Now that we have a Session and Message *withcontentstoredinit* objects, we need to address the letter by using *Address* object.

- *Address* is an abstract class. Hence its subclass *javax.mail.internet.InternetAddress* class is mostly used.

- *Address* can be created by just passing email address:

```
Address address = new InternetAddress("manisha@gmail.com");
```

- Another way of creating Address is by passing name alogwith the email address:

```
Address address = new InternetAddress("manisha@gmail.com", Manisha);
```

- You can also set the To, From, CC, BCC fields as below
    - message.setFrom*address*
    - message.addRecipient*type, address*
    - Three predefined address types are objects with one of these values:
        - Message.RecipientType.TO
        - Message.RecipientType.CC
        - Message.RecipientType.BCC

Authenticator Class

The class Authenticator represents an object that knows how to obtain authentication for a network connection. Usually, it will do this by prompting the user for information.

- *Authenticator* is an abstract class. You create a subclass *PasswordAuthentication*, passing a username and password to its constructor.
- You must register the Authenticator with the Session when you create session object.

Following is an example of *Authenticator* use:

```
Properties props = new Properties();
//Override props with any customized data
PasswordAuthentication auth = new PasswordAuthentication("manisha", "pswrd")
Session session = Session.getDefaultInstance(props, auth);
```

Transport Class

Transport class is used as a message transport mechanism. This class normally uses the SMTP protocol to send a message.

- It is an abstract class.
- You can use the default version of the class by just calling the static *send* method:

```
Transport.send(message);
```

- The other way to send message is by getting a specific instance from the session for your protocol, pass along the username and password *blankifunnecessary*, send the message, and close the connection:

```
message.saveChanges(); // implicit with send()
//Get transport for session
Transport transport = session.getTransport("smtp");
//Connect
transport.connect(host, username, password);
//repeat if necessary
transport.sendMessage(message, message.getAllRecipients());
//Done, close the connection
transport.close();
```

Store Class

An abstract class that models a message store and its access protocol, for storing and retrieving messages. Subclasses provide actual implementations. *Store* extends the *Service* class, which provides many common methods for naming stores, connecting to stores, and listening to connection events.

Clients gain access to a Message Store by obtaining a Store object that implements the database access protocol. Most message stores require the user to be authenticated before they allow access. The connect method performs that authentication.

```
Store store = session.getStore("pop3");
store.connect(host, username, password);
```

Folder Class

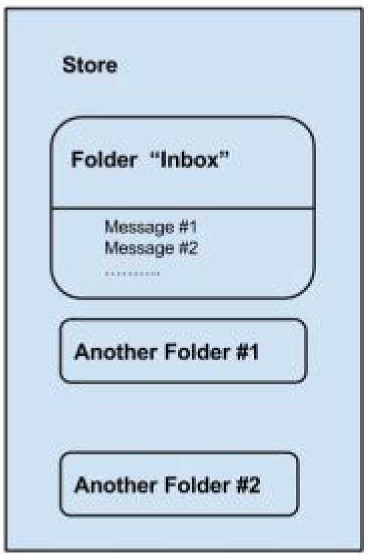
Folder is an abstract class that represents a folder for mail messages. Subclasses implement protocol specific Folders. Folders can contain subfolders as well as messages, thus providing a hierarchical structure.

After connecting to the Store, you can then get a Folder, which must be opened before you can read messages from it.

```
Folder folder = store.getFolder("INBOX");
folder.open(Folder.READ_ONLY);
Message message[] = folder.getMessages();
```

The *getFolder*$String name$ method for a Folder object returns the named subfolder. Close the both the Store and Folder connection once reading mail is done.

We can see the Store and Folder relation the image below:



As we can see, for each user account, the server has a store which is the storage of user's messages. The store is divided into folders, and the "inbox" folder is the primarily folder which contains e-mail messages. A folder can contain both messages and sub-folders.

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