Downloading a pre-compiled program using the Keil IDE

Often when working with embedded systems there is a need to compile a program, save the compiled program in a file, and then later be able to download the compiled program to the microcontroller or other programmable part. This is a way of putting a correct and tested program "on the shelf" until it is needed. An industry standard format used for this is called a hex file and as its name implies a file extension .hex is used.

How do download a hex file to a microcontroller

0)   Create a folder for a project and copy the .hex file to that folder.

1)   Create a new uVision project in the desired folder using the customary Project tab on the top tool bar:
      Project > New uVision Project

2)   Select the target microcontroller from the Device Database but **Do Not Copy** any of the CMSIS or Device startup files to the project.

3)   Specify the name of the hex file to download as follows. From the tool bar select:
      Project > Options for Target 'Target1"...
      which will open a dialog window. Click the Output tab in this new dialog window.
      In a box titled "Name of Executable" enter the name of the hex file (including its .hex extension) that you wish to download. (don't close this window yet)

4)   Click the Debug tab in the open window and, as is customary, select CMSIS-DAP Debugger rather than the default ULink2.

      Click OK to close the window.

5)   Use the Flash > Download tab (or Download icon, or the F8 key) to start the download.

6)   Press the reset button on the microcontroller board to start the program running.