# Networks - Portfolio 1 - The Application Layer

Q1. Assume that the RTT between a client and the local DNS server is 2ms and the RTT between the local DNS server and other DNS servers is 3ms. Initially, no cache for the requested resource exists.

Diagram

Description automatically generated Diagram, schematic

Description automatically generated

Fig 1. Fig 2.

1. What is the total response time for the scenario in figure 1? (2 marks)
2. What is the total response time for the scenario in figure 2? (2 marks)
3. Assume that the DNS record for the requested name is cached at the Local DNS server, what are the response times now? (4 marks)

Q2. Download the original HTTP/1.1 specification (RFC 2616) the link is on the course page.

Explain the reasons for the following status codes:

1. 404 (2 marks)
2. 501 (2 marks)
3. 201 (2 marks)
4. 301 (2 marks)

Q3. Which HTTP method is most likely to result in a 201 status code? Why? (4 marks)