

## CS209A Practice 9

Client-server architecture, the architecture of a computer network in which many clients (remote processors) request and receive service from a centralized server (host computer). Client computers provide an interface to allow a computer user to request services of the server and to display the results the server returns. Servers wait for requests to arrive from clients and then respond to them.

In week 9, we supply an application [FacultyScrapingExample.java](#) that can scrape all faculty information from SUSTECH official website. We organize the data into a CSV document [FacultyList.csv](#). In this practice, we need to complete a simple client-server system. The system includes client and server. The server loads data which is stored in [FacultyList.csv](#) to an ArrayList when it starts and then waits for the query command from the client. The client prompts the user to enter the query command, sends the command to the server, which performs the query operation and returns the result to the client. The client displays the returned results.

Here are the query commands you need to implement:

1. Query a faculty's info by name
2. Query the faculties info list by the first letter of name
3. Query the faculties info list by department name

Specific send message and response message requirements of the client and server are as follows(The green font indicates that the user is required to input the command from the console):

1. Query a faculty's info by name

Command format: NAME faculty's name

Client:

Please enter a command:

NAME Li Junguo

Li Junguo, Research Associate Professor, Academy for Advanced Interdisciplinary Sciences

Server:

Received: NAME Li Junguo

Command processed

2. Query the faculties info list by the first letter of name

Command format: FIRSTLETTER the first letter of name

Client:

Please enter a command:

FIRSTLETTER A

AN Song, Research Associate Professor, Academy for Advanced Interdisciplinary Sciences

ASHERALIEVA Alia, Assistant Professor, Computer Science and Engineering

ALLISON Dansie, English Instructor, Center for Language Education

ALBERT Evans, English Instructor, Center for Language Education

Ancheng HUANG, Associate Professor, Biology

Arnaud Nicolas Mignan, Associate Professor, Earth and Space Sciences

Server:

Received:FIRSTLETTER A  
Command processed

3. Query the faculties info list by department name

Command format: DEP department name

Client:

Please enter a command:  
DEP Sports Center  
BAI Bo, Lecturer of PE, Sports Center  
DONG Lunhong, Teaching Professor, Sports Center  
HE Zilin, Lecturer of PE, Sports Center  
HOU Siyu, Lecturer of PE, Sports Center  
LAI Sha, Lecturer of PE, Sports Center  
LIU Jianjun, Secretary, Sports Center  
LU Yang, Lecturer of PE, Sports Center  
SUN Yan, Lecturer of PE, Sports Center  
WEI Weicheng, Lecturer of PE, Sports Center  
YANG Jia, Sports field and equipment manager, Sports Center  
ZHAO Fei, Lecturer of PE, Sports Center  
ZHAO Yipin, Lecturer of PE, Sports Center

Server:

Received:DEP Sports Center  
Command processed