Judge Denise Clayton is the first African-American woman to serve on the Kentucky Court of Appeals and the first African-American to serve as chief judge of the Court of Appeals. Judge Clayton retired from the bench after 26 years of service to the Kentucky Court of Justice.

Prior to her tenure on the Court of Appeals, Judge Clayton was the first African-American woman to serve as a Kentucky Circuit Court judge. She was selected as chief circuit and regional judge for Jefferson County. Judge Clayton was also a judge in the District and Family Courts. Judge Clayton presided over several specialty dockets which included the administrative docket for asbestos litigation, Drug Court, and a Truancy Diversion docket.

Prior to her service on the District Court, Judge Clayton maintained a private law practice, and had worked as an attorney for the Internal Revenue Service, the University of Louisville Student Legal Services office, and the Legal Aid Society.

Judge Clayton is a graduate of Defiance College and of the University of Louisville's Brandeis School of Law.

Judge Clayton was the chairperson of the Chief Justice's Commission on Racial Fairness for the Jefferson County's Courts. She is active in several professional and community organizations.

Judge Clayton received the Kentucky Bar Association 2012 Distinguished Judge Award, the Louisville Bar Association's Justice William E. McAnulty, Jr. Trailblazer Award, the Louisville Chapter NAACP Meritorious Service Award, Who Who's in Black Louisville Interesting Personality Award, Charles W. Anderson Jr. Bar Association Lifetime Achievement Award, Women Lawyers Association Achievement in Excellence, Kentucky Court of Justice William E. McAnulty Award, Louisville Bar Association Judge Benjamin F. Shobe Civility and Professionalism Award, Muhammad Ali Center Daughter of Greatness Recognition, as well as other awards and recognition.