Using Vivado for Synthesis, Implementation, and Timing Analysis

Recommended Resources:

1. Videos
    a. Xilinx Vivado 2015 2 Super Fast Synthesis Tutorial
    https://www.youtube.com/watch?v=mPGoVf1A_vk
    b. Creating Basic Clock Constraints
    https://www.xilinx.com/video/hardware/creating-basic-clock-constraints.html
    c. Synthesizing the Design
    https://www.xilinx.com/video/hardware/synthesizing-the-design.html
    d. Implementing the Design
    https://www.xilinx.com/video/hardware/implementing-the-design.html
    e. Analyzing Implementation Results
    https://www.xilinx.com/video/hardware/analyzing-implementation-results.html
2. Vivado Design Suite User Guide: Synthesis
    https://www.xilinx.com/support/documentation/sw_manuals/xilinx2019_1/ug901-vivado-synthesis.pdf
    a. Chapter 1: Vivado Synthesis
3. Vivado Design Suite Tutorial: Implementation
    https://www.xilinx.com/support/documentation/sw_manuals/xilinx2019_1/ug986-vivado-tutorial-implementation.pdf
    a. Implementation Tutorial
    b. Lab 1: Using Implementation Strategies
4. Vivado Design Suite User Guide
    https://www.xilinx.com/support/documentation/sw_manuals/xilinx2019_1/ug906-vivado-design-analysis.pdf
    a. Chapter 1: Logic Analysis Within the IDE
    b. Chapter 5: Performing Timing Analysis

Optional Resources:

5. Videos
    a. Advanced Synthesis
    https://www.xilinx.com/video/hardware/advanced-synthesis-using-vivado.html
    b. Timing Analysis Controls
    https://www.xilinx.com/video/hardware/timing-analysis-controls.html
    c. Vivado Implementation Directives and Strategies
    https://www.xilinx.com/video/hardware/vivado-implementation-directives.html
6. Vivado Design Suite User Guide
    https://www.xilinx.com/support/documentation/sw_manuals/xilinx2019_1/ug906-vivado-design-analysis.pdf
    Chapter 2: Timing Analysis Features

Comprehensive Documentation:

- Vivado Design Hub – Synthesis
    https://www.xilinx.com/support/documentation-navigation/design-hubs/dh0018-vivado-synthesis-hub.html
- Vivado Design Hub – Implementation
    https://www.xilinx.com/support/documentation-navigation/design-hubs/dh0019-vivado-implementation-hub.html
- Vivado Design Hub – Timing Closure & Design Analysis
    https://www.xilinx.com/support/documentation-navigation/design-hubs/dh0006-vivado-design-analysis-and-timing-closure-hub.html