Comprehensive ARM template and deployment guide for your Azure data pipeline solution following Zero Trust Architecture principles. Here's what the solution includes:

## **Key Zero Trust Security Features:**

**Network Security:**

* Private endpoints for all data services (Storage, SQL Database, Key Vault)
* Disabled public network access
* Virtual network isolation with network security groups
* IP restrictions for allowed ranges

**Identity & Access:**

* Managed identities for all Azure services (no passwords/keys)
* Role-based access control (RBAC) with least privilege
* Key Vault for secure credential storage
* Disabled shared access keys where possible

**Data Protection:**

* Encryption at rest and in transit (TLS 1.2+)
* Transparent Data Encryption for SQL Database
* Soft delete enabled for storage and Key Vault
* Comprehensive audit logging

**Monitoring & Compliance:**

* Centralized logging via Log Analytics
* Diagnostic settings for all resources
* 90-day log retention
* Automated alerting capabilities

## **Architecture Components Deployed:**

1. **Azure Data Factory** - Orchestrates the data pipeline with managed virtual network
2. **Azure Blob Storage** - Stores raw and processed files with lifecycle policies
3. **Azure SQL Database** - Target database for processed data
4. **Azure Key Vault** - Secure credential and secret management
5. **Azure Automation** - Handles lifecycle management and scaling
6. **Log Analytics Workspace** - Centralized monitoring and logging
7. **Private Endpoints** - Secure network connectivity
8. **RBAC Assignments** - Proper permission management

## **Next Steps:**

1. **Deploy the infrastructure** using the provided ARM template
2. **Configure Data Factory pipelines** to connect to your Q2 SFTP server
3. **Set up Power BI** for reporting and analytics
4. **Implement monitoring** and alerting
5. **Test the complete data flow** from SFTP to reporting