

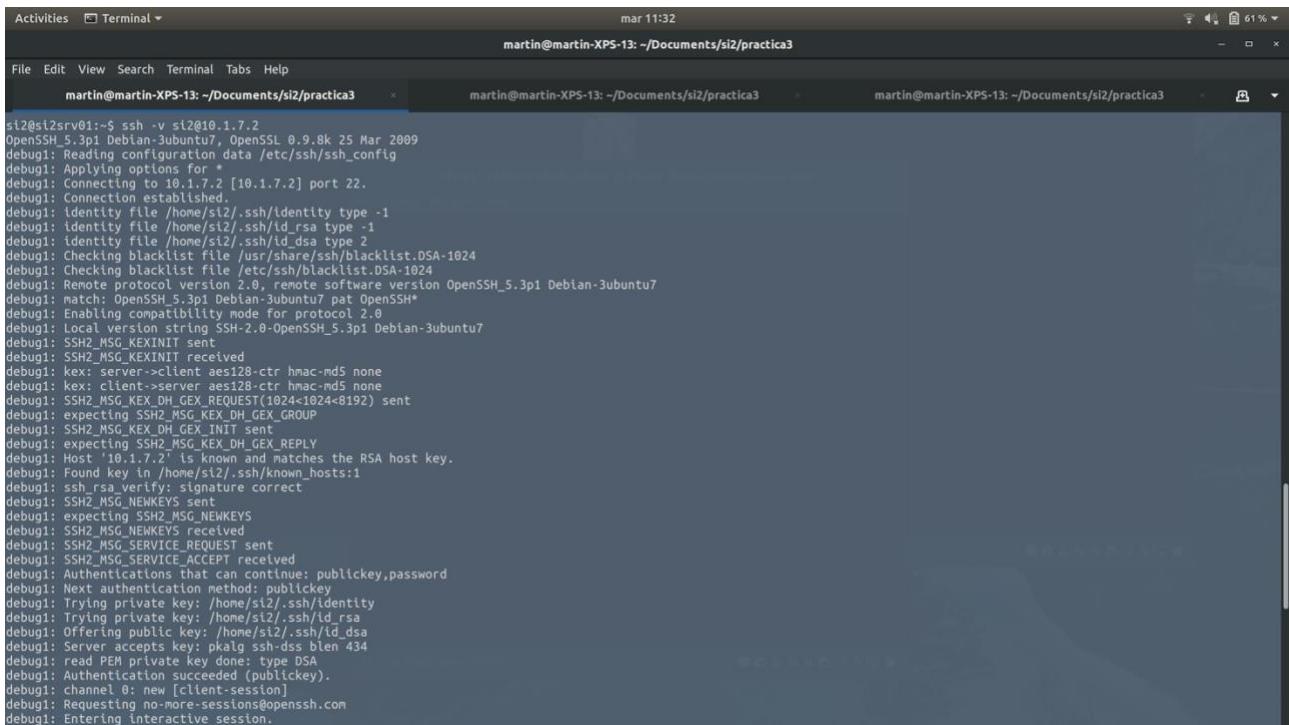
<b>Grupo</b>	<b>2401</b>	<b>Práctica</b>	<b>3</b>	<b>Fecha</b>	<b>27/04/2021</b>
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## Práctica 3: Seguridad y disponibilidad

### Ejercicio número 1:

Para realizar este ejercicio, lo primero que hacemos es preparar las tres máquinas virtuales tal y como se especifica en el enunciado. A continuación, generamos el par de claves con DSA en la primera máquina virtual, **10.1.7.1**. Después, haciendo uso del comando **scp**, importamos la clave pública a las máquinas virtuales 2 y 3, **10.1.7.3** y **10.1.7.2**. Para terminar, probamos a conectarnos desde la máquina virtual 1 a las máquinas 2 y 3 a través de ssh con el flag -v para comprobar que no se nos pide la contraseña.

#### VM1 a VM2:



```

Activities Terminal mar 11:32
martin@martin-XPS-13: ~/Documents/si2/practica3
File Edit View Search Terminal Tabs Help
martin@martin-XPS-13: ~/Documents/si2/practica3 martin@martin-XPS-13: ~/Documents/si2/practica3
si2@si2srv01:~$ ssh -v si2@10.1.7.2
OpenSSH_5.3p1 Debian-Subuntu7, OpenSSH_0.9.8k_25 Mar 2009
debug1: Reading configuration data /etc/ssh/ssh_config
debug1: Applying options for *
debug1: Connecting to 10.1.7.2 [10.1.7.2] port 22.
debug1: Connection established.
debug1: identity file /home/si2/.ssh/identity type -1
debug1: identity file /home/si2/.ssh/id_rsa type 1
debug1: identity file /home/si2/.ssh/id_dsa type 2
debug1: Checking blacklist file /usr/share/ssh/blacklist.DSA-1024
debug1: Checking blacklist file /etc/ssh/blacklist.DSA-1024
debug1: Remote protocol version 2.0, remote software version OpenSSH_5.3p1 Debian-Subuntu7
debug1: match: OpenSSH_5.3p1 Debian-Subuntu7 pat OpenSSH*
debug1: Enabling compatibility mode for protocol 2.0
debug1: Local version string SSH-2.0-OpenSSH_5.3p1 Debian-Subuntu7
debug1: SSH2_MSG_KEXINIT sent
debug1: SSH2_MSG_KEXINIT received
debug1: kex: server->client aes128-ctr hmac-md5 none
debug1: kex: client->server aes128-ctr hmac-md5 none
debug1: SSH2_MSG_KEX_DH_GEX_REQUEST(1024-1024-8192) sent
debug1: expecting SSH2_MSG_KEX_DH_GEX_GROUP
debug1: SSH2_MSG_KEX_DH_GEX_INIT sent
debug1: expecting SSH2_MSG_KEX_DH_GEX_REPLY
debug1: Host '10.1.7.2' is known and matches the RSA host key.
debug1: Found key in /home/si2/.ssh/known_hosts:1
debug1: ssh_rsa_verify: signature correct
debug1: SSH2_MSG_NEWKEYS sent
debug1: expecting SSH2_MSG_NEWKEYS
debug1: SSH2_MSG_SERVICE_REQUEST sent
debug1: SSH2_MSG_SERVICE_ACCEPT received
debug1: Authentications that can continue: publickey,password
debug1: Next authentication method: publickey
debug1: Trying private key: /home/si2/.ssh/identity
debug1: Trying private key: /home/si2/.ssh/id_rsa
debug1: Offering public key: /home/si2/.ssh/id_dsa
debug1: Server accepts key: pkalg ssh-dss blen 434
debug1: read PEM private key done: type DSA
debug1: Authentication succeeded (publickey).
debug1: channel 0: new [client-session]
debug1: Requesting no-more-sessions@openssh.com
debug1: Entering interactive session.

```

```

Activities Terminal
martin@martin-XPS-13: ~/Documents/si2/practica3
File Edit View Search Terminal Tabs Help
martin@martin-XPS-13: ~/Documents/si2/practica3
martin@martin-XPS-13: ~/Documents/si2/practica3
debug1: Authentication succeeded (publickey).
debug1: channel 0: new [client-session]
debug1: Requesting no-more-sessions@openssh.com
debug1: Entering interactive session.
debug1: Sending environment.
debug1: Sending env LC_PAPER = es_ES.UTF-8
debug1: Sending env LC_ADDRESS = es_ES.UTF-8
debug1: Sending env LC_MONETARY = es_ES.UTF-8
debug1: Sending env LC_NUMERIC = es_ES.UTF-8
debug1: Sending env LC_TELEPHONE = es_ES.UTF-8
debug1: Sending env LC_IDENTIFICATION = es_ES.UTF-8
debug1: Sending env LANG = C
debug1: Sending env LC_MEASUREMENT = es_ES.UTF-8
debug1: Sending env LC_TIME = es_ES.UTF-8
debug1: Sending env LC_NAME = es_ES.UTF-8
Linux si2srv02 2.6.32-33-generic #72-Ubuntu SMP Fri Jul 29 21:08:37 UTC 2011 i686 GNU/Linux
Ubuntu 10.04.3 LTS

Welcome to Ubuntu!
 * Documentation: https://help.ubuntu.com/
New release 'precise' available.
Run 'do-release-upgrade' to upgrade to it.

Last login: Tue Apr 27 02:29:32 2021 from 10.1.7.1
Loading es...
perl: warning: Setting locale failed.
perl: warning: Please check that your locale settings:
        LANGUAGE = (unset),
        LC_ALL = (unset),
        LC_TIME = "es_ES.UTF-8",
        LC_MONETARY = "es_ES.UTF-8",
        LC_ADDRESS = "es_ES.UTF-8",
        LC_TELEPHONE = "es_ES.UTF-8",
        LC_NAME = "es_ES.UTF-8",
        LC_MEASUREMENT = "es_ES.UTF-8",
        LC_IDENTIFICATION = "es_ES.UTF-8",
        LC_NUMERIC = "es_ES.UTF-8",
        LC_PAPER = "es_ES.UTF-8",
        LANG = "en_US.UTF-8"
     are supported and installed on your system.
perl: warning: Falling back to the standard locale ("C").
si2@si2srv02:~$ 
```

## VM1 a VM3:

```

Activities Terminal
martin@martin-XPS-13: ~/Documents/si2/practica3
File Edit View Search Terminal Tabs Help
martin@martin-XPS-13: ~/Documents/si2/practica3
martin@martin-XPS-13: ~/Documents/si2/practica3
si2@si2srv01:~$ ssh -v si2@10.1.7.3
OpenSSH 5.3pi Debian-3ubuntu7, OpenSSL 0.9.8k 25 Mar 2009
debug1: Reading configuration data /etc/ssh/ssh_config
debug1: Applying options for *
debug1: Connecting to 10.1.7.3 [10.1.7.3] port 22.
debug1: Connection established.
debug1: identity file /home/si2/.ssh/identity type -1
debug1: identity file /home/si2/.ssh/id_rsa type -1
debug1: identity file /home/si2/.ssh/id_dsa type 2
debug1: Checking blacklist file /usr/share/ssh/blacklist.DSA-1024
debug1: Checking blacklist file /etc/ssh/blacklist.DSA-1024
debug1: Remote protocol version 2.0, remote software version OpenSSH_5.3pi Debian-3ubuntu7
debug1: match: OpenSSH_5.3pi Debian-3ubuntu7 pat OpenSSH*
debug1: Enabling compatibility mode for protocol 2.0
debug1: Local version string SSH-2.0-OpenSSH_5.3pi Debian-3ubuntu7
debug1: SSH2_MSG_KEXINIT sent
debug1: SSH2_MSG_KEXINIT received
debug1: kex: server->client aes128-ctr hmac-md5 none
debug1: kex: client->server aes128-ctr hmac-md5 none
debug1: SSH2_MSG_KEX_DH_GEX_REQUEST(1024-1024<8192) sent
debug1: expecting SSH2_MSG_KEX_DH_GEX_GROUP
debug1: SSH2_MSG_KEX_DH_GEX_INIT sent
debug1: expecting SSH2_MSG_KEX_DH_GEX_REPLY
debug1: Host '10.1.7.3' is known and matches the RSA host key.
debug1: Found key in /home/si2/.ssh/known_hosts:2
debug1: ssh_rsa_verify: signature correct
debug1: SSH2_MSG_NEWKEYS sent
debug1: expecting SSH2_MSG_NEWKEYS
debug1: SSH2_MSG_SERVICE_REQUEST sent
debug1: SSH2_MSG_SERVICE_ACCEPT received
debug1: Authentications that can continue: publickey,password
debug1: Next authentication method: publickey
debug1: Trying private key: /home/si2/.ssh/identity
debug1: Trying private key: /home/si2/.ssh/id_rsa
debug1: Offering public key: /home/si2/.ssh/id_dsa
debug1: Server accepts key: pkalg ssh-dss blen 434
debug1: read PEM private key done: type DSA
debug1: Authentication succeeded (publickey).
debug1: channel 0: new [client-session]
debug1: Requesting no-more-sessions@openssh.com
debug1: Entering interactive session.
debug1: Sending environment.
```

```

Activities Terminal mar 11:33
martin@martin-XPS-13: ~/Documents/si2/practica3
File Edit View Search Terminal Tabs Help
martin@martin-XPS-13: ~/Documents/si2/practica3
martin@martin-XPS-13: ~/Documents/si2/practica3
debug1: Authentication succeeded (publickey).
debug1: channel 0: new [client-session]
debug1: Requesting no-more-sessions@openssh.com
debug1: Entering interactive session.
debug1: Sending environment.
debug1: Sending env LC_PAPER = es_ES.UTF-8
debug1: Sending env LC_ADDRESS = es_ES.UTF-8
debug1: Sending env LC_MONETARY = es_ES.UTF-8
debug1: Sending env LC_NUMERIC = es_ES.UTF-8
debug1: Sending env LC_TELEPHONE = es_ES.UTF-8
debug1: Sending env LC_IDENTIFICATION = es_ES.UTF-8
debug1: Sending env LANG =
debug1: Sending env LC_MEASUREMENT = es_ES.UTF-8
debug1: Sending env LC_TIME = es_ES.UTF-8
debug1: Sending env LC_NAME = es_ES.UTF-8
Linux si2srv03 2.6.32-33-generic #72-Ubuntu SMP Fri Jul 29 21:08:37 UTC 2011 i686 GNU/Linux
Ubuntu 10.04.3 LTS

Welcome to Ubuntu!
 * Documentation: https://help.ubuntu.com/
New release 'precise' available.
Run 'do-release-upgrade' to upgrade to it.

Last login: Tue Apr 27 02:20:00 2021 from 10.10.1.51
Loading es...
perl: warning: Setting locale failed.
perl: warning: Please check that your locale settings:
        LANGUAGE = (unset),
        LC_ALL = (unset),
        LC_TIME = "es_ES.UTF-8",
        LC_MONETARY = "es_ES.UTF-8",
        LC_ADDRESS = "es_ES.UTF-8",
        LC_TELEPHONE = "es_ES.UTF-8",
        LC_NAME = "es_ES.UTF-8",
        LC_MEASUREMENT = "es_ES.UTF-8",
        LC_IDENTIFICATION = "es_ES.UTF-8",
        LC_NUMERIC = "es_ES.UTF-8",
        LC_PAPER = "es_ES.UTF-8",
        LANG = "en_US.UTF-8"
are supported and installed on your system.
perl: warning: Falling back to the standard locale ("C").
si2@si2srv03:~$ 
```

## Ejercicio número 2:

En este ejercicio, hemos seguido las instrucciones del enunciado para configurar el cluster SI2Cluster con la topología indicada. El orden de los pasos que hemos seguido es el siguiente:

- 1) Iniciar las 3 VMs y posteriormente inicializar el domain1 en la VM1.
- 2) Nos conectamos por ssh únicamente a la VM1.
- 3) Ejecutamos los comandos descritos en el enunciado que nos devuelven lo siguiente:

```

Activities Terminal mar 11:57
martin@martin-XPS-13: ~/Documents/si2/practica3
File Edit View Search Terminal Tabs Help
martin@martin-XPS-13: ~/Documents/si2/practica3
martin@martin-XPS-13: ~/Documents/si2/practica3
si2@si2srv01:~$ asadmin --user admin --passwordfile /opt/SI2/passwordfile create-node-ssh --sshuser si2 --nodehost 10.1.7.2 --nodedir /opt/glassfish4 Node01
Command create-node-ssh executed successfully.
si2@si2srv01:~$ asadmin --user admin --passwordfile /opt/SI2/passwordfile create-node-ssh --sshuser si2 --nodehost 10.1.7.3 --nodedir /opt/glassfish4 Node02
Command create-node-ssh executed successfully.
si2@si2srv01:~$ asadmin --user admin --passwordfile /opt/SI2/passwordfile list-nodes
localhost:domain1 CONFIG localhost
Node01 SSH 10.1.7.2
Node02 SSH 10.1.7.3
Command list-nodes executed successfully. 
```

```

Activities Terminal mar 11:57
martin@martin-XPS-13: ~/Documents/si2/practica3
File Edit View Search Terminal Tabs Help
martin@martin-XPS-13: ~/Documents/si2/practica3
martin@martin-XPS-13: ~/Documents/si2/practica3
si2@si2srv01:~$ asadmin --user admin --passwordfile /opt/SI2/passwordfile ping-node-ssh Node01
Successfully made SSH connection to node Node01 (10.1.7.2)
Command ping-node-ssh executed successfully.
si2@si2srv01:~$ asadmin --user admin --passwordfile /opt/SI2/passwordfile ping-node-ssh Node02
Successfully made SSH connection to node Node02 (10.1.7.3)
Command ping-node-ssh executed successfully.
si2@si2srv01:~$ 
```

Select	Name	Node Host	Type	Instances	Action
<input type="checkbox"/>	Node01	10.1.7.2	SSH		Ping
<input type="checkbox"/>	Node02	10.1.7.3	SSH		Ping
<input type="checkbox"/>	localhost-domain1	localhost	CONFIG		

- 4) Creamos el cluster ejecutando los comandos enunciados en la práctica con siguiente resultado:

```
martin@martin-XPS-13: ~/Documents/si2/practica3
martin@martin-XPS-13: ~/Documents/si2/practica3
martin@martin-XPS-13: ~/Documents/si2/practica3
si2@si2srv01:~$ asadmin create-cluster SI2Cluster
Command create-cluster executed successfully.
si2@si2srv01:~$ asadmin list-clusters
SI2Cluster not running
Command list-clusters executed successfully.
si2@si2srv01:~$ 
```

```
martin@martin-XPS-13: ~/Documents/si2/practica3
martin@martin-XPS-13: ~/Documents/si2/practica3
martin@martin-XPS-13: ~/Documents/si2/practica3
10.1.7.1 si2srv01
10.1.7.2 si2srv02
10.1.7.3 si2srv03
10.1.7.4 si2srv04
127.0.0.1      localhost
# The following lines are desirable for IPv6 capable hosts
::1      localhost ip6-localhost ip6-loopback
fe00::0 ip6-localnet
ff00::0 ip6-mcastprefix
ff02::1 ip6-allnodes
ff02::2 ip6-allrouters
```
/etc/hosts" [readonly] 12L, 286C
1,1          All

```

```

Activities Terminal mar 12:06
martin@martin-XPS-13: ~/Documents/si2/practica3
File Edit View Search Terminal Tabs Help
martin@martin-XPS-13: ~/Documents/si2/practica3 martin@martin-XPS-13: ~/Documents/si2/practica3 martin@martin-XPS-13: ~/Documents/si2/practica3
si2@si2srv01:~$ asadmin --user admin --passwordfile /opt/SI2/passwordfile create-instance --cluster SI2Cluster --node Node01 Instance01
Command create-instance-filesystem executed successfully.
Port Assignments for server instance Instance01:
OSGI_SHELL_TELNET_PORT=26666
JAVA_DEBUGGER_PORT=29009
JMS_PROVIDER_PORT=27676
HTTP_LISTENER_PORT=28080
IIOP_SSL_LISTENER_PORT=23820
ASADMIN_LISTENER_PORT=24848
IIOP_SSL_MUTUALAUTH_PORT=23920
JMX_SYSTEM_CONNECTOR_PORT=28686
HTTP_SSL_LISTENER_PORT=28181
IIOP_LISTENER_PORT=23700
The instance, Instance01, was created on host 10.1.7.2
Command create-instance executed successfully.
si2@si2srv01:~$ asadmin --user admin --passwordfile /opt/SI2/passwordfile create-instance --cluster SI2Cluster --node Node02 Instance02
Command create-instance-filesystem executed successfully.
Port Assignments for server instance Instance02:
OSGI_SHELL_TELNET_PORT=26666
JAVA_DEBUGGER_PORT=29009
JMS_PROVIDER_PORT=27676
HTTP_LISTENER_PORT=28080
IIOP_SSL_LISTENER_PORT=23820
ASADMIN_LISTENER_PORT=24848
IIOP_SSL_MUTUALAUTH_PORT=23920
JMX_SYSTEM_CONNECTOR_PORT=28686
HTTP_SSL_LISTENER_PORT=28181
IIOP_LISTENER_PORT=23700
The instance, Instance02, was created on host 10.1.7.3
Command create-instance executed successfully.
si2@si2srv01:~$ asadmin --user admin --passwordfile /opt/SI2/passwordfile list-instances -l
Name          Host      Port    Pid Cluster   State
Instance01    10.1.7.2  24848   --  SI2Cluster  not running
Instance02    10.1.7.3  24848   --  SI2Cluster  not running
Command list-instances executed successfully.
si2@si2srv01:~$ asadmin --user admin --passwordfile /opt/SI2/passwordfile start-cluster SI2Cluster
Command start-cluster executed successfully.
si2@si2srv01:~$ 

```

The screenshot shows the GlassFish Server Open Source Edition configuration interface. The left sidebar navigation menu includes: Common Tasks (Domain, server (Admin Server), Clusters, Standalone Instances, Nodes (Node01, Node02, localhost-domain1), Applications, Lifecycle Modules, Monitoring Data, Resources (Concurrent Resources, Connectors, JDBC, JMS Resources, JNDI, JavaMail Sessions, Resource Adapter Configs), Configurations (SI2Cluster-config, default-config, server-config, Update Tool)). The main content area is titled 'Configurations' and displays the following table:

| Select                   | Name              | Instance                                     |
|--------------------------|-------------------|----------------------------------------------|
| <input type="checkbox"/> | SI2Cluster-config | Instance01 Running ✓<br>Instance02 Running ✓ |
| <input type="checkbox"/> | default-config    |                                              |
| <input type="checkbox"/> | server-config     | server Running ✓                             |

- 5) Para terminar, modificamos las configuraciones que se nos describen en el enunciado y reiniciamos el cluster.

The screenshot shows the GlassFish administration interface. On the left, there's a sidebar with various server configurations like Domain, Clusters, Standalone Instances, Nodes, Applications, Lifecycle Modules, Monitoring Data, Resources, and Configurations. Under Configurations, 'S12Cluster-config' is selected, and 'JVM Settings' is highlighted. The main panel shows the 'JVM Options' tab with a table titled 'Options (29)'. One row in the table, containing the value '-XX:MaxPermSize=96m', is highlighted with a red box. A 'Save' button is visible at the top right of the table area.

### Ejercicio número 3:

Antes de realizar este ejercicio, hemos copiado el código de P1-base y hemos realizado las modificaciones pertinentes.

The screenshot shows a Visual Studio Code window with several tabs open: 'build.properties U', 'PagoBean.java U', 'create.sql U', and 'postgresql.properties U'. The 'create.sql' tab is active and contains the following SQL code:

```

11
12 INSERT INTO tarjeta(numeroTarjeta,titular,validaDesde,validaHasta,codigoVerificacion)
13 VALUES ('1111 2222 3333 4444','Jose Garcia','11/09','11/22','123');
14
15 -- Tabla con pagos autorizados
16 -- Siempre vienen precedidos por una transaccion existente
17 CREATE TABLE pago
18 (
19   -- idAutorizacion se autogenera con cada insercion
20   idAutorizacion serial not null,
21   idTransaccion char(16) not null,
22   codRespuesta char(3) not null default '000',
23   importe float not null,
24   idComercio char(16) not null,
25   numeroTarjeta char(19) not null references tarjeta,
26   fecha timestamp not null default current_timestamp,
27   instancia varchar(50),
28   ip varchar(50),
29   CONSTRAINT Pago_UC unique(idTransaccion, idComercio),
30   PRIMARY KEY (idAutorizacion)
31 );
32
33 -- INSERT INTO pago(idAutorizacion,idTransaccion, codRespuesta, importe, idComercio, numeroTarjeta)
34 -- VALUES (NEXTVAL(pago_idAutorizacion_seq), 1,'000', 123.00, '0000000000000000', '1111 2222 3333 4444');
35
36

```

Activities Visual Studio Code mar 12:46 PagoBean.java - si2 - Visual Studio Code

File Edit Selection View Go Run Terminal Help

practica3 > P3 > src > ssi2 > visa > PagoBean.java

```
26 // Variables añadidas p3
27 private String instancia;
28 private String ip;
29
30 /**
31 * @return instancia
32 */
33 public String getInstance() {
34     return instancia;
35 }
36
37 /**
38 * @param instancia
39 */
40 public void setInstancia(String instancia) {
41     this.instancia = instancia;
42 }
43
44 /**
45 * @return ip
46 */
47 public String getIp() {
48     return ip;
49 }
50
51 /**
52 * @param ip
53 */
54 public void setIp(String ip) {
55     this.ip = ip;
56 }
```

Ln 56, Col 6 (511 selected) Spaces: 4 UTF-8 LF Java

Activities Visual Studio Code mar 12:47 ProcesaPago.java - si2 - Visual Studio Code

File Edit Selection View Go Run Terminal Help

practica3 > P3 > src > ssi2 > controlador > ProcesaPago.java

```
205     * @return bean que contiene el pago a realizar
206     * @see ssi2.visa.PagoBean
207 */
208 private PagoBean creaPago(HttpServletRequest request) {
209     PagoBean pago = new PagoBean();
210     pago.setIdTransaccion(request.getParameter(PARAM_ID_TRANSACCION));
211     pago.setIdComercio(request.getParameter(PARAM_ID_COMERCIO));
212
213     double impd=-1.0;
214     // Modificaciones p3
215     pago.setInstancia(System.getProperty("com.sun.aas.instanceName"));
216
217     try {
218         pago.setIp(java.net.InetAddress.getLocalHost().getHostAddress());
219     } catch (UnknownHostException e) {
220         pago.setIp("-1");
221     }
222     // Fin modificaciones
223     try {
224         impd = Double.parseDouble(request.getParameter(PARAM_IMPORTE));
225     } catch (NumberFormatException e) {
226         impd = -1.0;
227     } catch (NullPointerException e) {
228         impd = -1.0;
229     }
230
231     pago.setImporte(impd);
232     pago.setRutaRetorno(request.getParameter(PARAM_RUTA_RETORNO));
233     return pago;
234 }
```

Ln 222, Col 30 (301 selected) Spaces: 4 UTF-8 LF Java

Activities Visual Studio Code mar 12:47

File Edit Selection View Go Run Terminal Help

VisaDAO.java ComienzaPago.java

```
practica3 > P3 > src > ssii2 > controlador > ComienzaPago.java
140     return true;
141 }
142
143 /**
144 * Crea un bean de pago a partir de los parámetros de la petición;
145 * @param request objeto de petición;
146 * @return bean que contiene el pago a realizar
147 * @see ssii2.visa.PagoBean
148 */
149 private PagoBean creaPago(HttpServletRequest request) {
150     PagoBean pago = new PagoBean();
151     pago.setIdTransaccion(request.getParameter(PARAM_ID_TRANSACCION));
152     pago.setIdComercio(request.getParameter(PARAM_ID_COMERCIO));
153     double impd=-1.0;
154     // Modificaciones p3
155     pago.setInstancia(System.getProperty("com.sun.aas.instanceName"));
156
157     try {
158         pago.setIp(java.net.InetAddress.getLocalHost().getHostAddress());
159     } catch (UnknownHostException e) {
160         pago.setIp("-1");
161     }
162     // Fin modificaciones
163     try {
164         impd = Double.parseDouble(request.getParameter(PARAM_IMPORTANTE));
165     } catch (NumberFormatException e) {
166         impd = -1.0;
167     } catch (NullPointerException e) {
168         impd = -1.0;
169     }
170     pago.setImporte(impd);
171     pago.setRutaRetorno(request.getParameter(PARAM_RUTA_RETORNO));
```

Ln 154, Col 9 (301 selected) Spaces: 4 UTF-8 LF Java R

Activities Visual Studio Code mar 12:47

File Edit Selection View Go Run Terminal Help

VisaDAO.java

```
practica3 > P3 > src > ssii2 > visa > dao > VisaDAO.java
49 /**
50 * TODO: Declarar consultas SQL estáticas
51 * para uso con prepared statement
52 * Hay que convertir las consultas de getQryXXX()
53 */
54 //private static final String ...*/
55 //*****
56 private static final String SELECT_TARJETA_QRY =
57     "select * from tarjeta " +
58     "where numeroTarjeta=? " +
59     "and titular=? " +
60     "and validaDesde=? " +
61     "and validaHasta=? " +
62     "and codigoVerificación=? ";
63
64 private static final String INSERT_PAGOS_QRY =
65     "insert into pago(" +
66     "idTransaccion,importe,idComercio,numeroTarjeta,instancia,ip)" +
67     "values (?,?,?,?,?,?)";
68
69 private static final String SELECT_PAGO_TRANSACCION_QRY =
70     "select idAutorización, codRespuesta " +
71     "from pago " +
72     "where idTransacción = ?" +
73     "and idComercio = ?";
74 //*****
75
76 /**
77 * Constructor de la clase
78 */
79
```

Ln 67, Col 45 (61 selected) Spaces: 4 UTF-8 LF Java R

Activities Visual Studio Code mar 12:48  
VisaDAO.java - si2 - Visual Studio Code

File Edit Selection View Go Run Terminal Help

VisaDAO.java X

```
practica3 > P3 > src > ssi2 > visa > dao > VisaDAO.java
88     String getQryCompruebaTarjeta(TarjetaBean tarjeta) {
89         String qry = "select * from tarjeta "
90             + "where numeroTarjeta=" + tarjeta.getNumero()
91             + " and titular=" + tarjeta.getTitular()
92             + " and validaDesde=" + tarjeta.getFechaEmision()
93             + " and validaHasta=" + tarjeta.getFechaCaducidad()
94             + " and codigoVerificacion=" + tarjeta.getCodigoVerificacion() + "";
95     return qry;
96 }
97 /**
98  * getQryInsertPago
99 */
100 String getQryInsertPago(PagoBean pago) {
101     String qry = "insert into pago("
102         + "idTransaccion,"
103         + "importe,idComercio,"
104         + "numeroTarjeta,"
105         + "instancia,"
106         + "ip"
107         + " values ("
108             + "" + pago.getIdTransaccion() + ","
109             + pago.getImporte() + ","
110             + "" + pago.getIdComercio() + ","
111             + "" + pago.getTarjeta().getNumero() + ","
112             + "" + pago.getInstance() + ","
113             + "" + pago.getIp() + ","
114             + ")");
115     return qry;
116 }
117 }
118 }
```

Ln 107, Col 28 (42 selected) Spaces: 4 UTF-8 LF Java

Activities Visual Studio Code mar 12:48  
VisaDAO.java - si2 - Visual Studio Code

File Edit Selection View Go Run Terminal Help

VisaDAO.java X

```
practica3 > P3 > src > ssi2 > visa > dao > VisaDAO.java
234     /* TODO Usar prepared statement si
235      | isPrepared() == true */
236      /***/
237     if (isPrepared() == true) {
238         String insert = INSERT_PAGOS_QRY;
239         errorLog(insert);
240         pstmt = con.prepareStatement(insert);
241         pstmt.setString(1, pago.getIdTransaccion());
242         pstmt.setDouble(2, pago.getImporte());
243         pstmt.setString(3, pago.getIdComercio());
244         pstmt.setString(4, pago.getTarjeta().getNumero());
245         pstmt.setString(5, pago.getInstance());
246         pstmt.setString(6, pago.getIp());
247         pstmt.setString(7, pago.getIp());
248         ret = false;
249         if (!pstmt.execute()
250             && pstmt.getUpdateCount() == 1) {
251             ret = true;
252         }
253     } else {
254         /***/
255         stmt = con.createStatement();
256         String insert = getQryInsertPago(pago);
257         errorLog(insert);
258         ret = false;
259         if (!stmt.execute(insert)
260             && stmt.getUpdateCount() == 1) {
261             ret = true;
262         }
263     }/***/
264 }
265 }
```

Ln 247, Col 49 (89 selected) Spaces: 4 UTF-8 LF Java

Para terminar, hemos modificado los ficheros build.properties y postgresql.properties como se indica en el enunciado.

Tras realizar todos estos cambios, hemos accedido a cada una de las instancias y hemos comprobado que se realizan correctamente los pagos en ambas.

Activities Brave Web Browser ▾ mar 13:24

Applications Web Application Links +

Not secure | 10.1.7.1:4848/common/applications/webApplicationLinks.js?appId=P3&contextRoot=/P3

Web Application Links

If the server or listener is not running, the link may not work. In this event, check the status of the server instance. After launching the web application, use the browser's Back button to return to this screen.

Application Name: P3

Links:

- [Instance01] http://10.1.7.2:28080/P3
- [Instance01] https://10.1.7.2:28181/P3
- [Instance02] http://10.1.7.3:28080/P3
- [Instance02] https://10.1.7.3:28181/P3

[Close](#)

En 10.1.7.2:28080:

Activities Brave Web Browser ▾ mar 13:25

Applications Web Application Links Sistema de Pago con tarje 10.1.7.3:28080/P3/ +

Not secure | 10.1.7.2:28080/P3/comienzapago

Pago con tarjeta

Número de visa:

Titular:

Fecha Emisión:

Fecha Caducidad:

CVV2:

Id Transacción: 1  
Id Comercio: 1  
Importe: 123.0

Prácticas de Sistemas Informáticos II

Activities Brave Web Browser ▾ mar 13:25

Applications Web Application Links Sistema de Pago con tarje 10.1.7.3:28080/P3/ +

Not secure | 10.1.7.2:28080/P3/procesapago

Pago con tarjeta

Pago realizado con éxito. A continuación se muestra el comprobante del mismo:

idTransaccion: 1  
idComercio: 1  
importe: 123.0  
codRespuesta: 000  
idAutorizacion: 2

[Volver al comercio](#)

Prácticas de Sistemas Informáticos II

En 10.1.7.3:28080:

The screenshot shows a web browser window titled "Sistema de Pago con tarjeta". The form fields include:  
Número de visa: 1111 2222 3333 4444  
Titular: Jose Garcia  
Fecha Emisión: 11/09  
Fecha Caducidad: 11/22  
CVV2: 123  
A button labeled "Pagar" is present.  
Below the form, transaction details are listed:  
Id Transacción: 2  
Id Comercio: 1  
Importe: 123.0  
Prácticas de Sistemas Informáticos II

The screenshot shows a web browser window titled "Sistema de Pago con tarjeta". The message indicates a successful payment:  
Pago realizado con éxito. A continuación se muestra el comprobante del mismo:  
idTransaccion: 2  
idComercio: 1  
importe: 123.0  
codRespuesta: 000  
idAutorizacion: 3  
A link labeled "Volver al comercio" is provided.  
Prácticas de Sistemas Informáticos II

The screenshot shows the TOra 2.1.3 Schema Browser interface. The connection is set to "alumnodb@visa.10.1".  
The "Tables" tab is selected, showing two tables: "pago" and "tarjeta".  
The "pago" table has the following data:

| idautorizacion | idtransaccion | codrespuesta | importe | idcomercio | numerotarjeta      | fecha          | instancia  | ip       |
|----------------|---------------|--------------|---------|------------|--------------------|----------------|------------|----------|
| 1 2            | 1             | 000          | 123     | 1          | 1111 2222 3333 ... | 27/04/21 04... | Instance01 | 10.1.7.2 |
| 2 3            | 2             | 000          | 123     | 1          | 1111 2222 3333 ... | 27/04/21 04... | Instance02 | 10.1.7.3 |

  
The "tarjeta" table has the following data:

| numero              | titular   | fecha | cvv2 |
|---------------------|-----------|-------|------|
| 1111 2222 3333 4444 | J. GARCIA | 11/22 | 123  |

The left sidebar shows a "Connections" tree and a "Directory" tree.

## Ejercicio número 4:

Para este ejercicio, debemos configurar el balanceador de carga tal y como se indica en el enunciado. Se adjunta el fichero *proxy\_balancer.conf* que se crea durante el proceso de configuración.

Para comprobar que todo se ha realizado correctamente, accedemos a la ruta del “*Balancer Manager*”

The screenshot shows the Apache Load Balancer Manager interface. At the top, it says "Load Balancer Manager for 10.1.7.1". Below that, it shows session statistics: "Server Version: Apache/2.2.14 (Ubuntu)" and "Server Built: Nov 3 2011 03:31:27". A table titled "LoadBalancer Status for balancer://si2cluster" lists session details:

| StickySession          | Timeout | FailoverAttempts | Method     |
|------------------------|---------|------------------|------------|
| JSESSIONID sessionid 0 | 1       |                  | byrequests |

Below this, another table titled "Worker URL" shows the distribution of requests between two instances:

| Worker URL            | Route      | RouteRedir | Factor | Set | Status | Elected To | From |
|-----------------------|------------|------------|--------|-----|--------|------------|------|
| http://10.1.7.2:28080 | Instance01 | 1          | 0      | Ok  | 0      | 0          | 0    |
| http://10.1.7.3:28080 | Instance02 | 1          | 0      | Ok  | 0      | 0          | 0    |

At the bottom, it says "Apache/2.2.14 (Ubuntu) Server at 10.1.7.1 Port 80".

A continuación, quitamos la propiedad *jvmRoute*, reiniciamos el cluster, borramos las cookies de nuestro navegador y realizamos varios pagos hasta comprobar que, efectivamente, uno de ellos falla. Mostramos a continuación la cookie generada:

The screenshot shows the Brave browser settings page. On the left, there's a sidebar with various options like Get started, Appearance, New Tab Page, Sync, Shields, Social media blocking, Search engine, Extensions, Safety check, and more. The main area shows a list of stored data under "10.1.7.1 locally stored data". There is one cookie entry named "JSESSIONID" with the following details:

- Name: JSESSIONID
- Content: 36fb6bc81fc00ec27ed894ad01oe5
- Domain: 10.1.7.1
- Path: /P3
- Send for: Same-site connections only
- Accessible to script: No (HttpOnly)
- Created: Tuesday, April 27, 2021 at 4:18:33 PM
- Expires: When the browsing session ends

Después, volvemos a añadir la propiedad **jvmRoute** y reiniciamos el cluster.

The screenshot shows the 'System Properties' configuration screen for a GlassFish domain. The left sidebar lists various system components like Domain, Clusters, Applications, etc. The main panel shows a table of properties under 'Additional Properties (11)'. A new row has been added for 'jvmRoute' with the value '\${com.sun.aas.instanceName}'. A success message at the top right says 'New values successfully saved.' Below the table, it says 'Clusters and/or Instances using this configuration:' followed by 'Instance01' and 'Instance02'.

Por último, probamos a realizar varios pagos comprobando que no falla ningún pago. Mostramos a continuación la cookie generada:

The screenshot shows the 'Settings - All cookies and' page in the Brave browser. It displays a list of locally stored data items. One item is selected: 'JSESSIONID' with the value '374c9215fa53e04c3ada3c9a4b90.Instance02'. The details pane shows the cookie's name, content, domain (10.1.7.1), path (/P3), send for (Same-site connections only), accessible to script (No (HttpOnly)), and creation date (Tuesday, April 27, 2021 at 4:24:17 PM). The cookie will expire 'When the browsing session ends'.

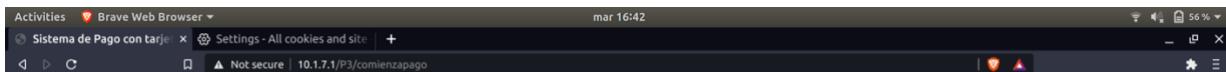
Como comentario final, se observa que en el contenido de la segunda cookie, está el nombre de la instancia, **Instance02**, que permitirá mantener la afinidad de sesión.

## Ejercicio número 5:

En este ejercicio, vamos a comprobar que funciona correctamente el balanceo de la carga. Para ello, vamos a realizar peticiones contra <http://10.1.7.1/P3> desde 2 navegadores distintos, borrando previamente las cookies de ambos, y a continuación, comprobaremos las cookies generadas y la base de datos para comprobar que a cada navegador se le asigna una instancia distinta.

Los navegadores que vamos a usar son:

- 1) **Brave** → Vemos que se le asigna **Instance02**. A través de este navegador hacemos las peticiones 1 y 3.
- 2) **Firefox** → Vemos que se le asigna **Instance01**. A través de este navegador hacemos las peticiones 2 y 4.

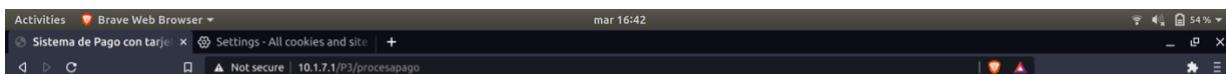


### Pago con tarjeta

Número de visa: 1111 2222 3333 4444  
Titular: Jose Garcia  
Fecha Emisión: 11/09  
Fecha Caducidad: 11/22  
CVV2: 123

Id Transacción: 1  
Id Comercio: 1  
Importe: 123.0

Prácticas de Sistemas Informáticos II



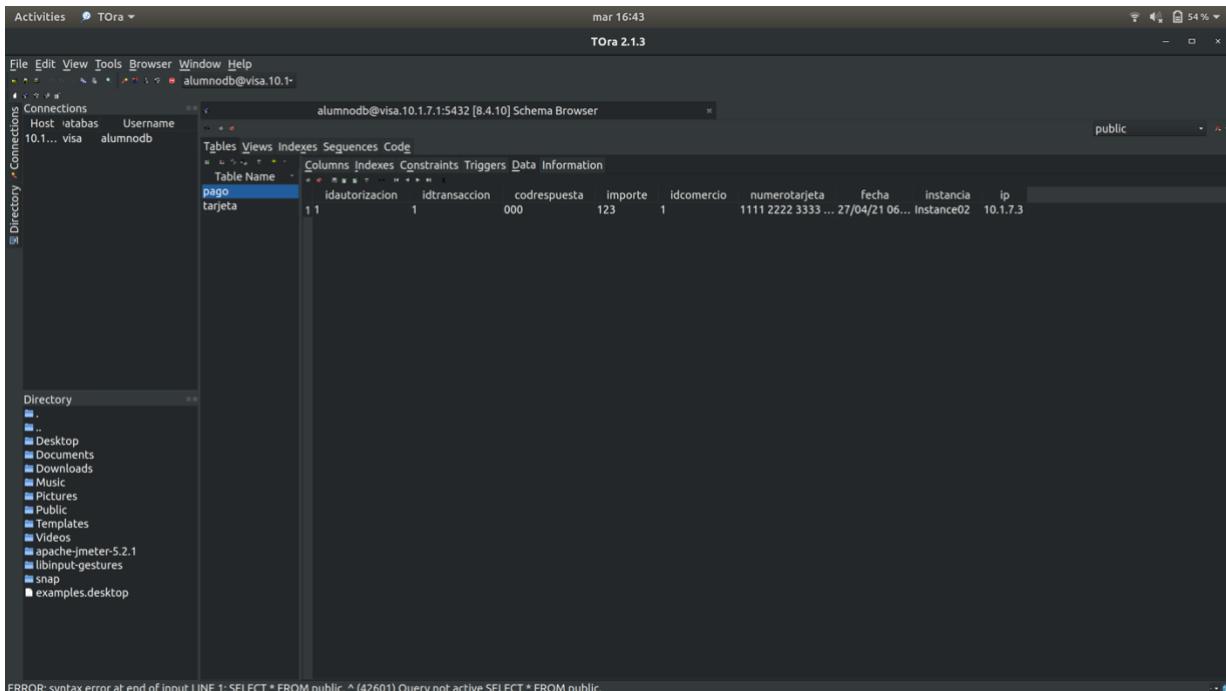
### Pago con tarjeta

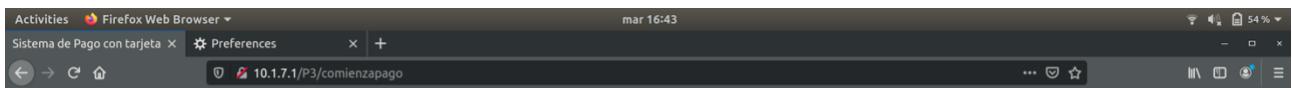
Pago realizado con éxito. A continuación se muestra el comprobante del mismo:

idTransaccion: 1  
idComercio: 1  
importe: 123.0  
codRespuesta: 000  
idAutorizacion: 1

[Volver al comercio](#)

Prácticas de Sistemas Informáticos II





## Pago con tarjeta

Número de visa:

Titular:

Fecha Emisión:

Fecha Caducidad:

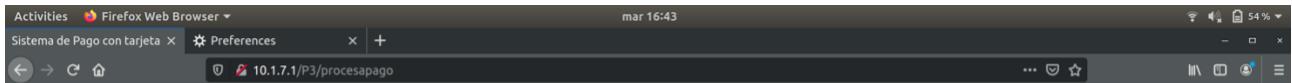
CVV2:

Id Transacción: 2

Id Comercio: 1

Importe: 456.0

Prácticas de Sistemas Informáticos II



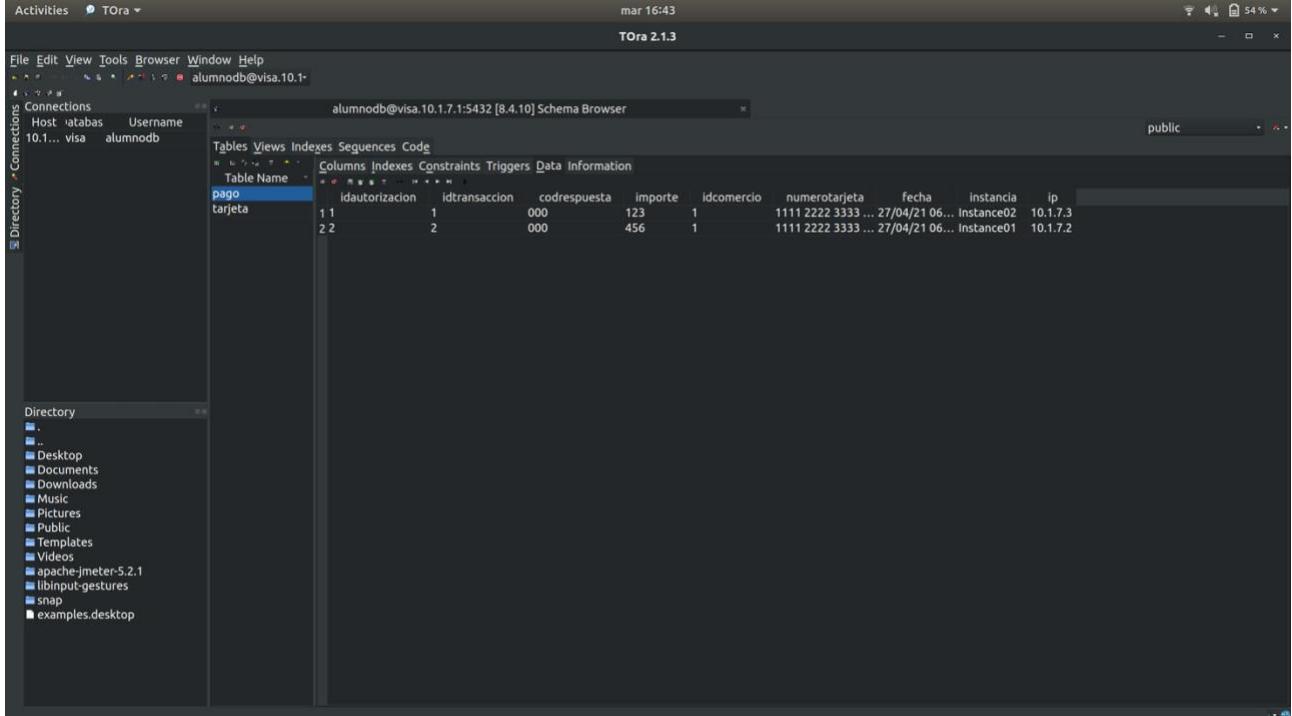
## Pago con tarjeta

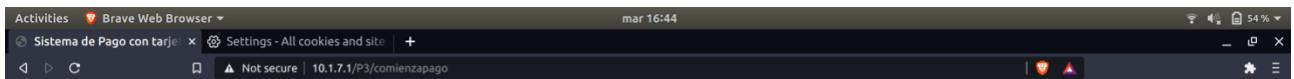
Pago realizado con éxito. A continuación se muestra el comprobante del mismo:

idTransaccion: 2  
idComercio: 1  
importe: 456.0  
codRespuesta: 000  
idAutorizacion: 2

[Volver al comercio](#)

Prácticas de Sistemas Informáticos II





## Pago con tarjeta

Numero de visa:

Titular:

Fecha Emisión:

Fecha Caducidad:

CVV2:

Id Transacción: 3  
Id Comercio: 1  
Importe: 789.0

Prácticas de Sistemas Informáticos II



## Pago con tarjeta

Pago realizado con éxito. A continuación se muestra el comprobante del mismo:

idTransaccion: 3  
idComercio: 1  
importe: 789.0  
codRespuesta: 000  
idAutorizacion: 3

[Volver al comercio](#)

Prácticas de Sistemas Informáticos II



## Pago con tarjeta

Numero de visa:

Titular:

Fecha Emisión:

Fecha Caducidad:

CVV2:

Id Transacción: 4  
Id Comercio: 1  
Importe: 123.0

Prácticas de Sistemas Informáticos II



## Pago con tarjeta

Pago realizado con éxito. A continuación se muestra el comprobante del mismo:

idTransaccion: 4  
idComercio: 1  
importe: 123.0  
codRespuesta: 000  
idAutorizacion: 4

[Volver al comercio](#)

Prácticas de Sistemas Informáticos II

Para terminar, comprobamos la distribución de la carga accediendo al “**Balancer Manager**”:

## Ejercicio número 6:

Para realizar este ejercicio, observamos la última captura del ejercicio anterior, y determinamos que la instancia menos usada es Instance02. Encontramos su *pid* y terminamos el proceso con el comando *kill*

```

Activities Terminal
martin@martin-XPS-13: ~/Documents/si2/practica3
File Edit View Search Terminal Tabs Help
martin@martin-XPS-13: ~/Documents/si2/practica3
martin@martin-XPS-13: ~/Documents/si2/practica3
$12@si2srv03:~$ kill -9 3497
$12@si2srv03:~$ exit
logout
Connection to 10.1.7.3 closed.
$12@si2srv01:~$ asadmin list-instances -l
Name          Host      Port  Pld Cluster  State
Instance01    10.1.7.2  24848 3344  SI2Cluster  running
Instance02    10.1.7.3  24848  --   SI2Cluster  not running
Command list-instances executed successfully.
$12@si2srv01:~$ 

```

**Load Balancer Manager for 10.1.7.1**

Server Version: Apache/2.2.14 (Ubuntu)  
Server Built: Nov 3 2011 03:31:27

| LoadBalancer Status for balancer://si2cluster             |              |                   |               |            |               |                                   |
|-----------------------------------------------------------|--------------|-------------------|---------------|------------|---------------|-----------------------------------|
| StickySession                                             | Timeout      | FailoverAttempts  | Method        | Route      | RouteRedir    | Factor Set Status Elected To From |
| JSESSIONID:sessionid 0                                    | 1            | byrequests        |               |            |               |                                   |
| <b>Worker URL</b>                                         | <b>Route</b> | <b>RouteRedir</b> | <b>Factor</b> | <b>Set</b> | <b>Status</b> | <b>Elected To From</b>            |
| <a href="http://10.1.7.2:28080">http://10.1.7.2:28080</a> | Instance01   |                   | 1             | Ok         | 33            | 24K 33K                           |
| <a href="http://10.1.7.3:28080">http://10.1.7.3:28080</a> | Instance02   |                   | 1             | Err        | 30            | 22K 32K                           |

Apache/2.2.14 (Ubuntu) Server at 10.1.7.1 Port 80

A continuación, realizamos un pago con Brave, sin borrar las cookies, ya que era el navegador al que se le había asociado la instancia 2 y comprobamos que se realiza correctamente a través de la instancia 1.

**Pago con tarjeta**

Número de visa: 1111 2222 3333 4444  
Titular: Jose Garcia  
Fecha Emisión: 11/09  
Fecha Caducidad: 11/22  
CVV2: 123

Id Transacción: 5  
Id Comercio: 1  
Importe: 456.0

Prácticas de Sistemas Informáticos II

Pago realizado con éxito. A continuación se muestra el comprobante del mismo:

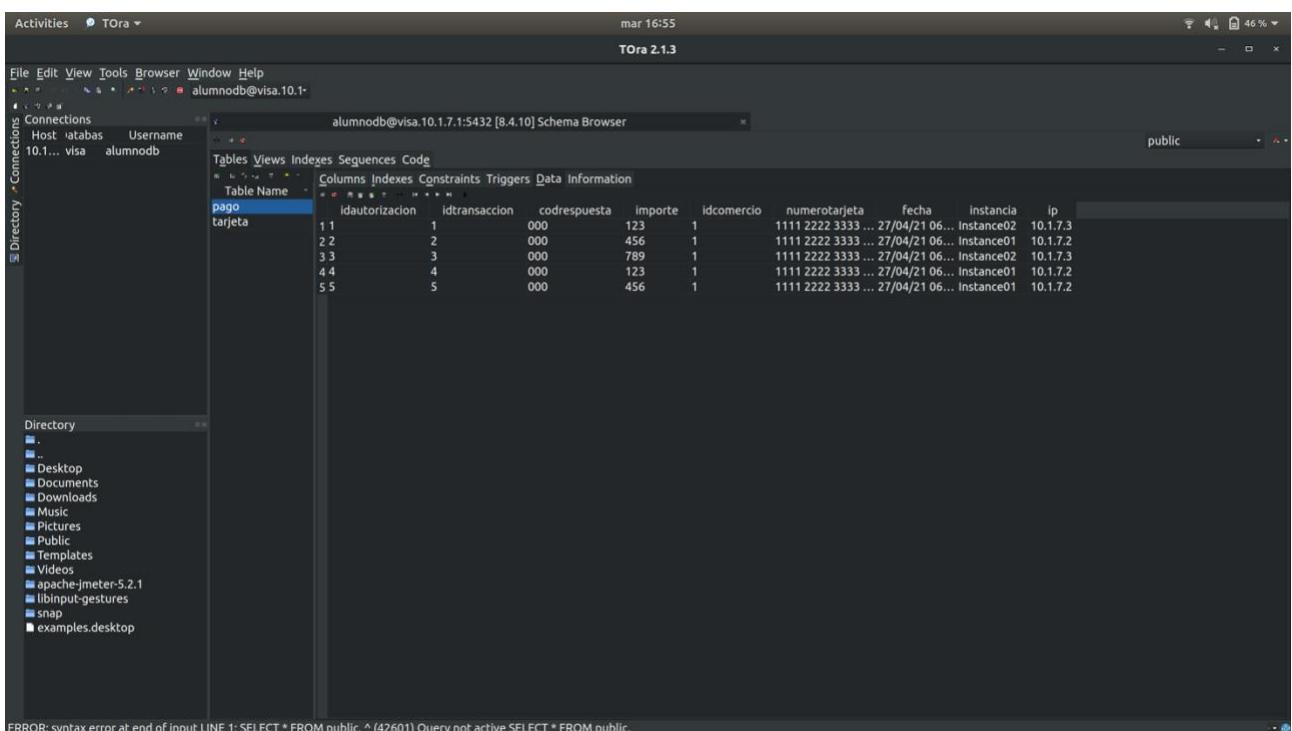
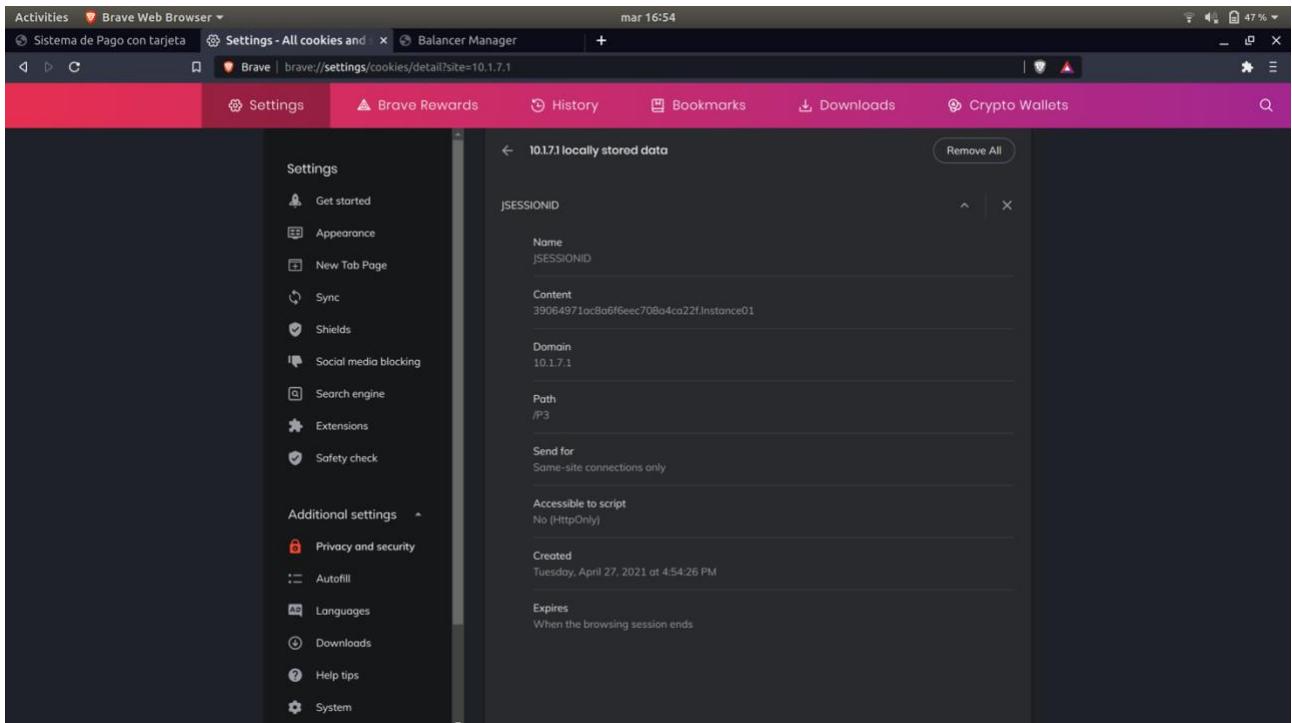
```

idTransaccion: 5
idComercio: 1
importe: 456.0
codRespuesta: 000
idAutorizacion: 5

```

[Volver al comercio](#)

Prácticas de Sistemas Informáticos II



## Ejercicio número 7:

En este ejercicio, se nos pide que reiniciemos la instancia manualmente a través de glassfish y comprobar que se el balanceador distribuye correctamente.

Activities Brave Web Browser ▾ mar 16:59  
Sistema de Pago con tarjeta Settings - All cookies and site Balancer Manager Clusters +  
Home About... User: admin Domain: domain1 Server: 10.1.7.1 Not secure | 10.1.7.1:4848/common/index.jsp Logout Help

GlassFish® Server Open Source Edition

Total # of available updates : 1

Common Tasks

- Domain
- server (Admin Server)
- Clusters
- Standalone Instances
- Nodes
- Applications
- Lifecycle Modules
- Monitoring Data
- Resources
  - Concurrent Resources
  - Connectors
  - JDBC
  - JMS Resources
  - JNDI
  - JavaMail Sessions
  - Resource Adapter Configs
- Configurations
  - SI2Cluster-config
  - default-config
  - server-config
- Update Tool

**Clusters**

Create and manage GlassFish Server clusters. A cluster is a named collection of GlassFish Server instances that provides high availability through scalability, load balancing, and failure protection.

**Clusters (1)**

New... Delete Start Cluster Stop Cluster

| Select                   | Name       | Configuration     | Instances                                    |
|--------------------------|------------|-------------------|----------------------------------------------|
| <input type="checkbox"/> | SI2Cluster | SI2Cluster-config | Instance01 (Running)<br>Instance02 (Stopped) |

Activities Brave Web Browser ▾ mar 16:59  
Sistema de Pago con tarjeta Settings - All cookies and site Balancer Manager General Information +  
Home About... User: admin Domain: domain1 Server: 10.1.7.1 Not secure | 10.1.7.1:4848/common/index.jsp Logout Help

GlassFish® Server Open Source Edition

Total # of available updates : 1

Common Tasks

- Domain
- server (Admin Server)
- Clusters
- SI2Cluster
- Standalone Instances
- Nodes
- Applications
- Lifecycle Modules
- Monitoring Data
- Resources
  - Concurrent Resources
  - Connectors
  - JDBC
  - JMS Resources
  - JNDI
  - JavaMail Sessions
  - Resource Adapter Configs
- Configurations
  - SI2Cluster-config
  - default-config
  - server-config
- Update Tool

**General Information**

Start Stop Restart View Log Files View Raw Log Rotate Log Recover Transaction... Back

Cluster Name: SI2Cluster  
Instance Name: Instance02  
JVM: JVM Report  
Node: Node02  
Configuration: SI2Cluster-config  
HTTP Port(s): 24848,28080,28181  
IIOP Port(s) 23820,23920,23700

10.1.7.1:4848 says  
Start the GlassFish Server Instance ?

Cancel OK

Activities Brave Web Browser - Sistema de Pago con tarjeta - Settings - All cookies and site - Balancer Manager Clusters + mar 16:59

User: admin Domain: domain1 Server: 10.1.7.1

## GlassFish® Server Open Source Edition

Total # of available updates : 1

**Clusters**

Create and manage GlassFish Server clusters. A cluster is a named collection of GlassFish Server instances that provides high availability through scalability, load balancing, and failure protection.

| Select                   | Name       | Configuration     | Instances                                |
|--------------------------|------------|-------------------|------------------------------------------|
| <input type="checkbox"/> | Si2Cluster | Si2Cluster-config | Instance01 Running<br>Instance02 Running |

Para comprobar el correcto funcionamiento, borramos las cookies de Brave, realizamos un pago y vemos que tanto en la cookie como en la base de datos se le ha asignado la instancia 2.

Activities Brave Web Browser - Sistema de Pago con tarjeta - Settings - All cookies and site - Balancer Manager Clusters + mar 17:02

Pago con tarjeta

Numero de visa: 1111 2222 3333 4444

Titular: Jose Garcia

Fecha Emision: 11/09

Fecha Caducidad: 11/22

CVV2: 123

Pagar

Id Transaccion: 7  
Id Comercio: 1  
Importe: 789.0

Prácticas de Sistemas Informáticos II

Activities Brave Web Browser - Sistema de Pago con tarjeta - Settings - All cookies and site - Balancer Manager Clusters + mar 17:02

Pago con tarjeta

Pago realizado con éxito. A continuación se muestra el comprobante del mismo:

idTransaccion: 7  
idComercio: 1  
importe: 789.0  
codRespuesta: 000  
idAutorizacion: 7

Volver al comercio

Prácticas de Sistemas Informáticos II

Brave Web Browser - Settings - All cookies and site

**JSESSIONID**

Name: JSESSIONID

Content: 397bd621d8cccd4e18e6ee68b80de.Instance02

Domain: 10.1.7.1

Path: /P3

Send for: Same-site connections only

Accessible to script: No (HttpOnly)

Created: Tuesday, April 27, 2021 at 5:02:27 PM

Expires: When the browsing session ends

Tora 2.1.3

File Edit View Tools Browser Window Help

Host: alumnodb@visa.10.1

Tables Views Indexes Sequences Code

| Table Name | Columns                                                                                               | Indexes             | Constraints                       | Triggers            | Data                                                                                                                                                                                                                                         | Information                                                                        |                                                                      |
|------------|-------------------------------------------------------------------------------------------------------|---------------------|-----------------------------------|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|----------------------------------------------------------------------|
| pago       | idautorizacion, idtransaccion, codrespuesta, importe, idcomercio, numerotarjeta, fecha, instancia, ip |                     |                                   |                     |                                                                                                                                                                                                                                              |                                                                                    |                                                                      |
| tarjeta    | 1 1, 2 2, 3 3, 4 4, 5 5, 6 6, 7 7                                                                     | 1, 2, 3, 4, 5, 6, 7 | 000, 456, 789, 123, 000, 456, 789 | 1, 1, 1, 1, 1, 1, 1 | 111 2222 3333 ... 27/04/21 06..., 111 2222 3333 ... 27/04/21 06..., 111 2222 3333 ... 27/04/21 06..., 111 2222 3333 ... 27/04/21 06..., 111 2222 3333 ... 27/04/21 06..., 111 2222 3333 ... 27/04/21 06..., 111 2222 3333 ... 27/04/21 06... | Instance02, Instance01, Instance02, Instance01, Instance01, Instance01, Instance02 | 10.1.7.3, 10.1.7.3, 10.1.7.3, 10.1.7.2, 10.1.7.2, 10.1.7.2, 10.1.7.3 |

Directory

ERROR: syntax error at end of input LINE 1: SELECT \* FROM public. ^ (42601) Query not active SELECT \* FROM public.

Activities Brave Web Browser - Settings - All cookies and site - Balancer Manager

Not secure | 10.1.7.1/balancer-manager

## Load Balancer Manager for 10.1.7.1

Server Version: Apache/2.2.14 (Ubuntu)  
Server Built: Nov 3 2011 03:31:27

### LoadBalancer Status for balancer://si2cluster

| StickySession          | Timeout | FailoverAttempts | Method |
|------------------------|---------|------------------|--------|
| JSESSIONID sessionid 0 | 1       | byrequests       |        |

### Worker URL

| URL                   | Route      | RouteRedir | Factor | Set | Status | Elected To | From |
|-----------------------|------------|------------|--------|-----|--------|------------|------|
| http://10.1.7.2:28080 | Instance01 | 1          | 0      | Ok  | 37     | 28K 35K    |      |
| http://10.1.7.3:28080 | Instance02 | 1          | 0      | Ok  | 32     | 23K 35K    |      |

Apache/2.2.14 (Ubuntu) Server at 10.1.7.1 Port 80