

LAB 9: NETWORKING AND THREADS

You are given a server program (Lab9Server), which computes the area of a circle when a client sends the radius.

Here is the Lab9Server application protocol:

Client Request	Server Response	Meaning
RADIUS r	AREA a	Calculate the area of a circle with Radius r
QUIT	DONE	Quit the connection

The Lab9Server code that you have can handle one client at a time.

For this lab, you should modify the Lab9Server and Lab9Service classes, so the server can handle multiple clients' requests at the same time.

- For more clarifications, please watch Lab9Demo video.
- Please download Lab9.zip file from Brightspace and uncompress it.

There are four files in the Lab9 folder:

- AreaConstants.java: an interface containing the constants used by the Lab9Server, Lab9Service, and Lab9Client
- Lab9Server.java: the server program
- Lab9Service.java: a class which provides service to the clients
- Lab9Client.java: a client program which connects to the Lab9Server and requests to calculate the area of a circle

Please review the Lab9Server.java, Lab9Service.java and Lab9Client.java.

- Start the Lab9Server program, then start a Lab9Client program make sure a service to the client is provided.
- Start the second Lab9Client program; observe that as long as the first client is connected, no service is provided to the second client.

Then modify the Lab9Server and Lab9Service classes as follows:

- Modify the Lab9Server.java
 - Every time a client connects to the server, the server should create and start a Thread
- Modify the Lab9Service.java
 - Modify the Lab9Service class to implement Runnable
 - Override the run method of the Runnable interface. The run method should provide service to clients.

Marking Scheme: [10] Complete Multi Server program