

# Workforce Framework for Cybersecurity (NICE Framework)

## WHAT?

The NICE *Workforce Framework for Cybersecurity (NICE Framework) (NIST SP 800-181r1)* establishes a common language that defines and categorizes cybersecurity Competency Areas and Work Roles, including the Knowledge and Skills needed to complete Tasks in those roles. It is a fundamental resource in the development and support of a prepared and effective cybersecurity workforce that enables consistent organizational and sector communication for cybersecurity education, training, and workforce development.

## WHO?

The NICE Framework considers the cybersecurity workforce as those whose primary focus is on cybersecurity as well as those in the workforce who need specific cybersecurity-related knowledge and skills in order to perform their work in a way that enables organizations to properly manage the cybersecurity-related risks to the enterprise. It is used by:

**Employers:** Employers use the NICE Framework to support cybersecurity workforce assessment, planning, recruitment, and development. It is a key tool that helps employers identify critical gaps in cybersecurity staffing and capabilities; determine and communicate position responsibilities and job descriptions; and provide staff training and career pathways.

**Learners:** Students, job-seekers, and employees can use the NICE Framework to explore the wide variety of cybersecurity-related Work Roles available and learn about top Competency Areas valued by employers for in-demand cybersecurity jobs. Staffing specialists and guidance counselors can also use the NICE Framework as a resource to support learners.

**Education, Training, and Credential Providers:** These providers can use the NICE Framework to create learning content and curriculum. By aligning with the NICE Framework, providers can leverage the common language to communicate with and support employer needs and describe learner capabilities.

## LEARN MORE

The NICE Framework, tools, guidance, and other resources can be found in the NICE Framework Resource Center at: [nist.gov/nice/framework](https://nist.gov/nice/framework)

## WHY?

The NICE Framework grew from the need to better define, develop, and assess the cybersecurity workforce in both the public and private sectors. More than 20 governmental departments and agencies, along with representatives from the private sector and academia, came together to address this challenge resulting in the creation of two early versions of the NICE Framework, followed by its release as NIST Special Publication 800-181 in 2017 and the first revision in 2020. The NICE Framework now provides an evolving resource that is agile, flexible, interoperable, and modular and continues to draw from engagement between the government, private sector, and academia.

## HOW?

Task, Knowledge, and Skill (TKS) statements serve as the foundational building blocks of the NICE Framework. The NICE Framework organizes these statements into Work Roles and Competency Areas that can be used to improve practices around identifying, recruiting, developing, and retaining cybersecurity talent.

## GLOSSARY

**Task, Knowledge, and Skill (TKS) Statements:** The core building blocks of the NICE Framework.

**Task:** An activity directed toward the achievement of organizational objectives. Task statements define the work to be done, and include associated Knowledge and Skill statements that represent learners' potential to perform those Tasks.

**Knowledge:** A retrievable set of concepts within memory. Knowledge statements define what a learner knows.

**Skill:** The capacity to perform an observable action. Skill statements define what a learner is able to do.

**Competency Area:** A cluster of related Knowledge and Skill statements that correlates with one's capability to perform Tasks in a particular domain. Competency Areas can help learners discover areas of interest, inform career planning and development, identify gaps for knowledge and skills development, and provide a means of assessing or demonstrating a learner's capabilities in the domain.

**Work Role:** A grouping of work for which an individual or team is responsible or accountable. They comprise a group of Tasks that define the work to be done.

