**1. Introduction to New Relic**

* **What is New Relic?**

New Relic is a **cloud-based observability platform** that helps developers, IT teams, and businesses **monitor and understand their software, systems, and infrastructure**.  
In simple words, it’s like a **doctor for your applications and servers** – it tells you what’s healthy, what’s slow, and what’s broken.

* **Category**: Application Performance Monitoring (APM) & Observability.
* **Main Purpose**:
  + Detect problems in apps and servers quickly.
  + See real-time performance data.
  + Improve user experience by fixing slow or broken parts of a system.
  + Get insights into **logs, metrics, events, and traces (often called “the four pillars of observability”).**

**2. Why Use New Relic?**

* Applications today are complex → microservices, containers, cloud infrastructure, APIs.
* Hard to figure out **why something is slow or failing** without the right tools.
* New Relic gives a **single dashboard** to:
  + Monitor performance.
  + Detect bottlenecks.
  + Troubleshoot issues fast.
  + Save time and reduce downtime.

**3. Key Features of New Relic**

1. **Application Performance Monitoring (APM)**
   * Monitors apps in **real time**.
   * Shows slow database queries, slow code paths, and errors.
   * Helps developers **optimize performance**.
2. **Infrastructure Monitoring**
   * Tracks health of servers, VMs, containers, and cloud infrastructure.
   * Monitors CPU, memory, disk usage, and network traffic.
3. **Logs**
   * Collects and analyzes logs (system/app logs).
   * Search logs easily during troubleshooting.
4. **Distributed Tracing**
   * Visualizes requests as they pass through multiple services (microservices).
   * Helps find the exact point where things slow down.
5. **Dashboards**
   * Create custom dashboards.
   * Combine metrics, events, logs, and traces.
6. **Alerts & AI (Applied Intelligence)**
   * Sets alerts for performance issues (ex: CPU > 80%).
   * AI-powered root cause analysis (saves time in troubleshooting).
7. **Synthetics Monitoring**
   * Runs simulated user interactions.
   * Example: Test if your website works properly in different regions.
8. **Integrations**
   * Works with cloud platforms (AWS, Azure, GCP).
   * Supports Kubernetes, Docker, and CI/CD tools.

**4. How New Relic Works (Simple Flow)**

1. Install **New Relic Agent** in your application/server.
   * Agent collects data (performance, errors, logs).
2. Data is sent securely to the **New Relic platform (cloud)**.
3. New Relic analyzes the data and shows it in **dashboards**.
4. Teams use dashboards, traces, and logs to **find and fix problems**.

**5. New Relic Products (Overview)**

* **APM** → Application Performance Monitoring.
* **Infrastructure** → Servers, containers, cloud.
* **Logs** → Centralized log management.
* **Browser Monitoring** → End-user web app performance.
* **Mobile Monitoring** → Track mobile app performance.
* **Synthetics** → Simulated monitoring & uptime tests.
* **Kubernetes Monitoring** → Full visibility into clusters.

**6. Benefits of New Relic**

✅ Faster problem detection → less downtime.

✅ Improves application **performance & reliability**.

✅ Helps **developers, DevOps, and IT teams** work together.

✅ Supports **multi-cloud & hybrid environments**.

✅ Provides **AI-powered insights** (predict issues before they happen).

**7. Who Uses New Relic?**

* **Developers** → To debug apps.
* **DevOps Engineers** → To monitor systems.
* **IT Teams** → To ensure availability.
* **Businesses** → To improve customer experience.

**8. Example Use Cases**

* **E-commerce site**: Detect if checkout is slow.
* **Banking app**: Ensure transactions don’t fail.
* **Streaming service**: Monitor buffering & API calls.
* **Cloud infrastructure**: Track resource usage & costs.