

CHALMERS

EXAMINATION / TENTAMEN

Course code/kurskod	Course name/kursnamn			
DIT 341	Mobile & Web Development			
Anonymous code Anonym kod		Examination date Tentamensdatum	Number of pages Antal blad	Grade Betyg
862		15/8	9	G

* I confirm that I've no mobile or other similar electronic equipment available during the examination.
Jag intygar att jag inte har mobiltelefon eller annan liknande elektronisk utrustning tillgänglig under examinationen.

Solved task Behandlade uppgifter No/nr	Points per task Poäng på uppgiften	Observe: Areas with bold contour are to completed by the teacher. Anmärkning: Rutor inom bred kontur ifylles av lärare.
1	✓ 18	
2	✓ 18	
3	✓ 14	
4	✓ 15	
5	✓ 5	
6	✓ 7	
7	✓ 2	
8	✓ 9	
9		
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11		
12		
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Bonus poäng		

```
1. 9 app.get('/canvas/users', function(req, res) {  
10     var role = req.query.role;  
11     if (!role) {  
11         res.status(200).json(users);  
12     } else {  
12         res.status(200).json(filterByRole(users, role));  
12     }  
    });
```

```
15 app.post('/canvas/users', function(req, res) {  
16     var new_user = req.body;  
17     users.push(new_user);  
18     res.status(201).json({ id: users.length - 1 });  
19 });
```



2.

Q2.1. Both methods updates or edits an already existent resource. The difference is that a PUT method expects to create an entirely new variable for the new resource (the one to be edited) which overwrites its previous state/memory location. This is the standard method for editing resources but PATCH is another method which works by updating part of a resource, i.e. a field attribute. This makes it more light-weight than PUT since no new variable needs to be used in its scope to store the updated object. Rather a particular field of the resource is to ^{be} updated. Their use cases thus depend on whether it's the whole object or part of it that is to be edited. Successful requests result in status code 200 and 404 when a resource can not be found.

Q2.2. PATCH /canvas/users/2 HTTP 1.1

Host: localhost

~~Content-Type~~ ^{TA}

cookie: session = ABCD or Allowed-format

Accept-~~file~~: *.json, */*

{ role : "TA" }

2.

Q2.3. The difference between the 4XX and 5XX groups of status codes is that while both groups concern errors the 4XX status codes all have to do with client-side errors whereas the 5XX group concerns server-side errors.

Ex. 403, forbidden - the client is not authorised to access the resource.

501 Internal server error: something went wrong on the server while managing the request.

Q2.4. It is not good design since it uses a get HTTP method to retrieve a resource to be deleted.

instead of directly calling the HTTP delete method. The design necessitates a completely unnecessary and misused query parameter. A much better alternative would be: "DELETE /comax/users/:user"

Q2.5. Hypertext as the engine of application state is a

Not really engineering the question

constraint on the uniform interface of Rest. It describes the property of hyperlinked media as a fundamental principle of the REST style. By clicking a hyperlink on the web for example, an API call triggers the server to respond with the representational state of the resource, thus hypertext connects the web, and this is what happens when a client requests the example endpoints.

2

18/23

3.
1.

15 orange ✓

16 blue ✓

17 yellow ✓

18 blue ✓

20 green ✓

22 blue ✓

23 green ✓

24 blue2. ~~div~~ { color: transparent }

14/17

4.

11. <li v-for="course in courses"

15. v-model="course"

16. @click="addCourse"

23. course: ""

28. ~~courses.push(course);~~~~course = "";~~

if (course === "") {

console.log("course name not
provided");

} else {

this.courses.push(course);

this.course = "";

15/20

5.

- Client Server

Components act as either clients requesting a resource or a server that serves the client's request. For separation of concerns, information hiding and scalability

- Stateless

Components don't know about resources' previous state, but only about their representation. Separation of concerns.

- Cache


Responses may be cacheable, which allow them to be stored on the client for future use. This leads to less network calls, higher performance and counters the stateless property since it allows a resource's state to be stored on the client.

- Uniform interface

The key REST constraint, allows for scalability and works via identification of resources, manipulation of resource state, self-descriptive messages and HATEOAS

- Layered system

Allows for separation of concerns between layers of single responsibility, information hiding between layers and lower coupling.



6. Third-party cookies originate on the server and are contained in the response message upon a client's request to access a resource from the server. The cookies store information about the session and this is stored on the client. The cookies are then contained in subsequent requests providing session information back to the server. This information can then be used to gather a comprehensive profile of the user for marketing purposes, basing advertisements, recommendations and search results on the customized profile for the user.

Third-party
cookies!

1



7. The DNS protocol acts as translator between Internet Protocol addresses and human-readable domain names. It works by iteratively deconstructing the domain name into parts, from right to left.

For example:

.se, then gu.se and ultimately
canvas.gu.se.

Vega2

2



862

8. Accessibility is the characteristic of a web application to be accessible and usable by a wide range of users, with various needs, such as users with disabilities. It is an important quality attribute for making the web inclusive. Accessibility challenges in this scenario given include the user not being to navigate the website normally using a mouse and monitor, which are visual tools, the user not being to find the correct keyboard keys for input text, and obviously not being able to see what's on the screen.

The application could support this type of user by providing built-in voice-over communication for both input and output information. It could also adjust the front-end to provide larger, more visible text (in case of people with limited eyesight). Microphone input, speaker output and natural language processing would be the most obvious solution.

