To create a Memory Alert for Virtual Machines and configure Alerts/Thresholds/Action Groups on the resources, and to prepare an R&D document for Database Monitoring, here is a step-by-step guide. This guide will help you set up and document the process efficiently.

**Part 1: Creating a Memory Alert for Virtual Machines**

**Step 1: Set Up Monitoring for Virtual Machines**

1. **Log in to Azure Portal**: Go to the [Azure Portal](https://portal.azure.com/).
2. **Navigate to Virtual Machines**: Click on "Virtual Machines" from the left sidebar.
3. **Select a Virtual Machine**: Choose the virtual machine you want to monitor.

**Step 2: Configure Alerts**

1. **Go to Monitoring**: In the virtual machine's blade, click on "Monitoring" and then "Alerts".
2. **Create Alert Rule**: Click on "New alert rule".
3. **Select Resource**: Ensure the correct virtual machine is selected.
4. **Add Condition**:
   * Click on "Add condition".
   * Search for "Percentage CPU" and select it.
   * Set the threshold (e.g., greater than 80%).
   * Click "Done".

**Step 3: Set Up Action Groups**

1. **Add Action Group**:
   * Click on "Add action group".
   * Provide an action group name and short name.
   * Configure the actions (e.g., email, SMS, webhook, etc.).
   * Click "OK".

**Step 4: Review and Create**

1. **Review the Alert Rule**: Check the condition and action group.
2. **Create Alert Rule**: Click on "Create alert rule".

**Part 2: Configuring Alerts/Thresholds/Action Groups on Database Resources**

**Step 1: Navigate to Database**

1. **Go to Azure Portal**: Log in to the [Azure Portal](https://portal.azure.com/).
2. **Navigate to SQL Databases**: Click on "SQL Databases" from the left sidebar.
3. **Select Database**: Choose the database you want to monitor.

**Step 2: Configure Alerts**

1. **Go to Monitoring**: In the database's blade, click on "Monitoring" and then "Alerts".
2. **Create Alert Rule**: Click on "New alert rule".
3. **Select Resource**: Ensure the correct database is selected.
4. **Add Condition**:
   * Click on "Add condition".
   * Search for metrics like "DTU Percentage" or "Storage" and select it.
   * Set the threshold (e.g., greater than 75% for DTU).
   * Click "Done".

**Step 3: Set Up Action Groups**

1. **Add Action Group**:
   * Click on "Add action group".
   * Provide an action group name and short name.
   * Configure the actions (e.g., email, SMS, webhook, etc.).
   * Click "OK".

**Step 4: Review and Create**

1. **Review the Alert Rule**: Check the condition and action group.
2. **Create Alert Rule**: Click on "Create alert rule".

**Part 3: Preparing R&D Document for Database Monitoring**

**Introduction**

* **Objective**: Describe the goal of database monitoring and its importance.
* **Scope**: Outline the areas covered by the document.

**Database Monitoring Strategies**

* **Types of Metrics**: List metrics like CPU usage, DTU, storage, query performance, etc.
* **Tools and Services**: Mention tools like Azure Monitor, SQL Insights, third-party tools.

**Configuring Alerts**

* **Step-by-Step Guide**: Include detailed steps (as mentioned in Part 2).
* **Thresholds and Actions**: Discuss best practices for setting thresholds and configuring actions.

**Best Practices**

* **Regular Monitoring**: Emphasize the importance of continuous monitoring.
* **Optimization Tips**: Provide tips for optimizing database performance based on monitoring data.

**Case Studies**

* **Examples**: Include case studies or examples where monitoring helped identify and resolve issues.

**Conclusion**

* **Summary**: Recap the importance of monitoring and the steps involved.
* **Future Work**: Suggest areas for further research or improvement.

**Appendix**

* **Resources**: List of additional resources, links to documentation, etc.
* **Glossary**: Definitions of key terms used in the document.

By following this guide, you should be able to create memory alerts for virtual machines, configure necessary alerts and action groups, and prepare a comprehensive R&D document for database monitoring.