

Java Networking

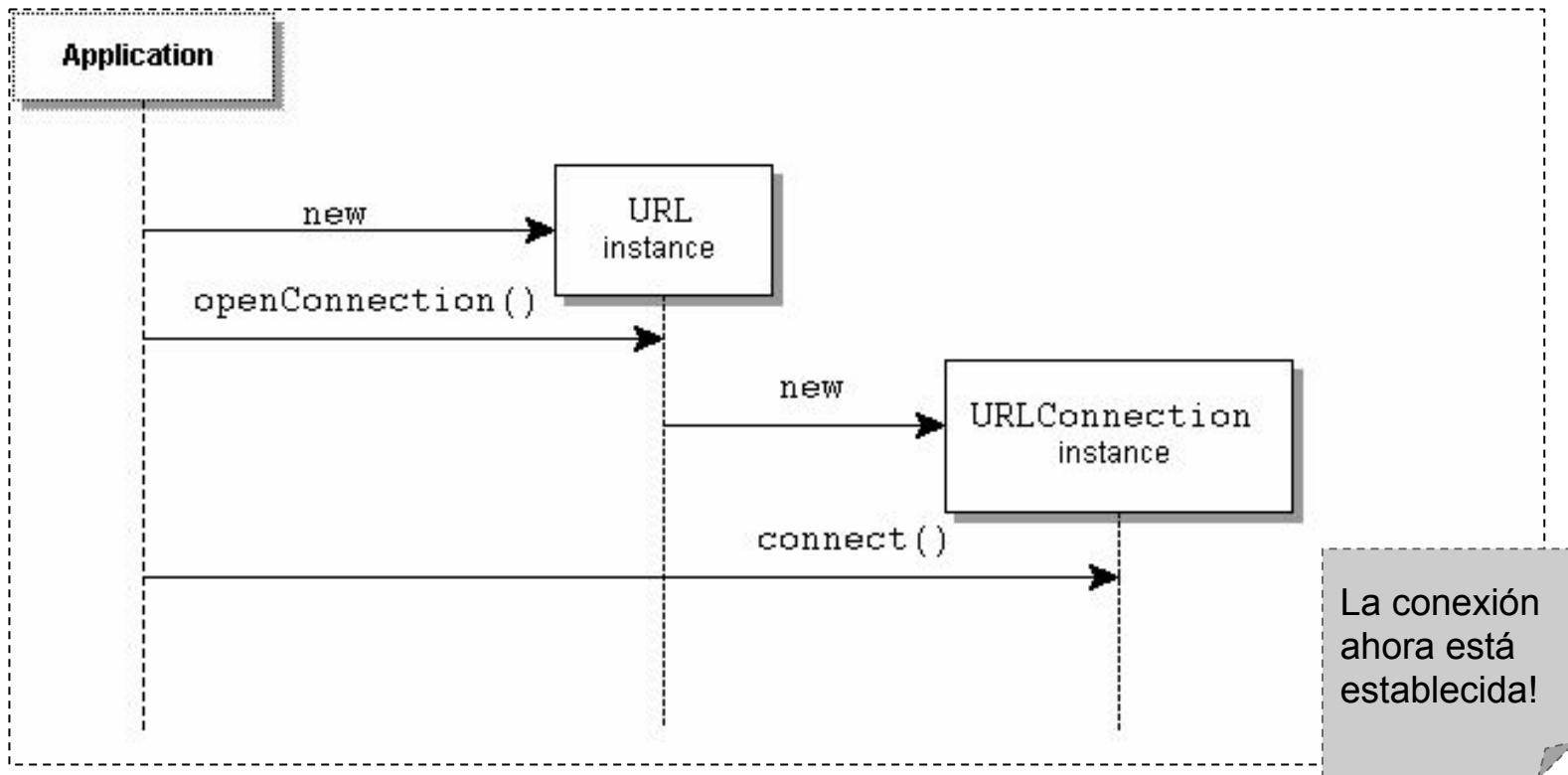
Paquetes de la API

- java.net
- javax.net
- javax.net.ssl
- com.sun.net.httpserver
- com.sun.net.httpserver.spi

Ubicación/Identificación de recursos de red

- URI
- **URL**
- URLClassLoader
- **URLConnection**
- URLStreamHandler
- **HttpURLConnection**
- JarURLConnection

Ubicación/Identificación de recursos de red



Ejemplo de cliente HTTP

Uso de HttpURLConnection (redirect)

```
public class HttpRedirectExample {  
    public static void main(String[] args) {  
        try {  
            String url = "http://www.twitter.com";  
            URL obj = new URL(url);  
            HttpURLConnection conn = (HttpURLConnection) obj.openConnection();  
            conn.setReadTimeout(5000);  
            conn.addRequestProperty("Accept-Language", "en-US,en;q=0.8");  
            conn.addRequestProperty("User-Agent", "Mozilla");  
            conn.addRequestProperty("Referer", "google.com");  
  
            System.out.println("Request URL ... " + url);  
        } catch (IOException e) {  
            e.printStackTrace();  
        }  
    }  
}
```

Uso de HttpURLConnection (redirect)

```
boolean redirect = false;  
  
// 3xx es redirect  
  
int status = conn.getResponseCode();  
  
if (status != HttpURLConnection.HTTP_OK) {  
    if (status == HttpURLConnection.HTTP_MOVED_TEMP  
        || status == HttpURLConnection.HTTP_MOVED_PERM  
        || status == HttpURLConnection.HTTP_SEE_OTHER)  
        redirect = true;  
}  
  
System.out.println("Response Code ... " + status);
```

Uso de HttpURLConnection (redirect)

```
if (redirect) {  
  
    // se quiere redireccionar al header field "location"  
    String newUrl = conn.getHeaderField("Location");  
  
    // guardar las cookies y volver a enviarlas ..por las dudas se necesiten  
    String cookies = conn.getHeaderField("Set-Cookie");  
  
    // abrir una nueva conexión  
    conn = (HttpURLConnection) new URL(newUrl).openConnection();  
    conn.setRequestProperty("Cookie", cookies);  
    conn.addRequestProperty("Accept-Language", "en-US,en;q=0.8");  
    conn.addRequestProperty("User-Agent", "Mozilla");  
    conn.addRequestProperty("Referer", "google.com");  
  
    System.out.println("Redirect to URL : " + newUrl);  
  
}
```

Uso de HttpURLConnection (redirect)

```
BufferedReader in = new BufferedReader(new InputStreamReader(conn.getInputStream()));
String inputLine;
StringBuffer html = new StringBuffer();

while ((inputLine = in.readLine()) != null) {
    html.append(inputLine);
}
in.close();

System.out.println("Contenido URL... \n" + html.toString());
System.out.println("Hecho");

} catch (Exception e) {
    e.printStackTrace();
}

}
```

Ejemplo de servidor HTTP

paquete com.sun.net.httpserver

clase **HttpServer**

```
HttpServer server = HttpServer.create(new InetSocketAddress(8000),0);
```

```
server.createContext("/applications/myapp", new MyHandler());
```

```
server.setExecutor(null);
```

```
server.start();
```

crea un default executor, que toma de a 1 los requerimientos

se pueden crear varios context cada uno administrado por un handler distinto

contiene el código de atención del requerimiento

paquete com.sun.net.httpserver

interfaz HttpHandler

```
class MyHandler implements HttpHandler {  
  
    public void handle(HttpExchange t) throws IOException {  
        InputStream is = t.getRequestBody();  
        is.read(); // .. lee el request body  
        String response = "Esta es la respuesta";  
        t.sendResponseHeaders(200, response.length());  
        OutputStream os = t.getResponseBody();  
        os.write(response.getBytes());  
        os.close();  
    }  
}
```

encapsula el
requerimiento y la
respuesta HTTP

Si se usa Open JDK

Hay que poner disponible el módulo:

```
module PruebaHttp {  
    requires jdk.httpserver;  
}
```