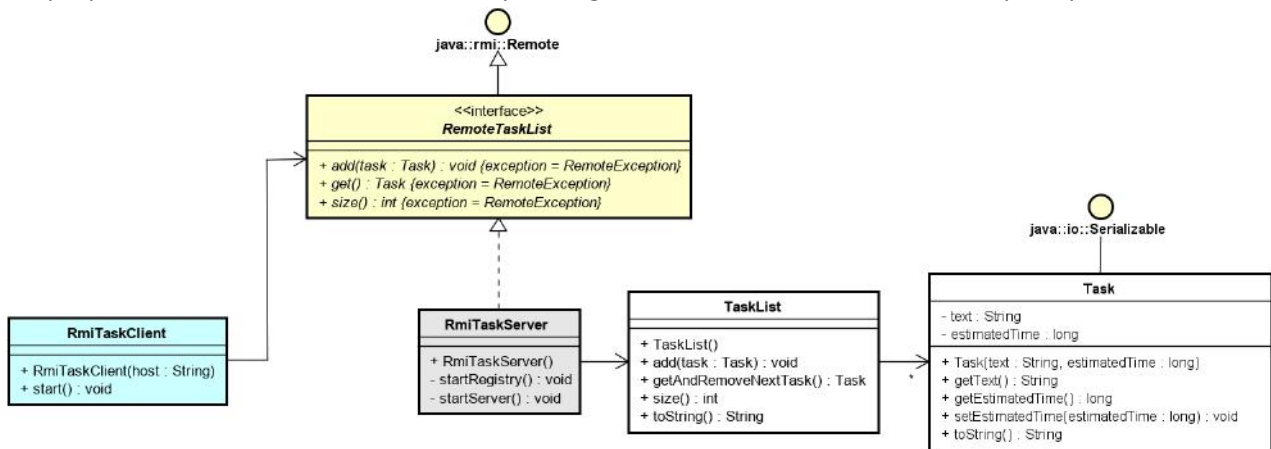


Exercise: Security manager

The purpose for this exercise is use security managers and run it from the command prompt or a batch file.



Use your solution to the previous exercise about the TaskList such that you

- Change the two classes Client and Server (the main method's) such that you define a security manager (see the code on the next page)
- Compile all classes (from a command prompt or by running the main method from IntelliJ and accepting that the program throws an exception - and then terminate it)
- Navigate to the bin folder (the folder with class files) for the **server** and in a command prompt or bat file execute this:

```
java -Djava.security.policy=all.policy Server
pause
```

e.g. with `all.policy` given as a text file with the content:

```
grant {
    permission java.security.AllPermission;
};
```

- Navigate to the folder with class files for the **client**, copy the file `all.policy` to this folder and in a command prompt or bat file execute this:

```
java -Djava.security.policy=all.policy Client localhost
pause
```

- Try finding the ip address for your computer using a command window with `ipconfig`. Change the bat file (or command) for the client using this ip instead of `localhost` (do not change the code).
- Replace the policy file with this (and run again):

```
grant {
    permission java.net.SocketPermission " *:1024-65535", "connect,accept";
    permission java.net.SocketPermission " *:80", "connect";
};
```

Server.java

```
public class Server
{
    public static void main(String[] args) throws Exception
    {
        if (System.getSecurityManager() == null)
        {
            System.setSecurityManager(new SecurityManager());
        }
        RemoteTaskList server = new RmiTaskServer();
    }
}
```

Client.java

```
import java.rmi.RemoteException;
public class Client
{
    public static void main(String[] args) throws RemoteException
    {
        if (System.getSecurityManager() == null)
        {
            System.setSecurityManager(new SecurityManager());
        }
        String host = "localhost";
        if (args.length > 0)
        {
            host = args[0];
        }
        RmiTaskClient client = new RmiTaskClient(host);
        client.start();
    }
}
```