Set the Eth0/0/2 port of SW1 as the edge port.

3.5 OSPF

Deploy OSPF on SW1, SW2, SW3, and FW (Global process number 1, area 0):

- • Network VLANif 10, VLANif 20 on SW1;
- • Network VLANif 10, VLANif 30 on SW2;
- • Network VLANif 10, VLANif 40 on SW3;
- • Network G1/0/2 and G1/0/0 on FW, and introduce an external default route.

3.6 IP route-static

Configure a default static route on the firewall FW. The next hop address is 1.1.1.2.
Configure a default static route on the R1. The next hop address is 1.1.1.1.

3.7 Security

Security configuration:

- • Add G1/0/2 and G1/0/0 to the trusted port.
- • Add G1/0/1 to the untrusted port.
- • Allow ping command to access the device.
- • Create a security policy called OSPF, release OSPF traffic.
- • Create a security policy named out, and release the wandering from the source 192.168.1.0/24 to the external network;
-
- nuclei, and fusion, in which two light nuclei fuse to form a heavier nucleus. In either case,
- there is a release of large amounts of energy, which can be used destructively through bombs
- or constructively through the production of electric power. We end our study of physics by
- examining the known subatomic particles and the fundamental interactions that govern their
- behavior. We also discuss the current theory of elementary particles, which states that all matter
- in nature is constructed from only two families of particles: quarks and leptons. Finally, we
- describe how such models help us understand the evolution of the Universe.
- 30.1 NUCLEAR FISSION
- Nuclear fission occurs when a heavy nucleus, such as 235U, splits, or fissions, into
- two smaller nuclei. In such a reaction, the total mass of the products is less than
- the original mass of the heavy nucleus.
- Nuclear fission was first observed in 1939 by Otto Hahn and Fritz Strassman, following
- some basic studies by Fermi. After bombarding uranium (Z ˇ 92) with neutrons,
- Hahn and Strassman discovered two medium-mass elements, barium and
- lanthanum, among the reaction products. Shortly thereafter, Lise Meitner and
- Otto Frisch explained what had happened: the uranium nucleus had split into two
- nearly equal fragments after absorbing a neutron. This was of considerable interest
- to physicists attempting to understand the nucleus, but it was to have even more
- far-reaching consequences. Measurements showed that about 200 MeV of energy is
- released in each fission event, and this fact was to affect the course of human
- history.
- This photo shows scientist Melissa
- Douglas and part of the Z machine,
- an inertial-electrostatic confinement
- fusion apparatus at Sandia National
- Laboratories. In the device, giant
- capacitors discharge through a grid
- of tungsten wires finer than human

- hairs, vaporizing them. The tungsten
- ions implode inward at a million miles
- an hour. Braking strongly in the grip
- of a “Z-pinch,” they emit powerful
- x-rays that compress a deuterium
- pellet, causing collisions between the
- deuterium atoms that lead to fusion
- events.
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- The fission of 235U by slow (low-energy) neutrons can be represented by the
- sequence of events
- [30.1]
- where 236U* is an intermediate state that lasts only for about 10_12 s before
- splitting into nuclei X and Y, called fission fragments. There are many combinations
- of X and Y that satisfy the requirements of conservation of energy and
- charge. In the fission of uranium, about 90 different daughter nuclei can be
- formed. The process also results in the production of several (typically two or
- three) neutrons per fission event. On the average, 2.47 neutrons are released per
- event.
- A typical reaction of this type is
- [30.2]
- The fission fragments, barium and krypton, and the released neutrons have a
- great deal of kinetic energy following the fission event.
- The breakup of the uranium nucleus can be compared to what happens to a
- drop of water when excess energy is added to it. All of the atoms in the drop have
- energy, but not enough to break up the drop. However, if enough energy is added
- to set the drop vibrating, it will undergo elongation and compression until the
- amplitude of vibration becomes large enough to cause the drop to break apart. In
- the uranium nucleus, a similar process occurs (Fig. 30.1). The sequence of events

- is as follows:
- 1. The 235U nucleus captures a thermal (slow-moving) neutron.
- 2. The capture results in the formation of 236U*, and the excess energy of this
- nucleus causes it to undergo violent oscillations.
- 3. The 236U* nucleus becomes highly elongated, and the force of repulsion
- between protons in the two halves of the dumbbell-shaped nucleus tends to
- increase the distortion.
- 4. The nucleus splits into two fragments, emitting several neutrons in the process.
- The energy released in a typical fission process Q can be estimated. From Figure
- 29.4, we see that the binding energy per nucleon is about 7.2 MeV for heavy nuclei
    - (those having a mass number of approximately 240) and about 8.2 MeV for nuclei