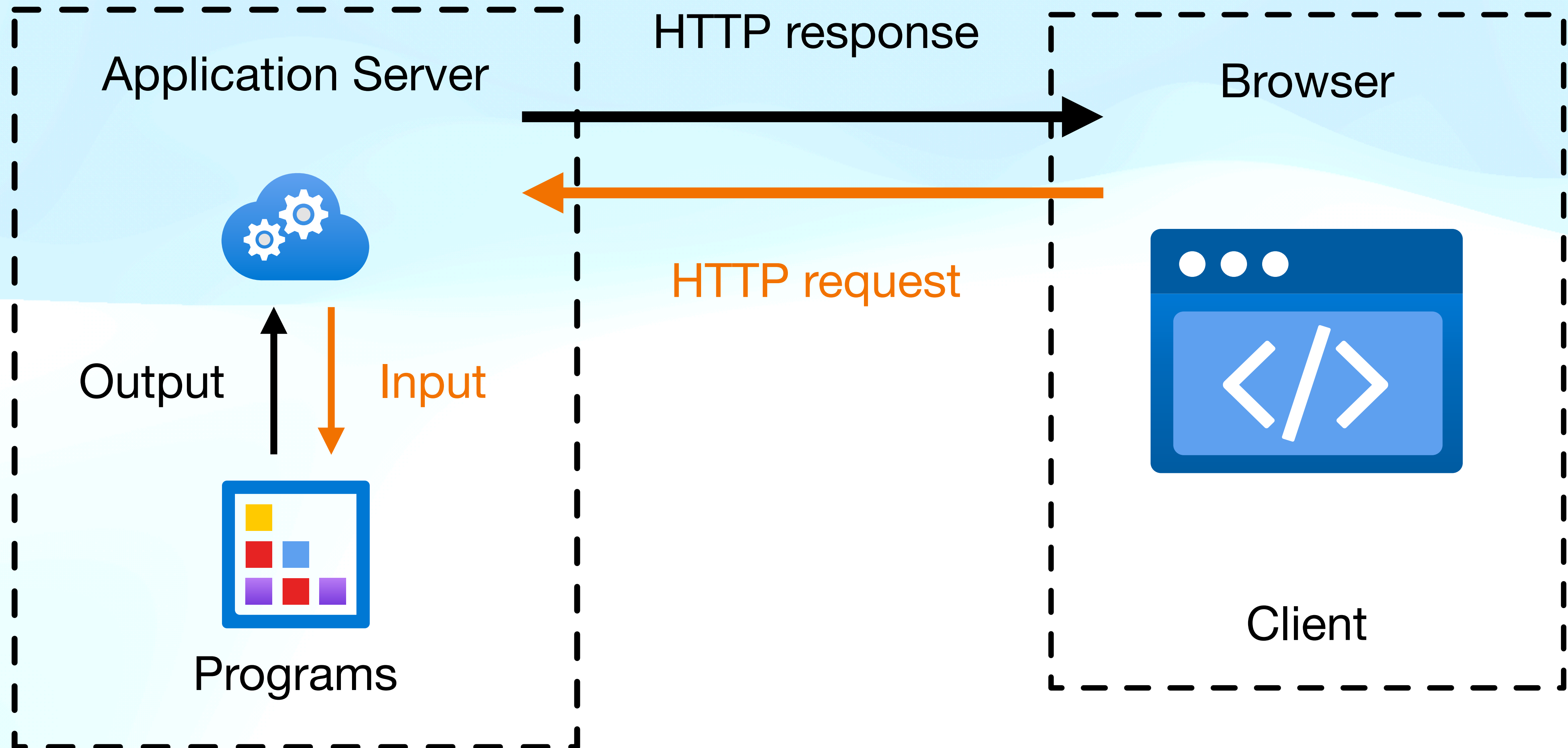


CS3220 Web and Internet Programming

Handling HTTP Requests

Robert Lai

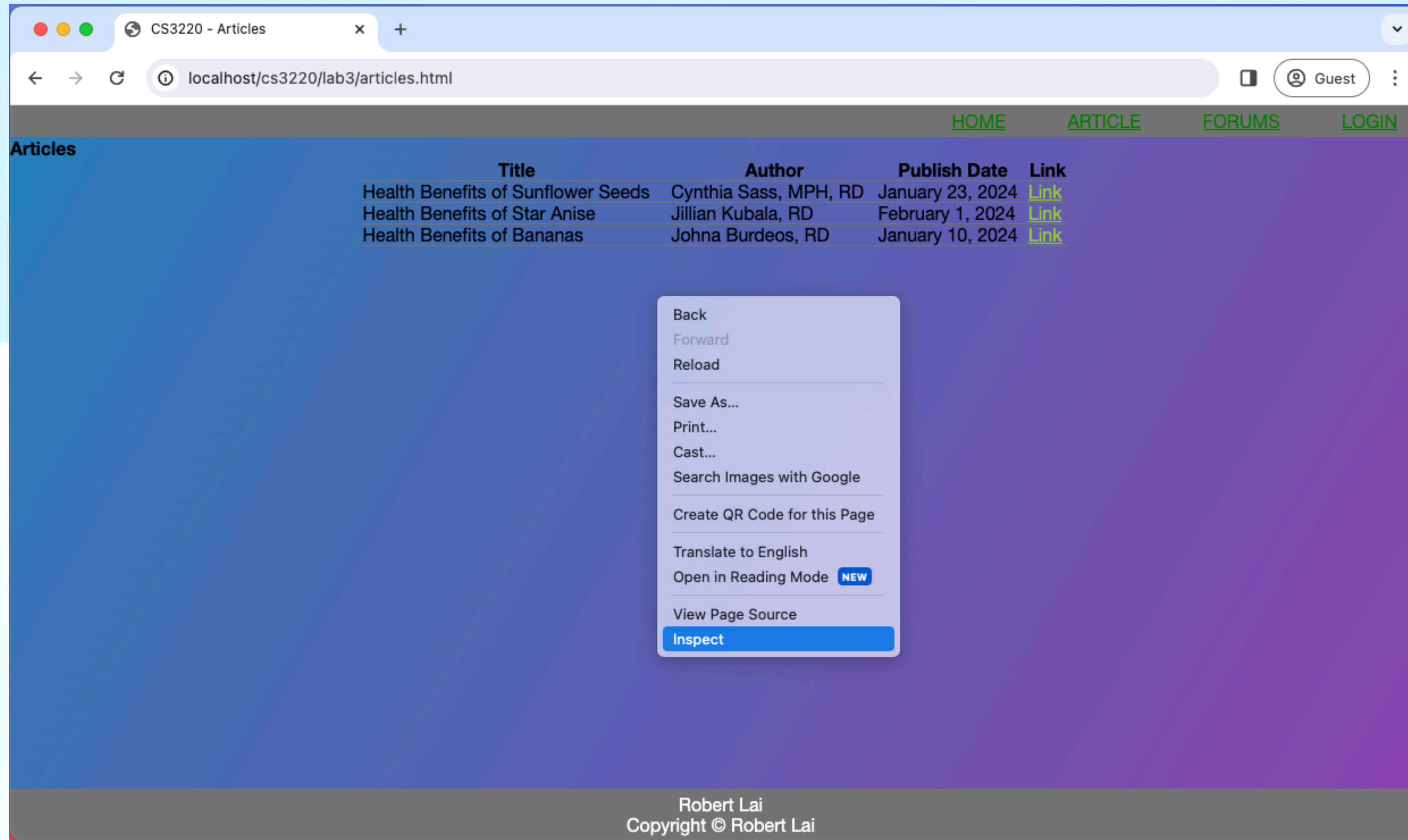
HTTP Request As Input



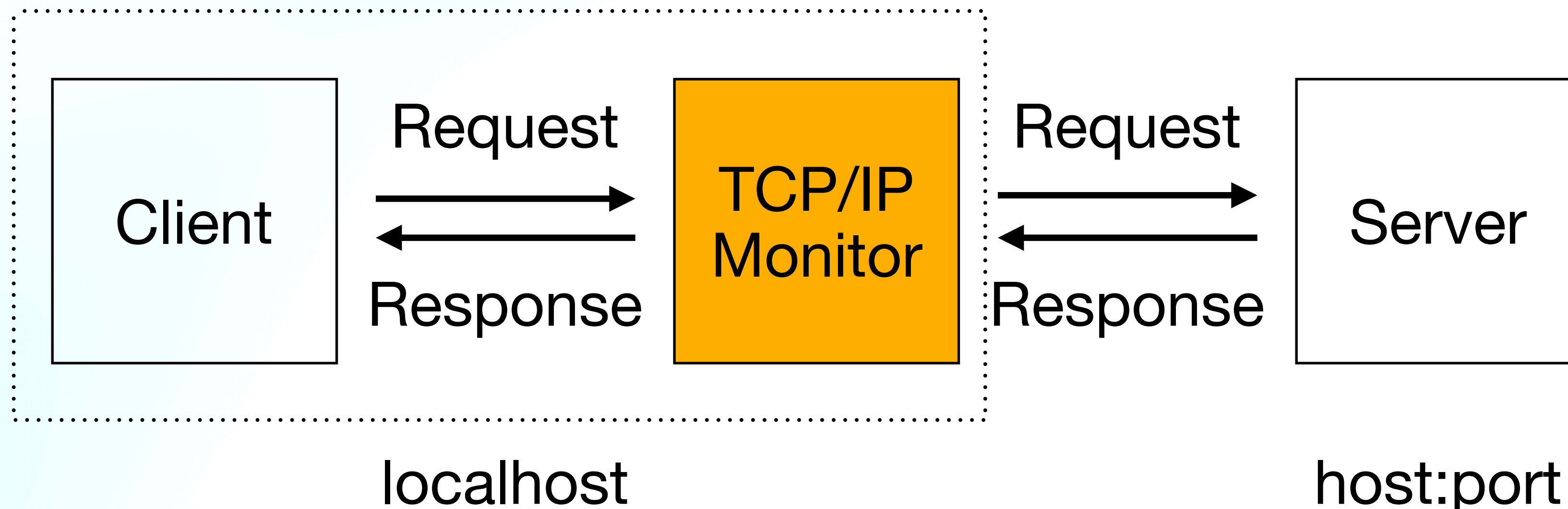
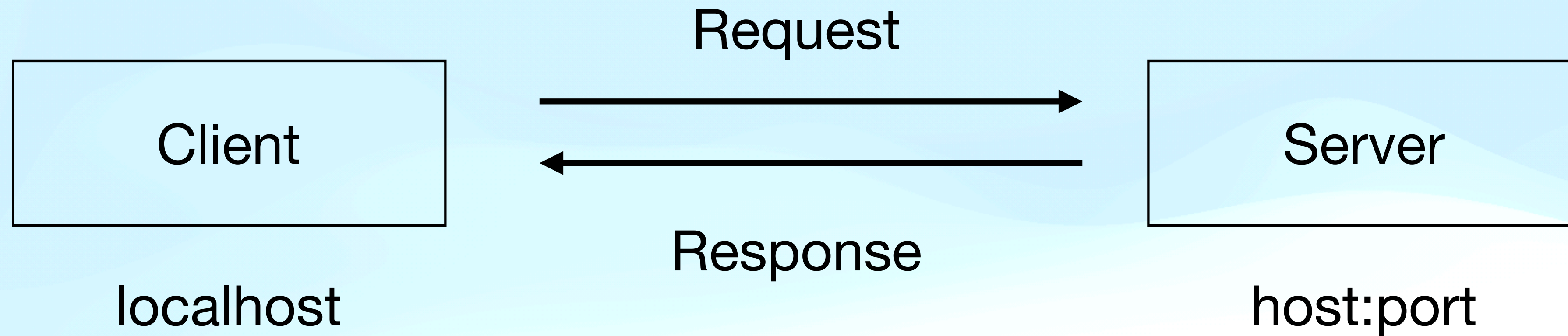
Examine HTTP Requests and Responses

- The Network tab in Developer Tools in Chrome/Edge or Firefox, or
- TCP/IP Monitor in Eclipse

The Network tab in Developer Tools



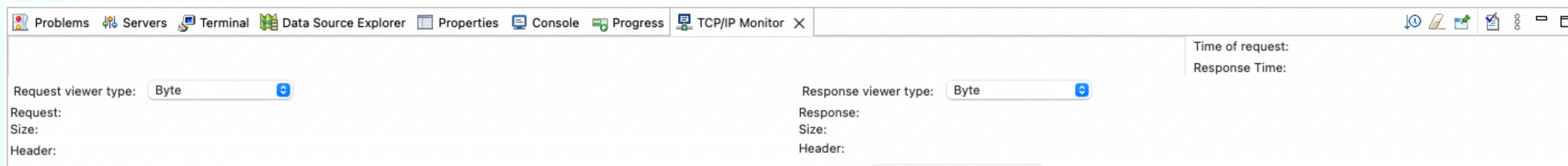
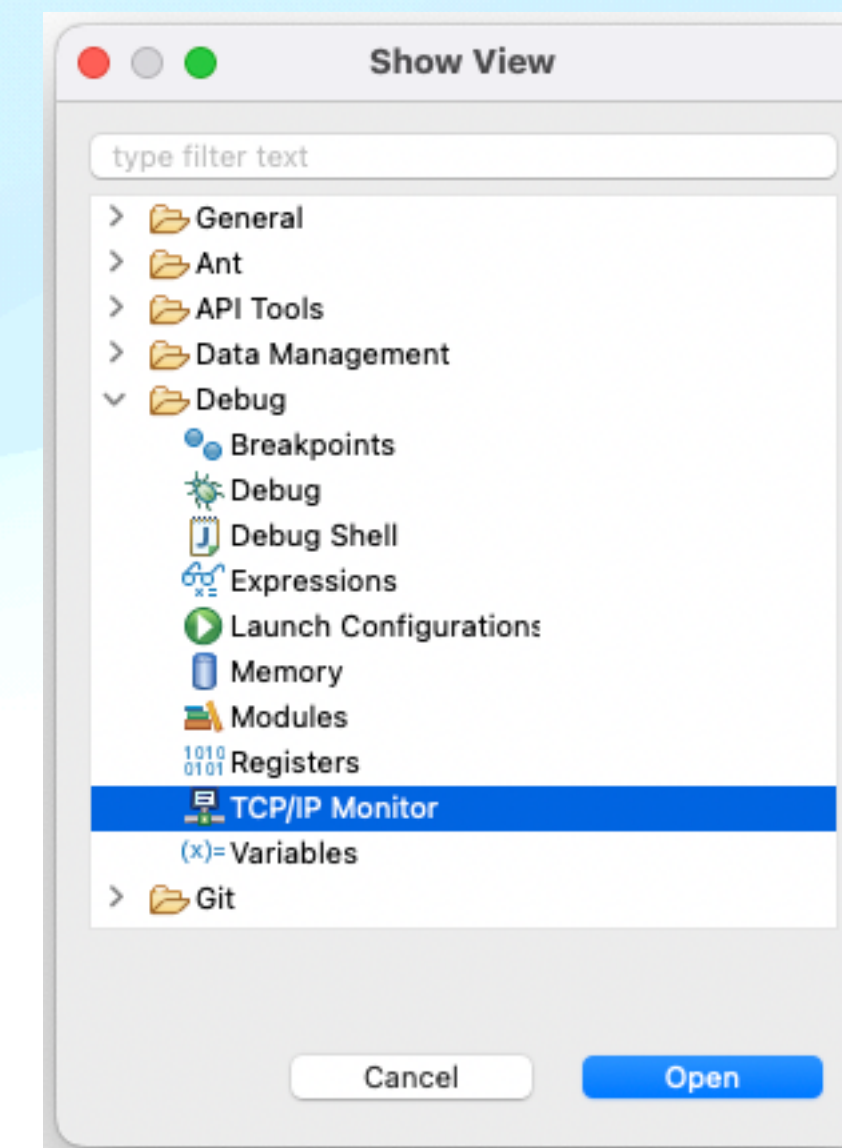
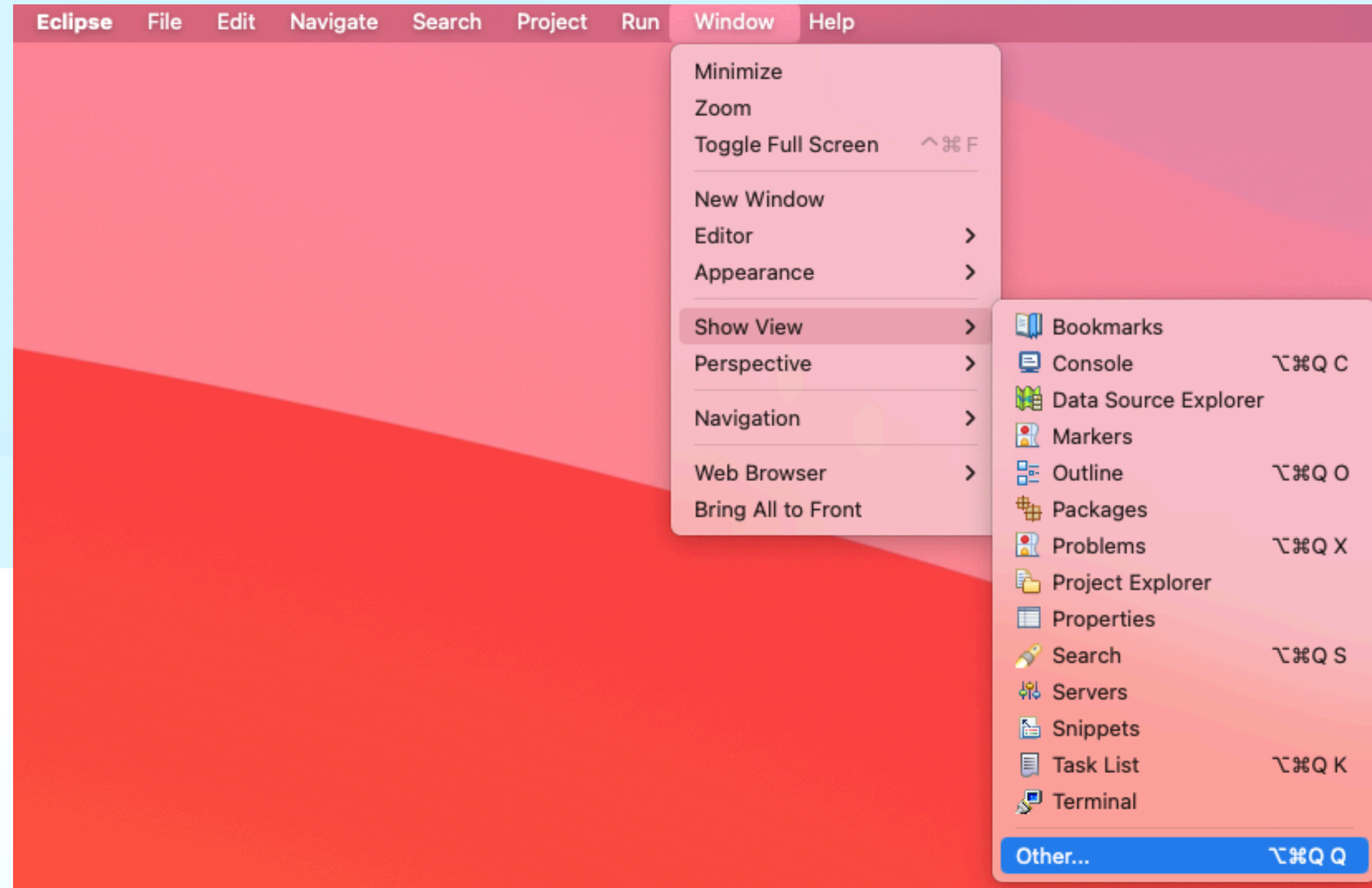
TCP/IP Monitor in Eclipse



TCP/IP Monitor in Eclipse

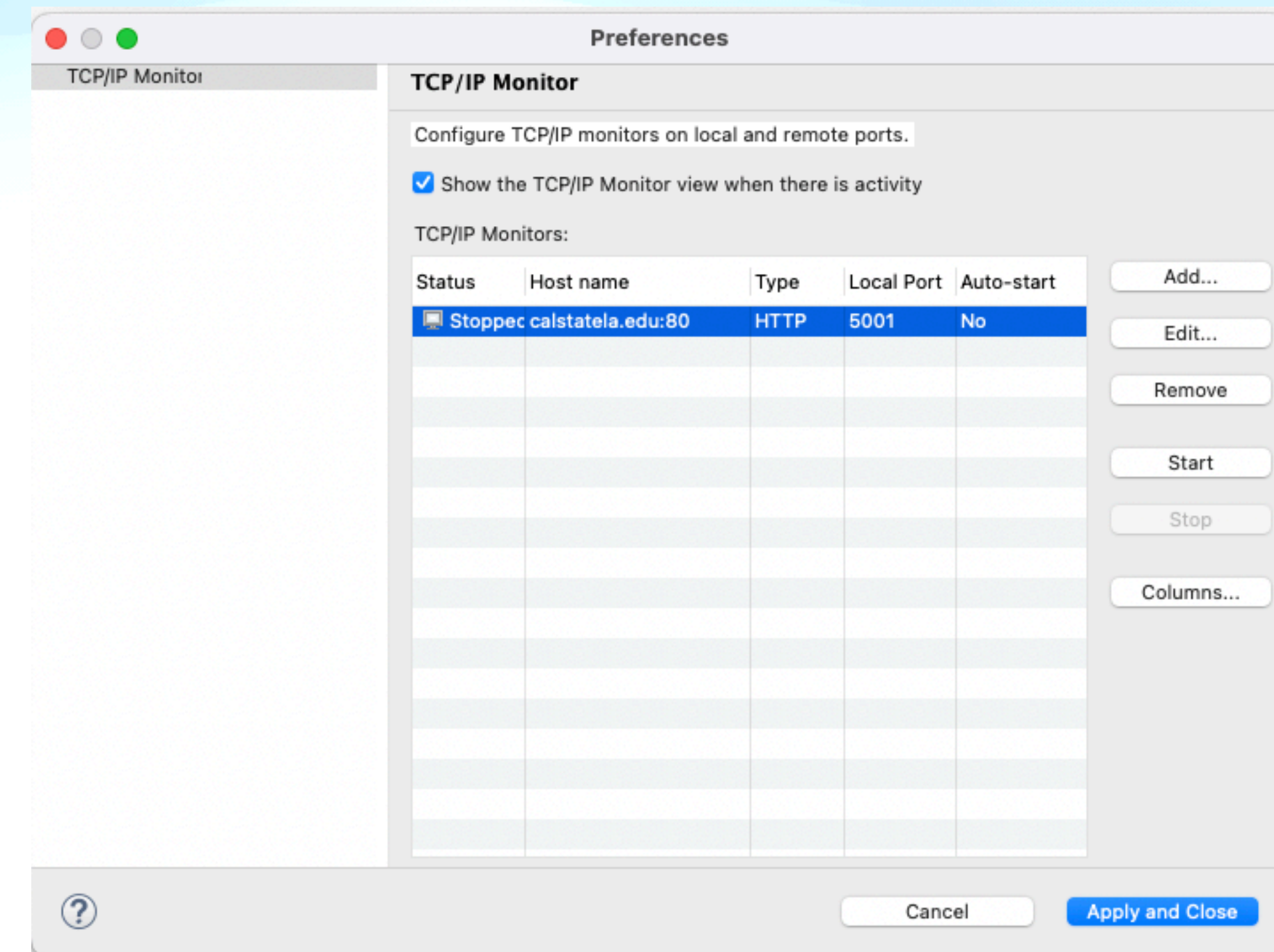
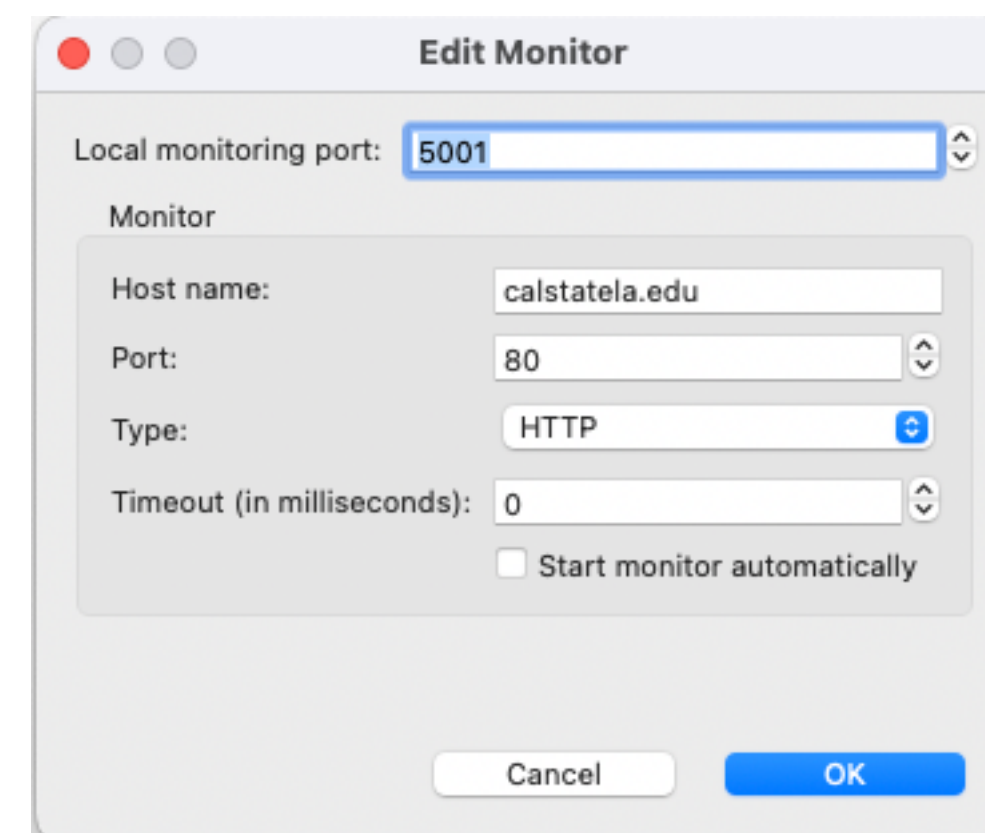
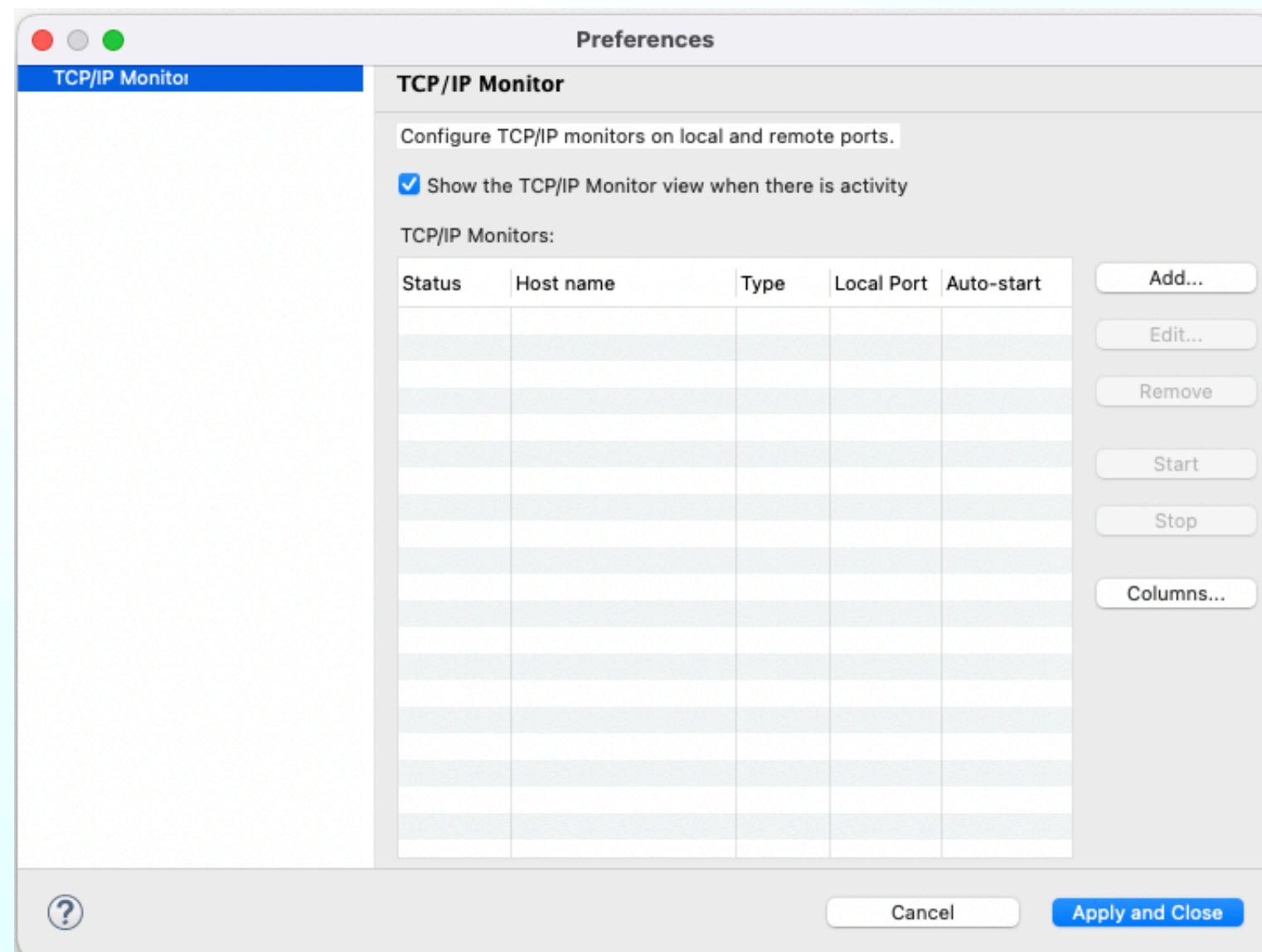
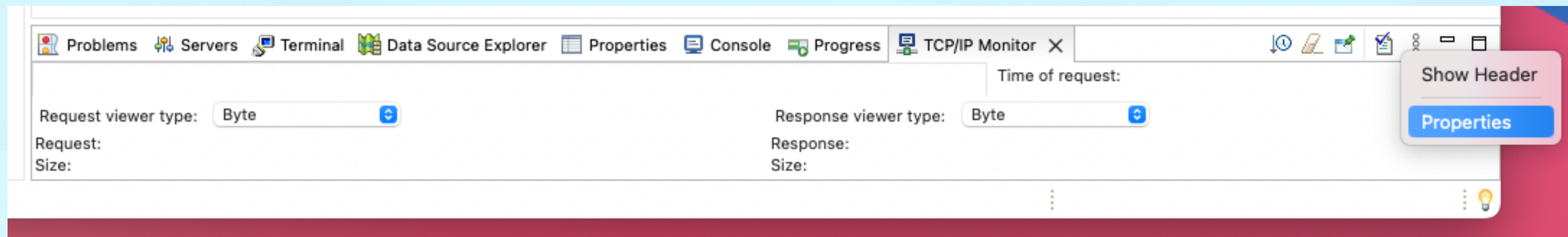
- Window -> Show View -> Other -> Debug -> TCP/IP Monitor

TCP/IP Monitor in Eclipse



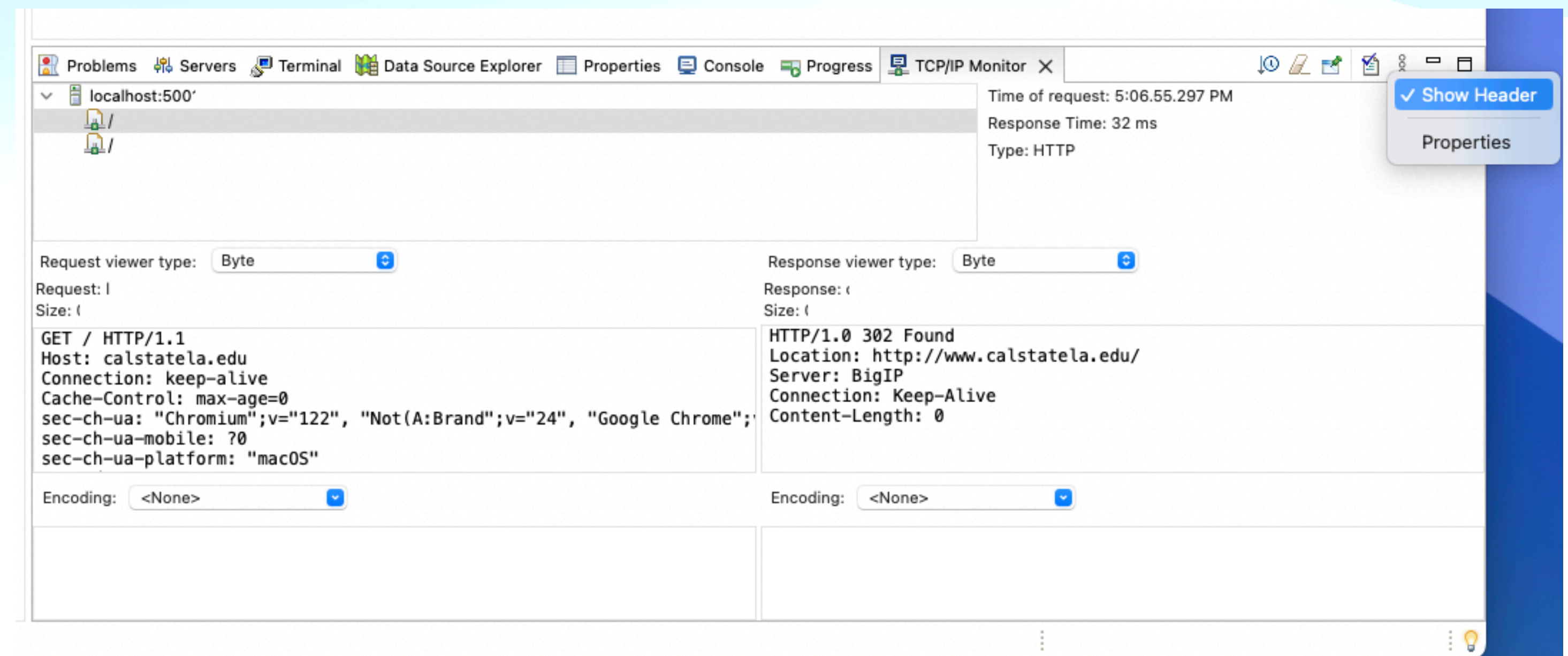
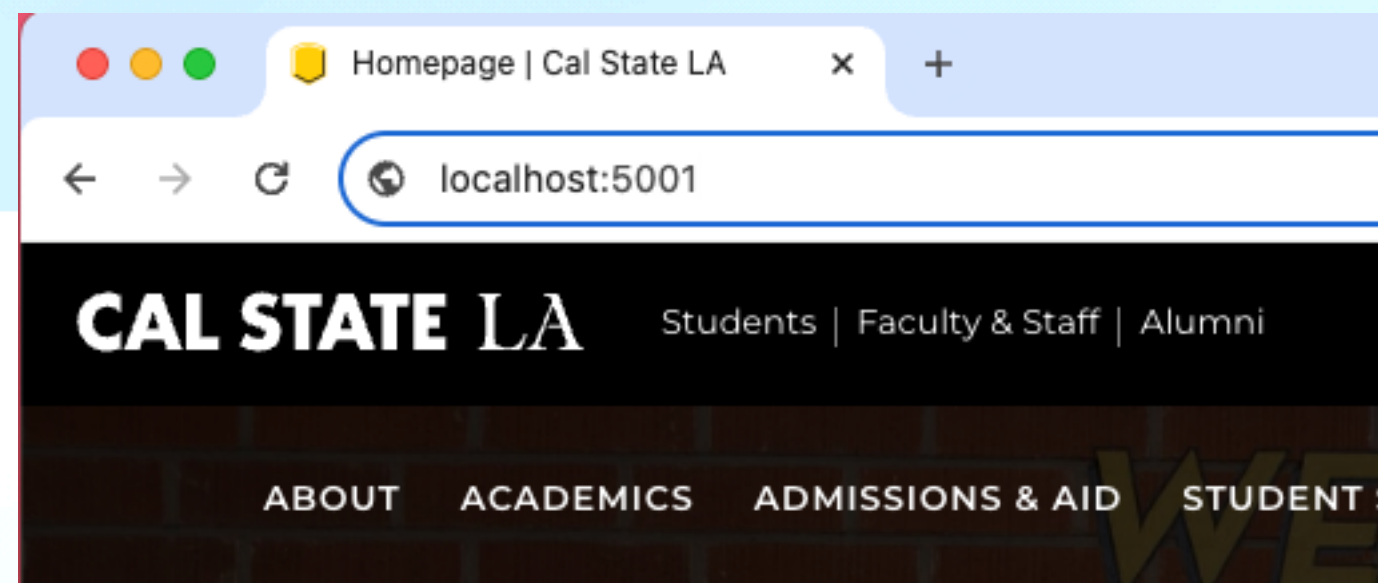
How to use TCP/IP Monitor in Eclipse

- Click on the “Three Dots” at the right corner -> “Properties”
- Click “Add” and input the Monitor Information -> “OK” -> “Start”

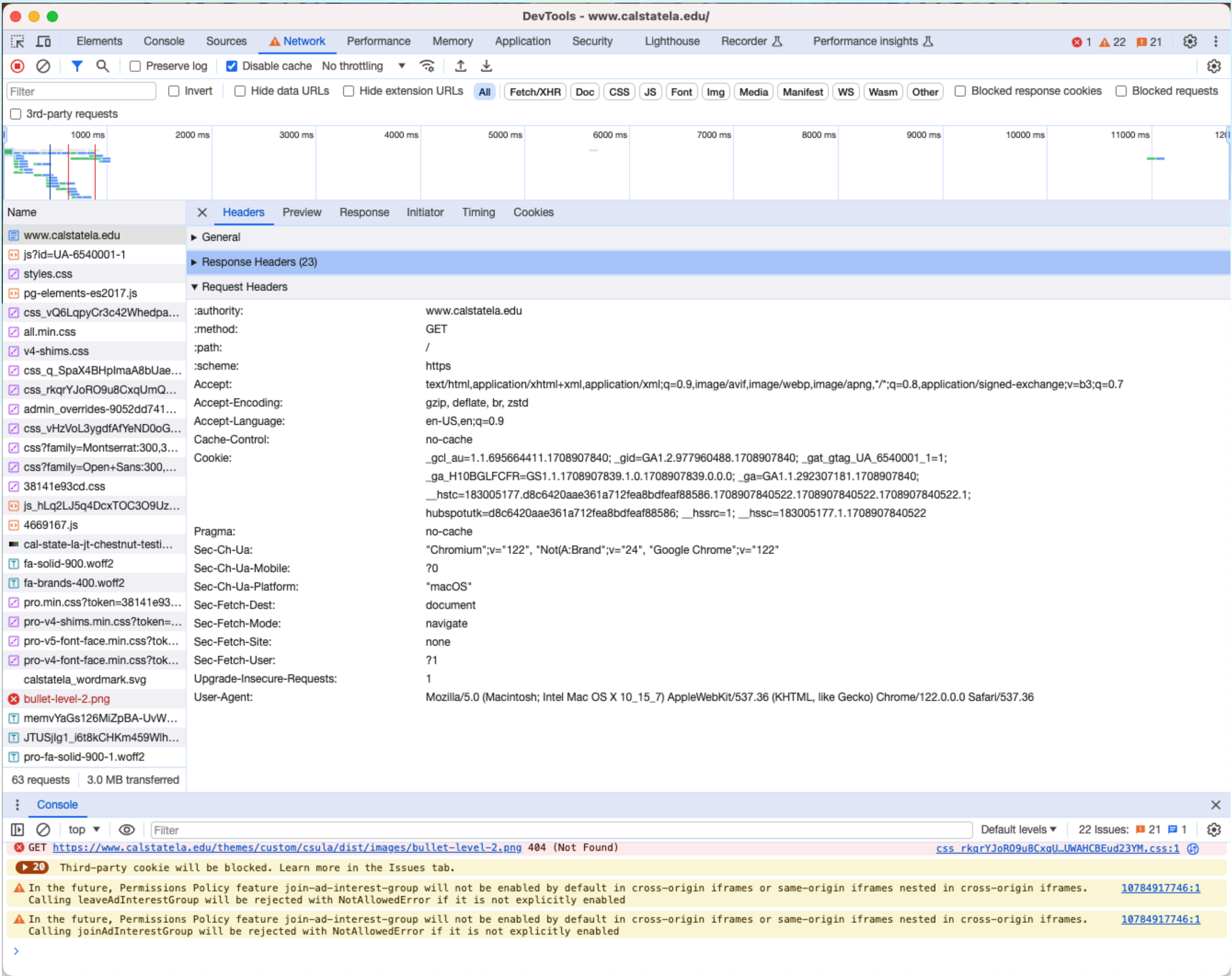


How to use TCP/IP Monitor in Eclipse

- Type in localhost:5001 on your browser
- Click on “Show Header” in Eclipse’s “TCP/IP Monitor”
- Request and Response information will be displayed



HTTP Request Example



HTTP Request

- Request line
 - Method
 - Request URI
 - Protocol
- Header
- [Request Body]

Request Methods

- Actions to be performed regarding the resource identifier by the Request URI
- Browser
 - GET
 - POST
- Editor
 - PUT
 - DELETE
- Diagnosis
 - HEAD
 - OPTIONS
 - TRACE

HttpServlet Methods

Methods	service()
GET	doGet()
POST	doPost()
PUT	doPut()
DELETE	doDelete()
HEAD	doHead()
OPTIONS	doOptions()
TRACE	doTrace()

Override HttpServlet Methods

- Default implementation returns an HTTP Bad Request error
- doGet(), doPost()
 - If they do the same thing, simply call one method from the other

Request Header Fields

- User-Agent
- Accept
- Accept-Charset
- Accept-Encoding
- Accept-Language
- Host
- Connection/Keep-alive
- Content-Length
- Cookie
- Referer

HttpServletRequest

- getXxx() methods
- <https://docs.oracle.com/javaee/7/api/javax/servlet/http/HttpServletRequest.html>

Example: RequestInfo

- Display some request information
 - Method, request URI, request URL...
- Display the IP address of the client
- Determine if gzip compression support

Request Parameters

- Query string
 - `www.example.com/method?param1=value1¶m2=value2&...`
- Form data

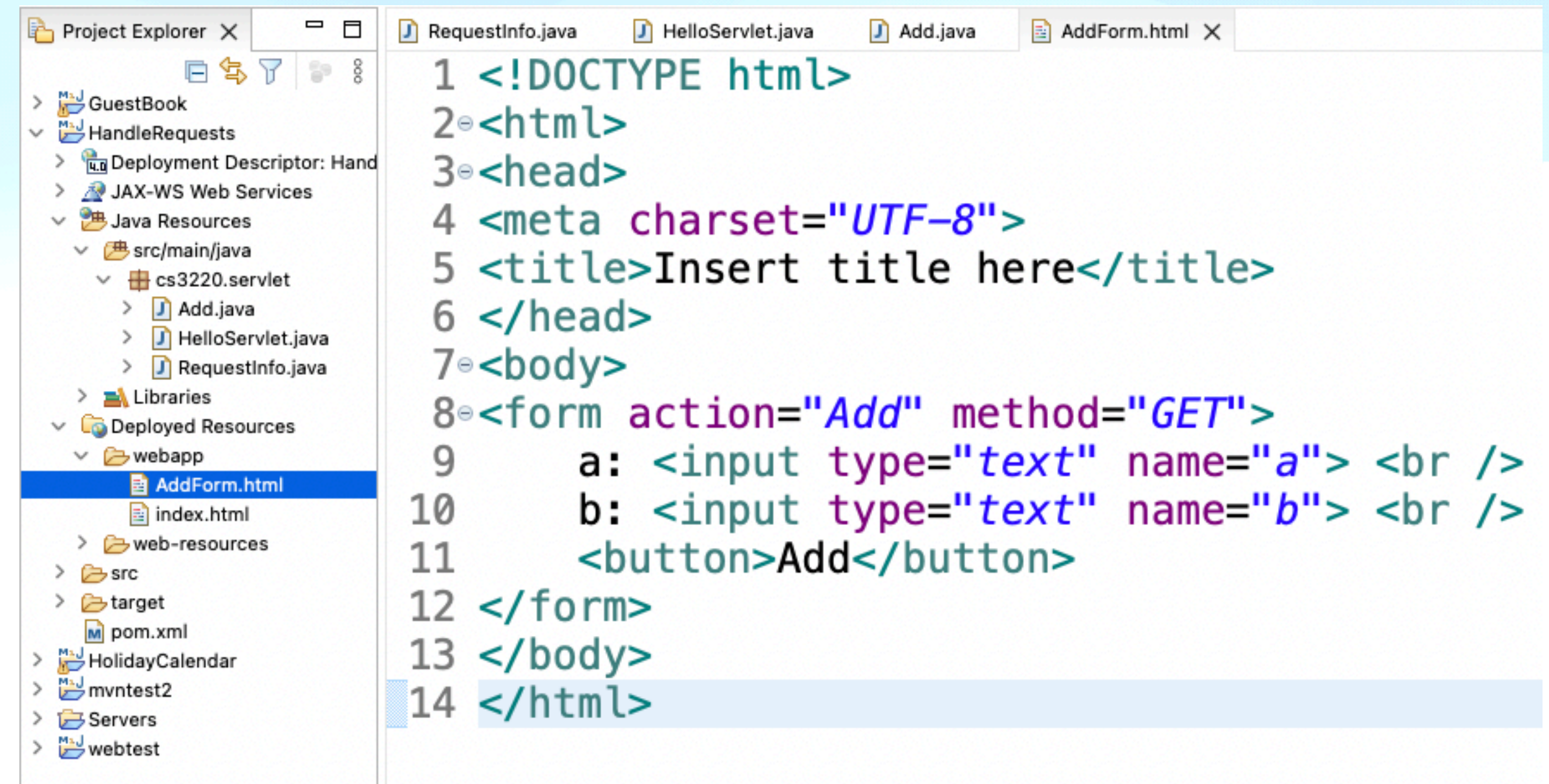
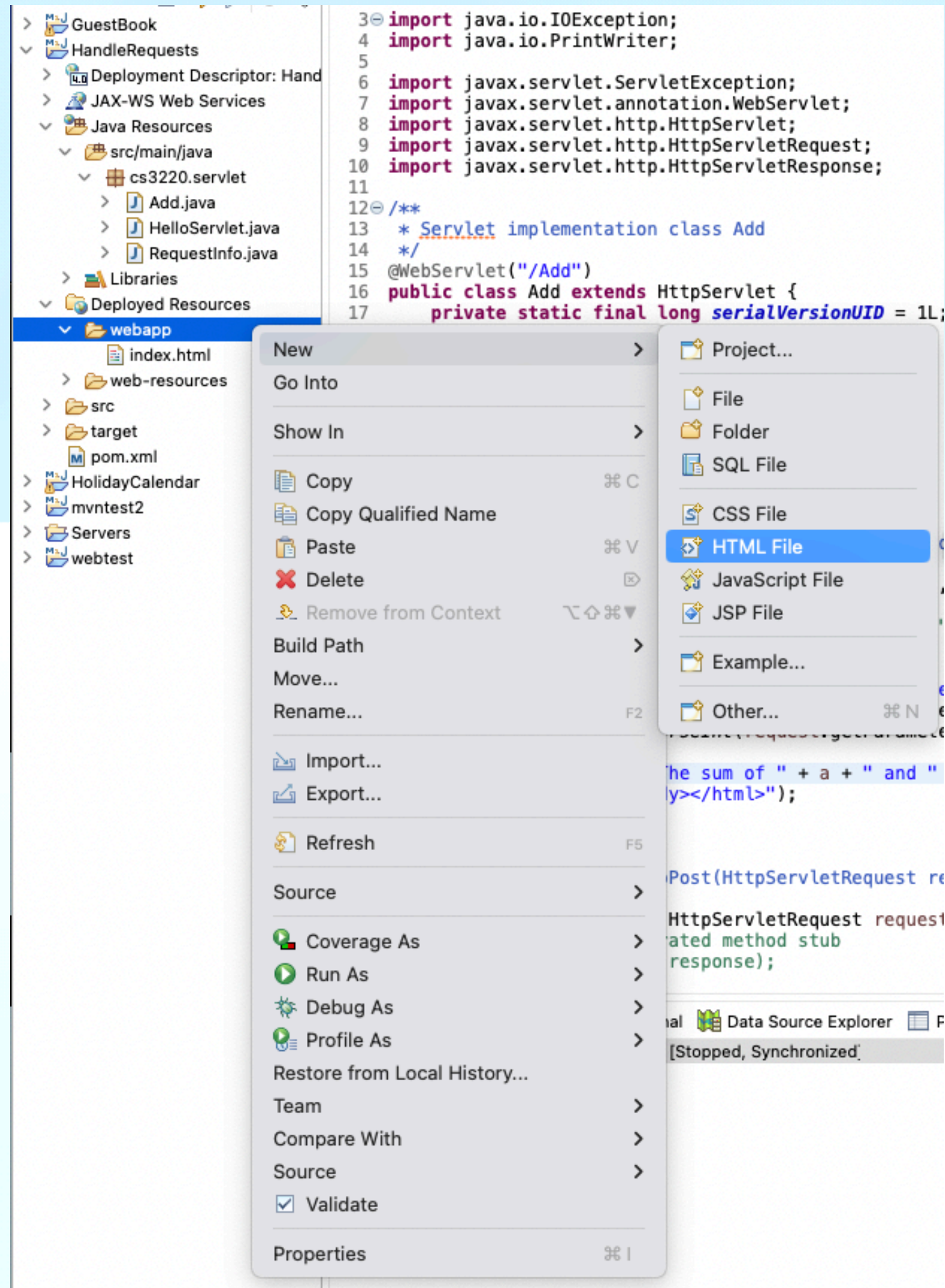
Parameter Methods

- Inherited from ServletRequest
 - String `getParameter(String p)`
 - Enumeration `getParameterNames()`
 - String[] `getParameterValues (String p)` - useful for handling multiple parameters with the same name but different values (e.g. checkboxes)
 - Map `getParameterMap()`

Example: Add

- Get two integers from request parameter and display the sum
 - Using query string
 - Using form
- GET vs POST

Example: Add



<form>

- action - URL of the server-side program that will process the request
- method - the method of request used to submit the form
 - GET: request parameters sent in query string
 - POST: request parameters sent in request body

Name of the Browser	URL Length
Google Chrome	2,083 characters
Mozilla Firefox	65,536 characters
Internet Explorer	2,083 characters
Edge	2,083 characters
Safari	80,000 characters

Summary

- HTTP Request
 - Request Line, Headers, Request Body
 - Request Methods
- Request parameters
 - Query string and form
 - Handle request parameters in servlet