MICROSOFT AZURE

NAME: ABUNESH R P

DOMAIN: WEB DEVELOPMENT

IoT Development with Microsoft Azure

1. **Azure IoT Hub:**

   Acts as a central message hub for bi-directional communication between IoT applications and the devices it manages.Offers reliable and secure communication between millions of IoT devices.

2. **Azure IoT Central:**

   A fully managed IoT SaaS (Software as a Service) solution that simplifies the creation of IoT solutions.Provides built-in templates for common IoT scenarios and a user-friendly interface for managing devices.

3. **Azure IoT Edge:**

   Extends cloud intelligence and analytics to edge devices, allowing data processing to occur closer to the data source.Supports deploying and running containerized applications on IoT devices.

4. **Azure Digital Twins:**

   Enables the creation of comprehensive digital models of physical environments.Helps in modeling relationships and interactions between people, places, and devices.

Web Development with Microsoft Azure

1. **Azure App Service**:
   o A fully managed platform for building, deploying, and scaling web apps.Supports multiple languages including .NET, Java, Ruby, Node.js, PHP, and Python.

2. **Azure Functions**:
   o A serverless compute service that allows you to run event-driven code without managing infrastructure.Ideal for creating APIs, processing data streams, and building serverless workflows.

3. **Azure Static Web Apps**:
   o Automatically builds and deploys full-stack web apps to Azure from a GitHub repository.Provides a streamlined hosting service for static web apps with dynamic backends powered by serverless APIs.

4. **Azure DevOps**:
   o Offers a suite of development tools including Git repositories, build and release pipelines, and agile project management.Integrates seamlessly with other Azure services and third-party tools.

5. **Azure CDN (Content Delivery Network)**:
   o Distributes static and dynamic content with high performance and low latency.Provides a global network for fast delivery of web assets to users around the world.

The Azure Internet of Things (IoT) is a collection of Microsoft-managed cloud services, edge components, and SDKs that connect, monitor, and control your IoT assets at scale. In simpler terms, an IoT solution is made up of IoT devices that communicate with cloud services

Azure IoT developer, will be working with software and code to build and deploy IoT solutions that leverage the Azure platform. Programming skills are necessary to develop applications and services that collect, process, and analyze data from IoT devices.

Azure offers four different forms of cloud computing: infrastructure as a service (IaaS), platform as a service (PaaS), software as a service (SaaS) and serverless functions.

Microsoft Azure consists of widely varied resource and service offerings, its use cases are extremely diverse. Running virtual machines or containers in the cloud is one of the most popular uses for Microsoft Azure. These compute resources can host infrastructure components, such as domain name system (DNS) servers; Windows Server services, such as Internet Information Services (IIS); networking services such as firewalls; or third-party applications