



University of Colorado **Boulder**

Fundamentals of Data Communications

Midterm Review

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Review

- **Lab**
- **Assignment**
- **Routing Static/Dynamic**

Midterm Exam

Midterm Exam Format

- **Canvas**
 - BRING YOUR LAPTOP!
 - Make sure it is charged
- **45 Questions**
- **75 Minutes**
- **Multiple Choice**
 - Select the BEST answer
 - 2 points
- **Short Answer, Long Answer, and Essay**
 - Single Answer (3 points)
 - Long/Multiple Answer (5 points)
 - Essay (10 points)
 - Short and to the point
 - *Does not need to be in sentence format*
 - *If question asks for “two answers” provide 2 and only 2*

Material

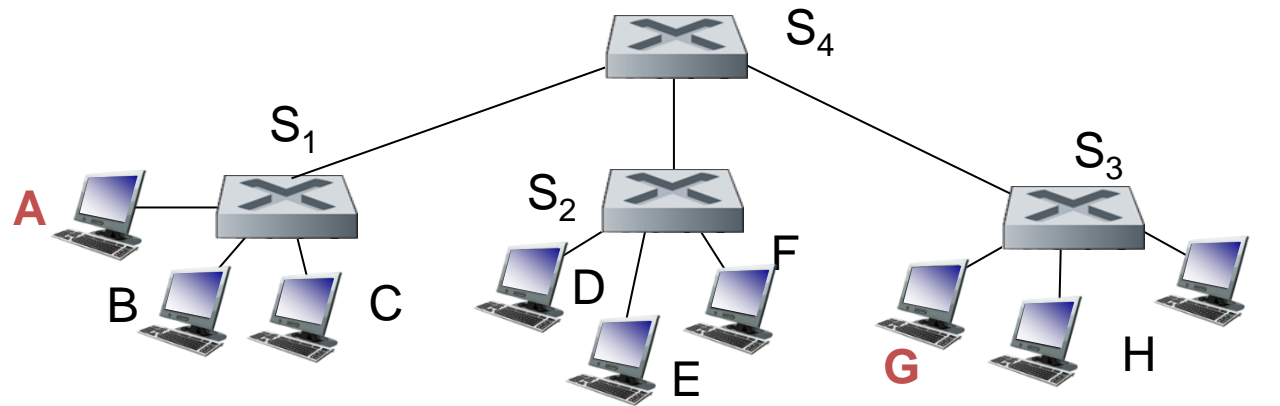
- **Assignments**
- **Quizzes**
- **Readings**
- **Labs**

Topics

- **OSI Model**
- **Internet speed tests**
- **OS shell/terminal**
- **Network Topologies and Media**
- **Ethernet Cabling**
- **TCP & UDP**
- **Switching**
 - STP
 - VLANs
 - Trunking
- **IPv4 Addressing**
 - Public vs. Private
 - Subnetting
 - Address resolution
 - *DHCP & ARP*
- **IPv6**
- **Routing**
 - Static vs Dynamic
 - *Static routes*
 - *Routing protocols*
 - *Administrative distance*
- **Basic technology troubleshooting**

Interconnecting Switches

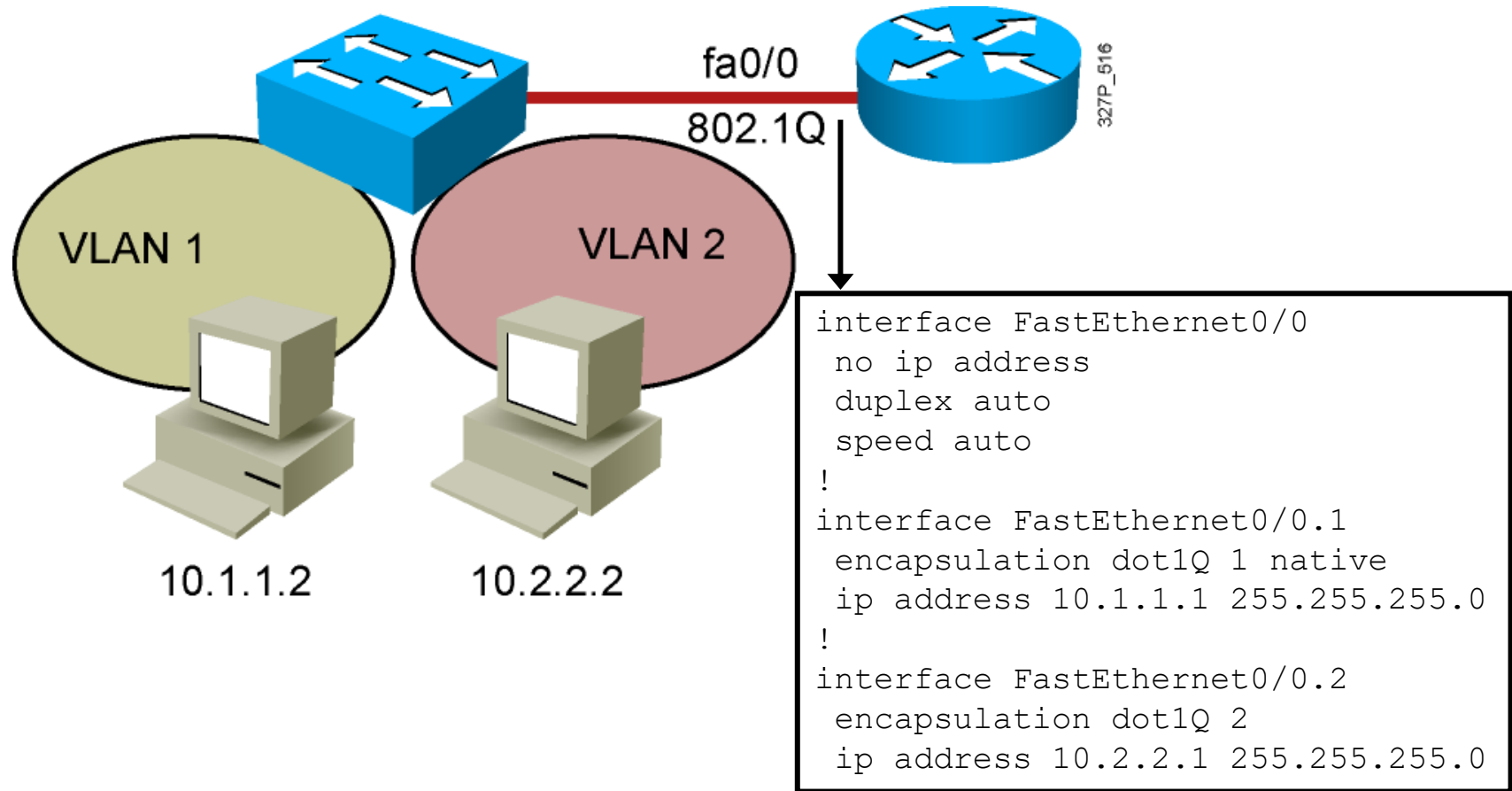
Self-learning switches can be connected together:

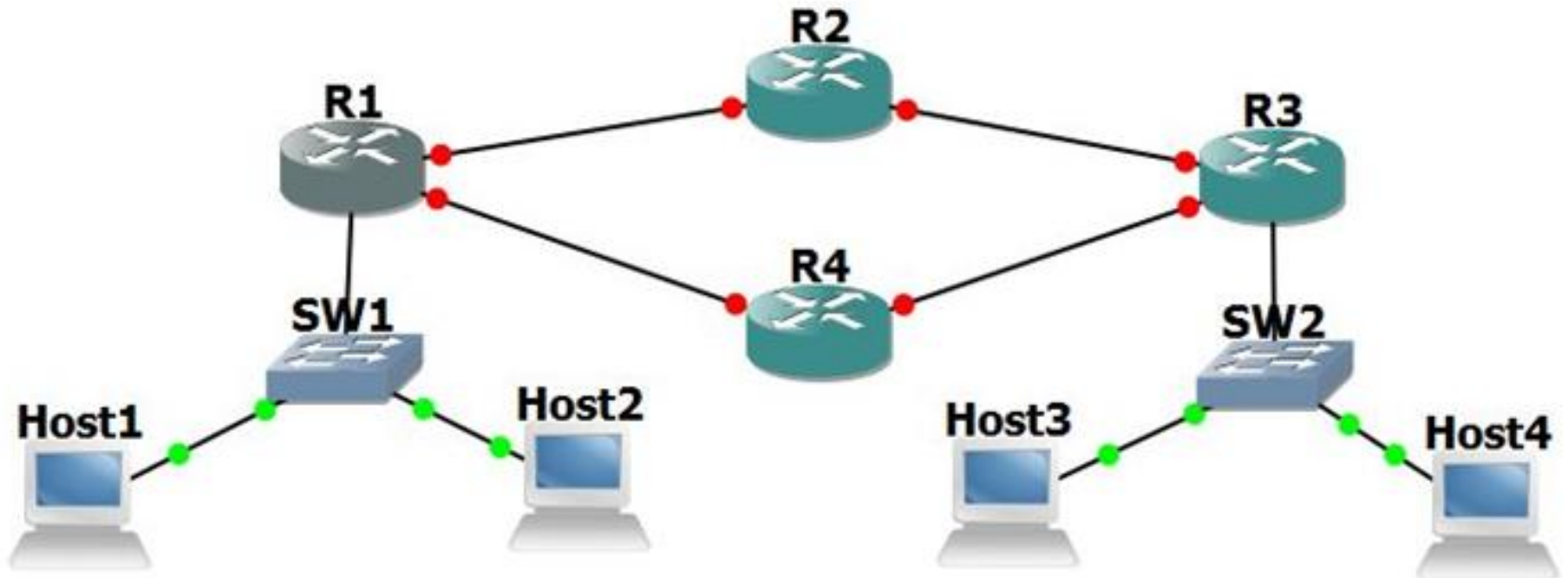


Q: Sending from A to G - how does S₁ know to forward frame destined to G via S₄ and S₃?

- A: Self learning! (works exactly the same as in single-switch case!)

Routing Between VLANs with 802.1Q Trunks







Questions?