

Interconnect Backend

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Chapter 4

Namespace Documentation

4.1 BackgroundServices Namespace Reference

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- class **BackgroundServicesInitializer**

Initializer for background services.

4.2 BackgroundServicesImpl Namespace Reference

Classes

- class **PacketAnalyzer**

- class **PacketSnifferBackgroundService**

Background service for managing network packet sniffing and broadcasting.

- class **VirtualMachineConsoleBackgroundService**

Background service for managing virtual machine console data streaming.

4.3 Controllers Namespace Reference

Classes

- class **EntityController**

Controller managing entities in the system.

- class **HypervisorConnectionController**

Controller managing hypervisor connection.

- class **InfoController**

Controller providing system information.

- class **VirtualMachineController**

Controller managing virtual machines.

- class **VirtualNetworkController**

Controller managing virtual networks and connections.

4.4 ControllersTests Namespace Reference

Classes

- class [HypervisorConnectionControllerTests](#)
- class [InfoControllerTests](#)

4.5 Database Namespace Reference

Classes

- class [InterconnectDbContext](#)
Database context for the [Interconnect](#) application.

4.6 Database.Migrations Namespace Reference

Classes

- class [AppDbContextModelSnapshot](#)
- class [BootableDiskModel](#)
- class [ChangesToConnection](#)
- class [ChangeTypeOfVMEntityStrings](#)
- class [DeviceDefinition](#)
- class [InitialCreate](#)
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- class [RenameUuidToVmUuid](#)
- class [UpdateBootableDiskModelPath](#)
- class [UpdateOperatingSystemType](#)
- class [VirtualMachineEntityInterfaces](#)
- class [VirtualMachineType](#)
- class [VirtualNetwork](#)
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- class [VirtualNetworkIpAddress](#)
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- class [VirtualSwitch](#)

4.7 Hubs Namespace Reference

Classes

- class [ConnectionStatusHub](#)
SignalR hub for checking connection status.
- class [PacketSnifferHub](#)
SignalR hub for transmitting captured network packets.
- class [VirtualMachineConsoleHub](#)
SignalR hub for communicating with virtual machine console.

4.8 HubsTests Namespace Reference

Classes

- class [ConnectionStatusHubTests](#)
- class [VirtualMachineConsoleHubTests](#)

4.9 Interconnect Namespace Reference

Classes

- class [Program](#)

Main class of the [Interconnect](#) application.

4.10 Interconnect.Middlewares Namespace Reference

Classes

- class [ExceptionHandlerMiddleware](#)
Middleware for global exception handling in the application.
- class [ExceptionHandlerMiddlewareExtensions](#)
Extensions for registering exception handling middleware.

4.11 InterconnectTests Namespace Reference

Classes

- class [ExceptionHandlerMiddlewareTests](#)

4.12 Mappers Namespace Reference

Classes

- class [BootableDiskModelMapper](#)
Mapper for converting bootable disk models.
- class [InternetEntityMapper](#)
Mapper for converting Internet entity models.
- class [NativeConnectionInfoMapper](#)
- class [NativeStreamDataMapper](#)
- class [NativeVirtualMachineInfoMapper](#)
- class [VirtualMachineEntityMapper](#)
Mapper for converting virtual machine entity models.
- class [VirtualNetworkEntityConnectionMapper](#)
- class [VirtualNetworkNodeEntityMapper](#)

4.13 Models Namespace Reference

Classes

- class [BaseEntity](#)
Base class representing an entity with a position on the board.
- class [ConnectionInfo](#)
Information about the connection to the virtualization hypervisor.
- class [InformationModel](#)
Model containing operating system information.
- class [Packet](#)
Represents a captured network packet.
- class [PacketSniffer](#)
Represents a packet sniffer for a specific network bridge.
- class [StreamData](#)
Represents data read from a stream.
- class [StreamInfo](#)
Information about a virtual machine console stream.
- class [TerminalData](#)
Virtual machine terminal data.
- class [VirtualMachineCreateDefinition](#)
Definition for creating a new virtual machine.
- class [VirtualMachineInfo](#)
Information about a virtual machine.
- class [VirtualNetworkCreateDefinition](#)
Definition for creating a new virtual network.
- class [VirtualNetworkInterfaceCreateDefinition](#)
Definition for creating a network interface for a virtual machine.

4.14 Models.Config Namespace Reference

Classes

- class [InterconnectConfig](#)

4.15 Models.Database Namespace Reference

Classes

- class [BootableDiskModel](#)
Database model representing a bootable disk.
- class [InternetEntityModel](#)
Database model representing an Internet entity connected to a virtual network.
- class [VirtualMachineEntityModel](#)
Database model representing a virtual machine entity.
- class [VirtualMachineEntityNetworkInterfaceModel](#)
Database model representing a virtual machine network interface.
- class [VirtualNetworkEntityConnectionModel](#)
Database model representing a connection between entities in a virtual network.
- class [VirtualNetworkModel](#)
Database model representing a virtual network.
- class [VirtualNetworkNodeEntityModel](#)
Database model representing a virtual network node (switch/router).

4.16 Models.DTO Namespace Reference

Classes

- class [BootableDiskModelDTO](#)
- class [InternetEntityModelDTO](#)
- class [VirtualMachineEntitiesWithMacAddressesDTO](#)
- class [VirtualMachineEntityDTO](#)
- class [VirtualMachineEntityMacAddressDTO](#)
- class [VirtualNetworkConnectionDTO](#)
- class [VirtualNetworkNodeEntityDTO](#)

4.17 Models.Enums Namespace Reference

Enumerations

- enum [ConnectionStatus](#) { **ALIVE** = 1 , **DEAD** = 0 }

Connection status with the hypervisor.
- enum [DataLinkLayerPacketType](#) { **Ipv4** = 0 , **Arp** = 1 , **Unknown** = 3 }
- enum [EntityType](#) { **VirtualMachine** = 1 , **Network** = 2 , **VirtualNetworkNode** = 3 , **Internet** = 4 }

Type of entity in a virtual network.
- enum [VirtualMachineEntityType](#) { **Host** = 1 , **Router** = 2 , **Server** = 3 }
- enum [VirtualMachineState](#) { **Unknown** = 0 , **Booted** = 1 }

State of the virtual machine.

4.17.1 Enumeration Type Documentation

4.17.1.1 ConnectionStatus

enum [Models.Enums.ConnectionStatus](#)

Connection status with the hypervisor.

Enumerator

ALIVE	Connection is active.
DEAD	Connection is inactive.

4.17.1.2 EntityType

enum [Models.Enums.EntityType](#)

Type of entity in a virtual network.

Enumerator

VirtualMachine	Virtual machine entity.
Network	Network - used only in frontend for connecting two entities.
VirtualNetworkNode	Virtual network node (switch/router).
Internet	Internet entity.

4.17.1.3 VirtualMachineState

enum [Models.Enums.VirtualMachineState](#)

State of the virtual machine.

Enumerator

Unknown	Unknown state.
Booted	Virtual machine is running.

4.18 Models.Requests Namespace Reference

Classes

- class [ConnectEntitiesRequest](#)
- class [CreateVirtualMachineEntityRequest](#)
- class [CreateVirtualNetworkNodeEntityRequest](#)
- class [SendDataToConsoleRequest](#)
- class [UpdateEntityPositionRequest](#)
- class [VirtualNetworkEntityConnectionRequest](#)

4.19 Models.Responses Namespace Reference

Classes

- class [BaseResponse< TResponse, TSelf >](#)
Base class for API responses.
- class [BootableDisksResponse](#)
- class [CapturedPacketResponse](#)
- class [ConnectionInfoResponse](#)
- class [ExceptionResponse](#)
- class [InternetEntitiesResponse](#)
- class [StringResponse](#)
- class [SystemInfoResponse](#)
- class [VirtualMachineEntitiesResponse](#)
- class [VirtualMachineEntityResponse](#)
- class [VirtualMachineInfoResponse](#)
- class [VirtualMachinesInfoResponse](#)
- class [VirtualNetworkConnectionsResponse](#)
- class [VirtualNetworkNodesEntitiesResponse](#)

4.20 NativeLibrary Namespace Reference

Classes

- class [Constants](#)
- class [ExecutionInfoAnalyzer](#)
Analyzer for native operation execution information.
- class [LibraryInitializer](#)
Initializer for native virtualization library.

4.21 NativeLibrary.Interop Namespace Reference

Classes

- class [InteropPacketSniffer](#)
- class [InteropVirtualization](#)

4.22 NativeLibrary.Structs Namespace Reference

Classes

- struct [NativeConnectionInfo](#)
- struct [NativeExecutionInfo](#)
- struct [NativePacket](#)
- struct [NativeStreamData](#)
- struct [NativeStreamInfo](#)
- struct [NativeVirtualMachineInfo](#)

4.23 NativeLibrary.Utils Namespace Reference

Classes

- interface [INativeList< T >](#)

4.24 NativeLibrary.UtilsImpl Namespace Reference

Classes

- class [NativeList< T >](#)

4.25 NativeLibrary.Wrappers Namespace Reference

Classes

- interface [IPacketSnifferWrapper](#)
Interface wrapper for native packet analyzer library.
- interface [IVirtualizationWrapper](#)
Interface wrapper for native virtualization library.

4.26 NativeLibrary.WrappersImpl Namespace Reference

Classes

- class [PacketSnifferWrapper](#)
- class [VirtualizationWrapper](#)

4.27 Repositories Namespace Reference

Classes

- interface [IBootableDiskRepository](#)
Repository managing bootable disks in the database.
- interface [IIInternetEntityRepository](#)
Repository managing Internet entities in the database.
- interface [IPacketSnifferRepository](#)
Repository managing packet analyzers in memory.
- interface [IVirtualMachineConsoleDataRepository](#)
Repository managing virtual machine console data in memory.
- interface [IVirtualMachineConsoleStreamRepository](#)
Repository managing virtual machine console streams in memory.
- interface [IVirtualMachineEntityRepository](#)
Repository managing virtual machine entities in the database.
- interface [IVirtualNetworkConnectionRepository](#)
Repository managing entity connections in the virtual network.
- interface [IVirtualNetworkNodeEntityRepository](#)
Repository managing virtual network nodes in the database.
- interface [IVirtualNetworkRepository](#)
Repository managing virtual networks in the database.
- class **RepositoriesInitializer**
Initializer for application repositories.

4.28 RepositoriesImpl Namespace Reference

Classes

- class [BootableDiskRepository](#)
- class [InternetEntityRepository](#)
- class [PacketSnifferRepository](#)
- class [VirtualMachineConsoleDataRepository](#)
- class [VirtualMachineConsoleStreamRepository](#)
- class [VirtualMachineEntityNetworkInterfaceRepository](#)
- class [VirtualMachineEntityRepository](#)
- class [VirtualNetworkConnectionRepository](#)
- class [VirtualNetworkNodeEntityRepository](#)
- class [VirtualNetworkRepository](#)

4.29 RepositoriesTests Namespace Reference

Classes

- class [BootableDiskRepositoryTests](#)
- class [InternetEntityRepositoryTests](#)
- class [VirtualMachineConsoleDataRepositoryTests](#)
- class [VirtualMachineConsoleStreamRepositoryTests](#)
- class [VirtualMachineEntityRepositoryTests](#)
- class [VirtualNetworkConnectionRepositoryTests](#)
- class [VirtualNetworkNodeEntityRepositoryTests](#)

4.30 Services Namespace Reference

Classes

- interface [IBootableDiskProviderService](#)
Service providing information about available bootable disks.
- interface [IEntitiesConnectorService](#)
Service responsible for connecting network entities.
- interface [IEntitiesDisconnectorService](#)
Service responsible for disconnecting network entities.
- interface [IHypervisorConnectionService](#)
Service managing connection to the virtualization hypervisor.
- interface [IInfoService](#)
Service providing system information.
- interface [IInitializationService](#)
Service responsible for application initialization during startup.
- interface [IIInternetEntityService](#)
Service managing Internet entities.
- interface [IPacketSnifferService](#)
Service for capturing network packets.
- interface [IVirtualMachineConsoleService](#)
Service managing virtual machine console.
- interface [IVirtualMachineEntityService](#)
Service managing virtual machine entities.
- interface [IVirtualMachineManagerService](#)
Service managing virtual machines in the hypervisor.
- interface [IVirtualNetworkNodeConnector](#)
Service responsible for connecting virtual network nodes.
- interface [IVirtualNetworkService](#)
Service managing virtual networks.
- class [ServicesInitializer](#)
Initializer for application services.

4.31 ServicesImpl Namespace Reference

Classes

- class [BootableDiskProviderService](#)
- class [EntitiesConnectorService](#)
- class [EntitiesDisconnectorService](#)
- class [HypervisorConnectionService](#)
- class [InfoService](#)
- class [InitializationService](#)
- class [InternetEntityService](#)
- class [PacketSnifferService](#)
- class [VirtualMachineConsoleService](#)
- class [VirtualMachineEntityService](#)
- class [VirtualMachineManagerService](#)
- class [VirtualNetworkNodeConnector](#)
- class [VirtualNetworkService](#)

4.32 Services.Utils Namespace Reference

Classes

- class [BaseDefinitionBuilder< TDefinition >](#)
- class **EntitiesUtils**
- class **MacAddressGenerator**
- class [VirtualMachineDefinitionBuilder](#)
- class [VirtualNetworkCreateDefinitionBuilder](#)
- class **VirtualNetworkDefinitionUtils**
- class [VirtualNetworkInterfaceCreateDefinitionBuilder](#)
- class **VirtualNetworkUtils**

4.33 ServicesTests Namespace Reference

Classes

- class [BootableDiskProviderServiceTests](#)
- class [HypervisorConnectionServiceTests](#)
- class [InfoServiceTests](#)
- class [InitializationServiceTests](#)
- class [VirtualMachineConsoleServiceTests](#)
- class [VirtualMachineEntityServiceTests](#)
- class [VirtualMachineManagerServiceTests](#)

4.34 ServicesTests.Utils Namespace Reference

Classes

- class [VirtualMachineDefinitionBuilderTests](#)
- class [VirtualNetworkDefinitionBuilderTests](#)
- class [VirtualNetworkInterfaceCreateDefinitionBuilderTests](#)

4.35 TestUtils Namespace Reference

Classes

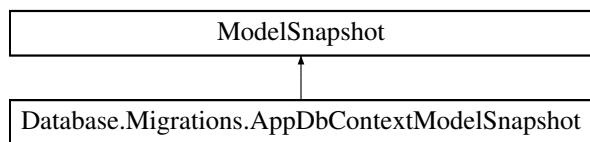
- class **ResponseExtractor**
- class **TestMocks**

Chapter 5

Class Documentation

5.1 Database.Migrations.AppDbContextModelSnapshot Class Reference

Inheritance diagram for Database.Migrations.AppDbContextModelSnapshot:



Protected Member Functions

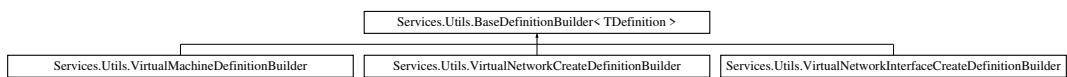
- override void **BuildModel** (ModelBuilder modelBuilder)

The documentation for this class was generated from the following file:

- Database/Migrations/AppDbContextModelSnapshot.cs

5.2 Services.Utils.BaseDefinitionBuilder< TDefinition > Class Template Reference

Inheritance diagram for Services.Utils.BaseDefinitionBuilder< TDefinition >:



Public Member Functions

- BaseDefinitionBuilder< TDefinition > **SetFromCreateDefinition** (TDefinition definition)
- string **Build** ()

Protected Member Functions

- delegate void **BuildingBlock** (XmlWriter writer)
- void **CheckIsEverythingIsProvided** (params object?[] args)
- StringWriter **CreateXmlWriter** ()

Protected Attributes

- XmlWriter

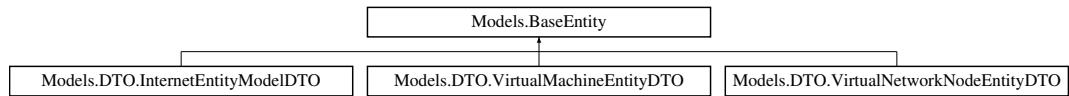
The documentation for this class was generated from the following file:

- Services/Utils/BaseDefinitionBuilder.cs

5.3 Models BaseEntity Class Reference

Base class representing an entity with a position on the board.

Inheritance diagram for Models.BaseEntity:



Properties

- required int **Id** [get, set]
Entity identifier.
- required int **X** [get, set]
X coordinate of the entity position on the board.
- required int **Y** [get, set]
Y coordinate of the entity position on the board.

5.3.1 Detailed Description

Base class representing an entity with a position on the board.

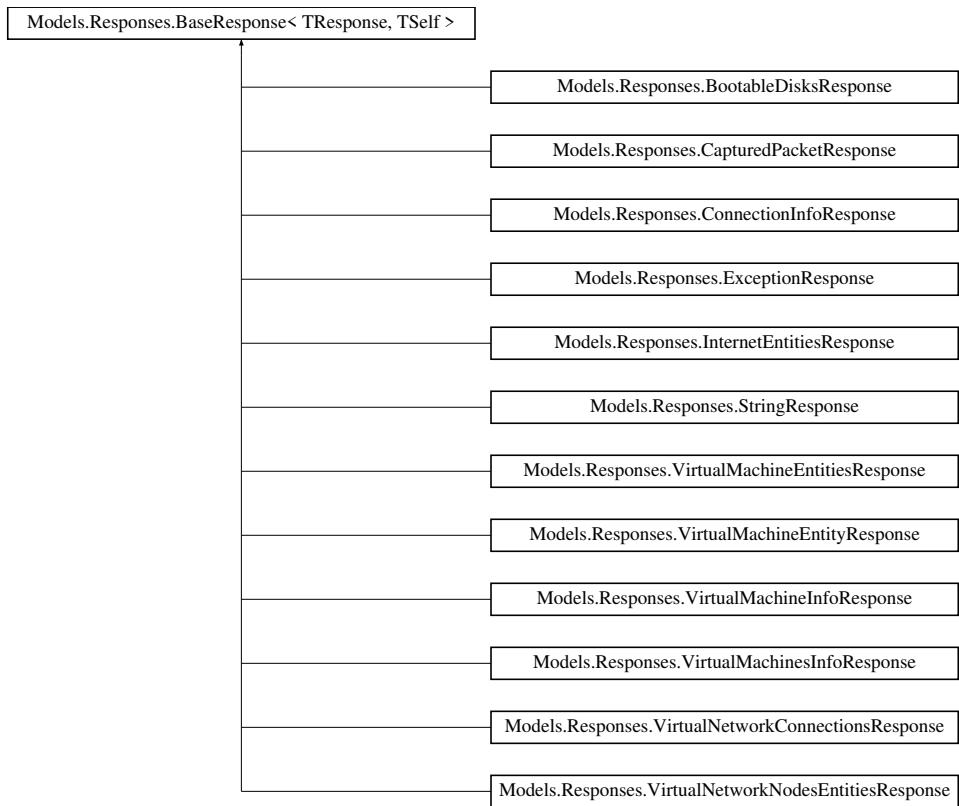
The documentation for this class was generated from the following file:

- Models/BaseEntity.cs

5.4 Models.Responses.BaseResponse< TResponse, TSelf > Class Template Reference

Base class for API responses.

Inheritance diagram for Models.Responses.BaseResponse< TResponse, TSelf >:



Static Public Member Functions

- static TSelf [WithSuccess](#) (TResponse data)
Creates a successful response with data.
- static TSelf [WithEmptySuccess](#) ()
Creates an empty successful response.

Properties

- bool **Success** [get, set]
Indicates whether the operation was successful.
- string? **ErrorMessage** [get, set]
Error message, if any error occurred.
- TResponse? **Data** [get, set]
Response data.

5.4.1 Detailed Description

Base class for API responses.

Template Parameters

<i>TResponse</i>	Type of response data.
<i>TSelf</i>	Type of the inheriting class.

Type Constraints

TSelf : BaseResponse
TSelf : TResponse
TSelf : TSelf
TSelf : new()

5.4.2 Member Function Documentation

5.4.2.1 WithEmptySuccess()

```
static TSelf Models.Responses.BaseResponse< TResponse, TSelf >.WithEmptySuccess () [inline],  
[static]
```

Creates an empty successful response.

Returns

Empty successful response.

5.4.2.2 WithSuccess()

```
static TSelf Models.Responses.BaseResponse< TResponse, TSelf >.WithSuccess (  
    TResponse data) [inline], [static]
```

Creates a successful response with data.

Parameters

<i>data</i>	Data to return.
-------------	-----------------

Returns

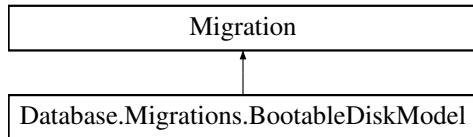
Successful response.

The documentation for this class was generated from the following file:

- Models/Responses/BaseResponse.cs

5.5 Database.Migrations.BootableDiskModel Class Reference

Inheritance diagram for Database.Migrations.BootableDiskModel:



Protected Member Functions

- override void **Up** (MigrationBuilder migrationBuilder)
- override void **Down** (MigrationBuilder migrationBuilder)
- override void **BuildTargetModel** (ModelBuilder modelBuilder)

5.5.1 Detailed Description

The documentation for this class was generated from the following files:

- Database/Migrations/20250728193116_BootableDiskModel.cs
- Database/Migrations/20250728193116_BootableDiskModel.Designer.cs

5.6 Models.Database.BootableDiskModel Class Reference

[Database](#) model representing a bootable disk.

Properties

- required int **Id** [get, set]
Disk identifier.
- required string **Name** [get, set]
Disk name.
- string? **Version** [get, set]
Operating system version on the disk.
- string? **Path** [get, set]
Path to the disk file.

5.6.1 Detailed Description

[Database](#) model representing a bootable disk.

The documentation for this class was generated from the following file:

- Models/Database/BootableDiskModel.cs

5.7 Models.DTO.BootableDiskModelDTO Class Reference

Properties

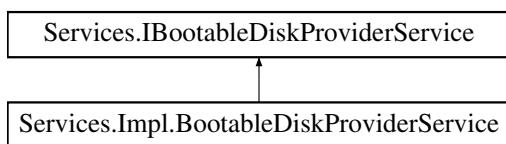
- required int **Id** [get, set]
- required string **Name** [get, set]
- string? **Version** [get, set]

The documentation for this class was generated from the following file:

- Models/DTO/BootableDiskModelDTO.cs

5.8 Services.Impl.BootableDiskProviderService Class Reference

Inheritance diagram for Services.Impl.BootableDiskProviderService:



Public Member Functions

- **BootableDiskProviderService** ([IBootableDiskRepository](#) repository)
- async Task< List< [BootableDiskModelDTO](#) > > **GetAvailableBootableDiskModels** ()

Retrieves a list of available bootable disk models.
- async Task< string?> **GetBootableDiskPathById** (int id)

Retrieves the path to a bootable disk by its identifier.

5.8.1 Member Function Documentation

5.8.1.1 GetAvailableBootableDiskModels()

```
async Task< List< BootableDiskModelDTO > > Services.Impl.BootableDiskProviderService.GetAvailableBootableDiskModels () [inline]
```

Retrieves a list of available bootable disk models.

Returns

List of bootable disks.

Implements [Services.IBootableDiskProviderService](#).

5.8.1.2 GetBootableDiskPathById()

```
async Task< string?> Services.Impl.BootableDiskProviderService.GetBootableDiskPathById (
    int id) [inline]
```

Retrieves the path to a bootable disk by its identifier.

Parameters

<i>id</i>	Disk identifier.
-----------	------------------

Returns

Path to the disk or null if not found.

Implements [Services.IBootableDiskProviderService](#).

The documentation for this class was generated from the following file:

- Services/Impl/BootableDiskProviderService.cs

5.9 ServicesTests.BootableDiskProviderServiceTests Class Reference

Public Member Functions

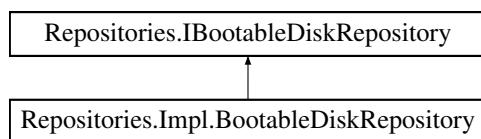
- void **SetUp** ()
- void **TearDown** ()
- async Task **GetAvailableBootableDiskModels_WhenInvoked_ShouldGetAllBootableDisksWithPath** ()
- async Task **GetBootableDiskPathById_WhenInvokedWithCorrectId_ShouldReturnBootableDiskPath** ()

The documentation for this class was generated from the following file:

- ServicesTests/BootableDiskProviderServiceTests.cs

5.10 Repositories.Impl.BootableDiskRepository Class Reference

Inheritance diagram for `Repositories.Impl.BootableDiskRepository`:

**Public Member Functions**

- **BootableDiskRepository** ([InterconnectDbContext](#) context)
- async Task< List< [BootableDiskModel](#) > > [GetOnlyWithNotNullablePath](#) ()
Retrieves a list of bootable disks with non-null paths.
- async Task< [BootableDiskModel](#) > [GetById](#) (int id)
Retrieves a bootable disk by identifier.

5.10.1 Member Function Documentation

5.10.1.1 [GetById\(\)](#)

```
async Task< BootableDiskModel > Repositories.Impl.BootableDiskRepository.GetById (
    int id [inline]
```

Retrieves a bootable disk by identifier.

Parameters

<i>id</i>	Disk identifier.
-----------	------------------

Returns

Bootable disk.

Implements [Repositories.IBootableDiskRepository](#).

5.10.1.2 GetOnlyWithNotNullablePath()

```
async Task< List< BootableDiskModel > > Repositories.Impl.BootableDiskRepository.GetOnlyWithNotNullablePath () [inline]
```

Retrieves a list of bootable disks with non-null paths.

Returns

List of disks with paths.

Implements [Repositories.IBootableDiskRepository](#).

The documentation for this class was generated from the following file:

- [Repositories/Impl/BootableDiskRepository.cs](#)

5.11 RepositoriesTests.BootableDiskRepositoryTests Class Reference**Public Member Functions**

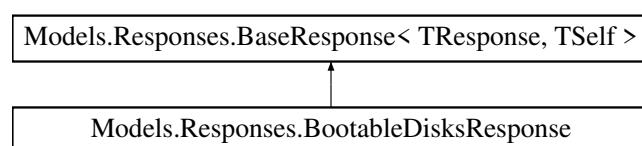
- void **SetUp** ()
- void **TearDown** ()
- async Task **GetOnlyWithNotNullablePath_WhenInvoked_ShouldReturnBootableDisksWithNotNullablePaths** ()
- async Task **GetById_WhenInvoked_ShouldGetBootableDiskUsingProvidedId** ()

The documentation for this class was generated from the following file:

- [RepositoriesTests/BootableDiskRepositoryTests.cs](#)

5.12 Models.Responses.BootableDisksResponse Class Reference

Inheritance diagram for `Models.Responses.BootableDisksResponse`:



Additional Inherited Members

Static Public Member Functions inherited from Models.Responses.BaseResponse< TResponse, TSelf >

- static TSelf [WithSuccess](#) (TResponse data)
Creates a successful response with data.
- static TSelf [WithEmptySuccess](#) ()
Creates an empty successful response.

Properties inherited from Models.Responses.BaseResponse< TResponse, TSelf >

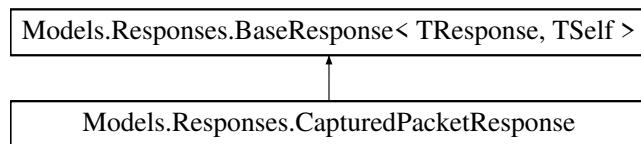
- bool **Success** [get, set]
Indicates whether the operation was successful.
- string? **ErrorMessage** [get, set]
Error message, if any error occurred.
- TResponse? **Data** [get, set]
Response data.

The documentation for this class was generated from the following file:

- Models/Responses/BootableDisksResponse.cs

5.13 Models.Responses.CapturedPacketResponse Class Reference

Inheritance diagram for Models.Responses.CapturedPacketResponse:



Additional Inherited Members

Static Public Member Functions inherited from Models.Responses.BaseResponse< TResponse, TSelf >

- static TSelf [WithSuccess](#) (TResponse data)
Creates a successful response with data.
- static TSelf [WithEmptySuccess](#) ()
Creates an empty successful response.

Properties inherited from [Models.Responses.BaseResponse< TResponse, TSelf >](#)

- bool **Success** [get, set]

Indicates whether the operation was successful.
- string? **ErrorMessage** [get, set]

Error message, if any error occurred.
- TResponse? **Data** [get, set]

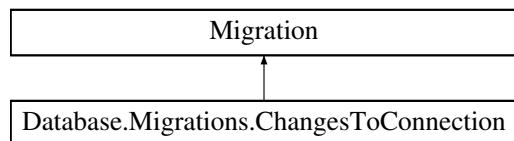
Response data.

The documentation for this class was generated from the following file:

- Models/Responses/CapturedPacketResponse.cs

5.14 Database.Migrations.ChangesToConnection Class Reference

Inheritance diagram for Database.Migrations.ChangesToConnection:



Protected Member Functions

- override void **Up** (MigrationBuilder migrationBuilder)
- override void **Down** (MigrationBuilder migrationBuilder)
- override void **BuildTargetModel** (ModelBuilder modelBuilder)

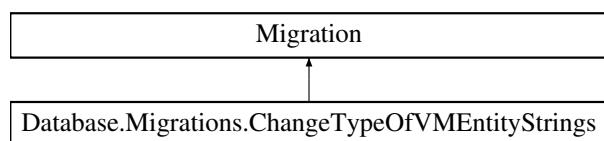
5.14.1 Detailed Description

The documentation for this class was generated from the following files:

- Database/Migrations/20250907104504_ChangesToConnection.cs
- Database/Migrations/20250907104504_ChangesToConnection.Designer.cs

5.15 Database.Migrations.ChangeTypeOfVMEntityStrings Class Reference

Inheritance diagram for Database.Migrations.ChangeTypeOfVMEntityStrings:



Protected Member Functions

- override void **Up** (MigrationBuilder migrationBuilder)
- override void **Down** (MigrationBuilder migrationBuilder)
- override void **BuildTargetModel** (ModelBuilder modelBuilder)

5.15.1 Detailed Description

The documentation for this class was generated from the following files:

- Database/Migrations/20250726223025_ChangeTypeOfVMEntityStrings.cs
- Database/Migrations/20250726223025_ChangeTypeOfVMEntityStrings.Designer.cs

5.16 Models.Requests.ConnectEntitiesRequest Class Reference

Properties

- required int **SourceEntityId** [get, set]
- **EntityType** **SourceEntityType** [get, set]
- required int **DestinationEntityId** [get, set]
- **EntityType** **DestinationEntityType** [get, set]

The documentation for this class was generated from the following file:

- Models/Requests/ConnectEntitiesRequest.cs

5.17 Models.ConnectionInfo Class Reference

Information about the connection to the virtualization hypervisor.

Properties

- uint **CpuCount** [get, set]
Number of CPUs.
- uint **CpuFreq** [get, set]
CPU frequency in MHz.
- long **TotalMemory** [get, set]
Total system memory in bytes.
- required string **ConnectionUrl** [get, set]
Connection URL to the hypervisor.
- required string **DriverType** [get, set]
Virtualization driver type.
- required string **LibVersion** [get, set]
Libvirt library version.
- required string **DriverVersion** [get, set]
Virtualization driver version.

5.17.1 Detailed Description

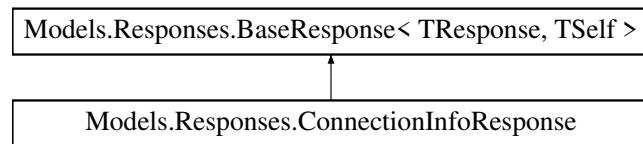
Information about the connection to the virtualization hypervisor.

The documentation for this class was generated from the following file:

- Models/ConnectionInfo.cs

5.18 Models.Responses.ConnectionInfoResponse Class Reference

Inheritance diagram for Models.Responses.ConnectionInfoResponse:



Additional Inherited Members

Static Public Member Functions inherited from Models.Responses.BaseResponse< TResponse, TSelf >

- static TSelf [WithSuccess](#) (TResponse data)
Creates a successful response with data.
- static TSelf [WithEmptySuccess](#) ()
Creates an empty successful response.

Properties inherited from Models.Responses.BaseResponse< TResponse, TSelf >

- bool **Success** [get, set]
Indicates whether the operation was successful.
- string? **ErrorMessage** [get, set]
Error message, if any error occurred.
- TResponse? **Data** [get, set]
Response data.

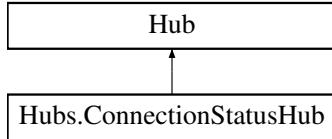
The documentation for this class was generated from the following file:

- Models/Responses/ConnectionInfoResponse.cs

5.19 Hubs.ConnectionStatusHub Class Reference

SignalR hub for checking connection status.

Inheritance diagram for Hubs.ConnectionStatusHub:



Public Member Functions

- [StringResponse Ping \(\)](#)
Checks connection with the server.

5.19.1 Detailed Description

SignalR hub for checking connection status.

5.19.2 Member Function Documentation

5.19.2.1 Ping()

[StringResponse Hubs.ConnectionStatusHub.Ping \(\) \[inline\]](#)

Checks connection with the server.

Returns

Response confirming connection.

The documentation for this class was generated from the following file:

- Hubs/ConnectionStatusHub.cs

5.20 HubsTests.ConnectionStatusHubTests Class Reference

Public Member Functions

- void [Setup \(\)](#)
- void [Teardown \(\)](#)
- void [Ping_WhenInvoked_ShouldReturnPong \(\)](#)

The documentation for this class was generated from the following file:

- HubsTests/ConnectionStatusHubTests.cs

5.21 Models.Requests.CreateVirtualMachineEntityRequest Class Reference

Properties

- required string **Name** [get, set]
- required uint **Memory** [get, set]
- required uint **VirtualCPUs** [get, set]
- required int **BootableDiskId** [get, set]
- required VirtualMachineEntityType **Type** [get, set]

The documentation for this class was generated from the following file:

- Models/Requests/CreateVirtualMachineEntityRequest.cs

5.22 Models.Requests.CreateVirtualNetworkNodeEntityRequest Class Reference

Properties

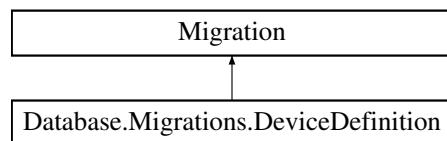
- required string **Name** [get, set]

The documentation for this class was generated from the following file:

- Models/Requests/CreateVirtualNetworkNodeEntityRequest.cs

5.23 Database.Migrations.DeviceDefinition Class Reference

Inheritance diagram for Database.Migrations.DeviceDefinition:



Protected Member Functions

- override void **Up** (MigrationBuilder migrationBuilder)
- override void **Down** (MigrationBuilder migrationBuilder)
- override void **BuildTargetModel** (ModelBuilder modelBuilder)

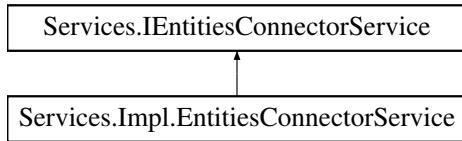
5.23.1 Detailed Description

The documentation for this class was generated from the following files:

- Database/Migrations/20250914152455_DeviceDefinition.cs
- Database/Migrations/20250914152455_DeviceDefinition.Designer.cs

5.24 Services.Implementation.EntitiesConnectorService Class Reference

Inheritance diagram for Services.Implementation.EntitiesConnectorService:



Public Member Functions

- **EntitiesConnectorService** (IVirtualMachineEntityRepository vmEntityRepository, IVirtualNetworkConnectionRepository connectionRepository, IVirtualNetworkNodeEntityRepository virtualNetworkNodeRepository, IIInternetEntityRepository internetRepository, IVirtualNetworkService networkService, IVirtualNetworkNodeConnector virtualNetworkNodeConnector)
 - async Task< VirtualNetworkConnectionDTO > **ConnectTwoEntities** (int sourceEntityId, EntityType sourceEntityType, int destinationEntityId, EntityType destinationEntityType)

Connects two entities of different types.
 - async Task< VirtualNetworkConnectionDTO > **ConnectTwoVirtualMachines** (int sourceEntityId, int destinationEntityId)

Connects two virtual machines.
 - async Task< VirtualNetworkConnectionDTO > **ConnectVirtualMachineToVirtualNetworkNode** (int sourceEntityId, int destinationEntityId)

Connects a virtual machine to a virtual network node.
 - async Task< VirtualNetworkConnectionDTO > **ConnectVirtualMachineToInternet** (int sourceEntityId, int destinationEntityId)

Connects a virtual machine to the Internet.

5.24.1 Member Function Documentation

5.24.1.1 ConnectTwoEntities()

```

async Task< VirtualNetworkConnectionDTO > Services.Implementation.EntitiesConnectorService.ConnectTwoEntities (
    int sourceEntityId,
    EntityType sourceEntityType,
    int destinationEntityId,
    EntityType destinationEntityType) [inline]
  
```

Connects two entities of different types.

Parameters

<i>sourceEntityId</i>	Source entity identifier.
<i>sourceEntityType</i>	Source entity type.
<i>destinationEntityId</i>	Destination entity identifier.
<i>destinationEntityType</i>	Destination entity type.

Returns

Created connection data.

Implements [Services.IEntitiesConnectorService](#).

5.24.1.2 ConnectTwoVirtualMachines()

```
async Task< VirtualNetworkConnectionDTO > Services.Impl.EntitiesConnectorService.ConnectTwo←
VirtualMachines (
    int sourceEntityId,
    int destinationEntityId) [inline]
```

Connects two virtual machines.

Parameters

<i>sourceEntityId</i>	First virtual machine identifier.
<i>destinationEntityId</i>	Second virtual machine identifier.

Returns

Created connection data.

Implements [Services.IEntitiesConnectorService](#).

5.24.1.3 ConnectVirtualMachineToInternet()

```
async Task< VirtualNetworkConnectionDTO > Services.Impl.EntitiesConnectorService.Connect←
VirtualMachineToInternet (
    int sourceEntityId,
    int destinationEntityId) [inline]
```

Connects a virtual machine to the Internet.

Parameters

<i>sourceEntityId</i>	Virtual machine identifier.
<i>destinationEntityId</i>	Internet entity identifier.

Returns

Created connection data.

Implements [Services.IEntitiesConnectorService](#).

5.24.1.4 ConnectVirtualMachineToVirtualNetworkNode()

```
async Task< VirtualNetworkConnectionDTO > Services.Impl.EntitiesConnectorService.Connect←
VirtualMachineToVirtualNetworkNode (
    int sourceEntityId,
    int destinationEntityId) [inline]
```

Connects a virtual machine to a virtual network node.

Parameters

<i>sourceEntityId</i>	Virtual machine identifier.
<i>destinationEntityId</i>	Network node identifier.

Returns

Created connection data.

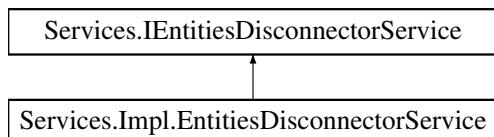
Implements [Services.IEntitiesConnectorService](#).

The documentation for this class was generated from the following file:

- Services/Impl/EntitiesConnectorService.cs

5.25 Services.Impl.EntitiesDisconnectorService Class Reference

Inheritance diagram for Services.Impl.EntitiesDisconnectorService:



Public Member Functions

- **EntitiesDisconnectorService** ([IVirtualizationWrapper](#) wrapper, [IVirtualMachineEntityRepository](#) vmEntityRepository, [IVirtualNetworkConnectionRepository](#) connectionRepository, [IVirtualNetworkNodeEntityRepository](#) virtualNetworkNodeRepository, [IVirtualNetworkRepository](#) networkRepository, [IVirtualNetworkNodeConnector](#) virtualNetworkNodeConnector, [IVirtualMachineEntityNetworkInterfaceRepository](#) networkInterfaceRepository)
 - async Task< [VirtualNetworkConnectionDTO](#) > **DisconnectEntities** (int connectionId)

Disconnects entities based on connection identifier.
 - async Task **DisconnectVirtualMachineFromVirtualNetworkNode** (int connectionId, int sourceEntityId, int destinationEntityId)

Disconnects a virtual machine from a virtual network node.
 - async Task **DisconnectVirtualMachineFromVirtualMachine** (int connectionId, int sourceEntityId, int destinationEntityId)

Disconnects two virtual machines.
 - async Task **DisconnectVirtualMachineFromInternet** (int connectionId, int virtualMachineEntityId, int internetEntityId)

Disconnects a virtual machine from the Internet.

5.25.1 Member Function Documentation

5.25.1.1 DisconnectEntities()

```
async Task< VirtualNetworkConnectionDTO > Services.Impl.EntitiesDisconnectorService.Disconnect←
Entities (
    int connectionId) [inline]
```

Disconnects entities based on connection identifier.

Parameters

<i>connectionId</i>	Connection identifier to remove.
---------------------	----------------------------------

Returns

Removed connection data.

Implements [Services.IEntitiesDisconnectorService](#).

5.25.1.2 DisconnectVirtualMachineFromInternet()

```
async Task Services.Impl.EntitiesDisconnectorService.DisconnectVirtualMachineFromInternet (
    int connectionId,
    int virtualMachineEntityId,
    int internetEntityId) [inline]
```

Disconnects a virtual machine from the Internet.

Parameters

<i>connectionId</i>	Connection identifier.
<i>virtualMachineEntityId</i>	Virtual machine identifier.
<i>internetEntityId</i>	Internet entity identifier.

Implements [Services.IEntitiesDisconnectorService](#).

5.25.1.3 DisconnectVirtualMachineFromVirtualMachine()

```
async Task Services.Impl.EntitiesDisconnectorService.DisconnectVirtualMachineFromVirtual←
Machine (
    int connectionId,
    int sourceEntityId,
    int destinationEntityId) [inline]
```

Disconnects two virtual machines.

Parameters

<i>connectionId</i>	Connection identifier.
<i>sourceEntityId</i>	First virtual machine identifier.
<i>destinationEntityId</i>	Second virtual machine identifier.

Implements [Services.IEntitiesDisconnectorService](#).

5.25.1.4 DisconnectVirtualMachineFromVirtualNetworkNode()

```
async Task Services.Impl.EntitiesDisconnectorService.DisconnectVirtualMachineFromVirtual-
NetworkNode (
    int connectionId,
    int sourceEntityId,
    int destinationEntityId) [inline]
```

Disconnects a virtual machine from a virtual network node.

Parameters

<i>connectionId</i>	Connection identifier.
<i>sourceEntityId</i>	Virtual machine identifier.
<i>destinationEntityId</i>	Network node identifier.

Implements [Services.IEntitiesDisconnectorService](#).

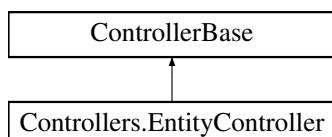
The documentation for this class was generated from the following file:

- Services/Impl/EntitiesDisconnectorService.cs

5.26 Controllers.EntityController Class Reference

Controller managing entities in the system.

Inheritance diagram for Controllers.EntityController:



Public Member Functions

- **EntityController** (`IVirtualMachineEntityService` `vmEntityService`, `IVirtualNetworkService` `virtualNetworkService`, `IInternetEntityService` `internetEntityService`)
- `async Task< ActionResult< VirtualMachineEntityResponse > > CreateVirtualMachineEntity (CreateVirtualMachineEntityRequest req)`
Creates a new virtual machine entity.
- `async Task< ActionResult< VirtualNetworkNodesEntitiesResponse > > CreateVirtualNetworkNodeEntity (CreateVirtualNetworkNodeEntityRequest req)`
Creates a new virtual network node.
- `async Task< ActionResult< InternetEntitiesResponse > > CreateInternetEntity ()`
Creates a new Internet entity.
- `async Task< ActionResult< StringResponse > > UpdateEntityPosition (UpdateEntityPositionRequest req)`
Updates entity position on the board.
- `async Task< ActionResult< VirtualMachineEntitiesResponse > > GetAllVirtualMachineEntities ()`
- `async Task< ActionResult< VirtualNetworkNodesEntitiesResponse > > GetAllVirtualNetworkNodeEntities ()`
- `async Task< ActionResult< InternetEntitiesResponse > > GetAllInternetEntities ()`

5.26.1 Detailed Description

Controller managing entities in the system.

5.26.2 Member Function Documentation

5.26.2.1 CreateInternetEntity()

```
async Task< ActionResult< InternetEntitiesResponse > > Controllers.EntityController.CreateInternetEntity () [inline]
```

Creates a new Internet entity.

Returns

Created Internet entity.

5.26.2.2 CreateVirtualMachineEntity()

```
async Task< ActionResult< VirtualMachineEntityResponse > > Controllers.EntityController.CreateVirtualMachineEntity (
    CreateVirtualMachineEntityRequest req) [inline]
```

Creates a new virtual machine entity.

Parameters

<code>req</code>	Data for creating virtual machine.
------------------	------------------------------------

Returns

Created virtual machine entity.

5.26.2.3 CreateVirtualNetworkNodeEntity()

```
async Task< ActionResult< VirtualNetworkNodesEntitiesResponse > > Controllers.EntityController.←
CreateVirtualNetworkNodeEntity (
    CreateVirtualNetworkNodeEntityRequest req) [inline]
```

Creates a new virtual network node.

Parameters

<i>req</i>	Data for creating node.
------------	-------------------------

Returns

Created network node.

5.26.2.4 UpdateEntityPosition()

```
async Task< ActionResult< StringResponse > > Controllers.EntityController.UpdateEntity←
Position (
    UpdateEntityPositionRequest req) [inline]
```

Updates entity position on the board.

Parameters

<i>req</i>	Data for updating position.
------------	-----------------------------

Returns

Operation confirmation.

The documentation for this class was generated from the following file:

- Controllers/EntityController.cs

5.27 Interconnect.Middlewares.ExceptionHandlerMiddleware Class Reference

Middleware for global exception handling in the application.

Public Member Functions

- **ExceptionHandlerMiddleware** (RequestDelegate next)
• async Task **InvokeAsync** (HttpContext context)

Processes HTTP request and catches exceptions.

5.27.1 Detailed Description

Middleware for global exception handling in the application.

5.27.2 Member Function Documentation

5.27.2.1 InvokeAsync()

```
async Task Interconnect.Middlewares.ExceptionHandlerMiddleware.InvokeAsync (
    HttpContext context) [inline]
```

Processes HTTP request and catches exceptions.

Parameters

<i>context</i>	HTTP context.
----------------	---------------

The documentation for this class was generated from the following file:

- Interconnect/Middlewares/ExceptionHandlerMiddleware.cs

5.28 InterconnectTests.ExceptionHandlerMiddlewareTests Class Reference

Public Member Functions

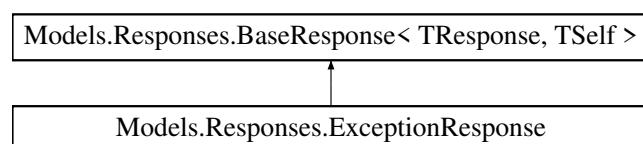
- async Task **InvokeAsync_NoException_CallsNextMiddleware ()**
- async Task **InvokeAsync_WhenExceptionThrown_ReturnsErrorResponse ()**

The documentation for this class was generated from the following file:

- InterconnectTests/ExceptionHandlerMiddlewareTests.cs

5.29 Models.Responses.ExceptionResponse Class Reference

Inheritance diagram for Models.Responses.ExceptionResponse:



Additional Inherited Members

Static Public Member Functions inherited from [Models.Responses.BaseResponse< TResponse, TSelf >](#)

- static TSelf [WithSuccess](#) (TResponse data)
Creates a successful response with data.
- static TSelf [WithEmptySuccess](#) ()
Creates an empty successful response.

Properties inherited from [Models.Responses.BaseResponse< TResponse, TSelf >](#)

- bool **Success** [get, set]
Indicates whether the operation was successful.
- string? **ErrorMessage** [get, set]
Error message, if any error occurred.
- TResponse? **Data** [get, set]
Response data.

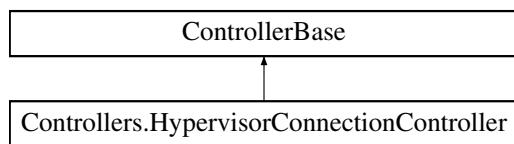
The documentation for this class was generated from the following file:

- Models/Responses/ExceptionResponse.cs

5.30 Controllers.HypervisorConnectionController Class Reference

Controller managing hypervisor connection.

Inheritance diagram for Controllers.HypervisorConnectionController:



Public Member Functions

- **HypervisorConnectionController** ([IHypervisorConnectionService](#) hypervisorConnectionService)
• [ActionResult< ConnectionInfoResponse > ConnectionInfo \(\)](#)
Retrieves hypervisor connection information.

5.30.1 Detailed Description

Controller managing hypervisor connection.

5.30.2 Member Function Documentation

5.30.2.1 ConnectionInfo()

```
ActionResult< ConnectionInfoResponse > Controllers.HypervisorConnectionController.ConnectionInfo () [inline]
```

Retrieves hypervisor connection information.

Returns

Connection information.

The documentation for this class was generated from the following file:

- Controllers/HypervisorConnectionController.cs

5.31 ControllersTests.HypervisorConnectionControllerTests Class Reference

Public Member Functions

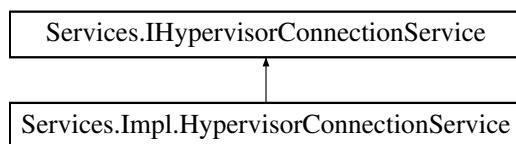
- void **Setup** ()
- void **ConnectionInfo_WhenInvoked_ShouldGetConnectionInfo** ()

The documentation for this class was generated from the following file:

- ControllersTests/HypervisorConnectionControllerTests.cs

5.32 Services.Impl.HypervisorConnectionService Class Reference

Inheritance diagram for Services.Impl.HypervisorConnectionService:



Public Member Functions

- **HypervisorConnectionService** ([IVirtualizationWrapper](#) vmManager)
- void **InitializeConnection** (string? connectionUrl)

Initializes connection to the hypervisor.
- **ConnectionStatus GetConnectionStatus** ()

Retrieves the current connection status with the hypervisor.
- **ConnectionInfo GetConnectionInfo** ()

Retrieves connection and hypervisor information.

5.32.1 Member Function Documentation

5.32.1.1 GetConnectionInfo()

```
ConnectionInfo Services.Impl.HypervisorConnectionService.GetConnectionInfo () [inline]
```

Retrieves connection and hypervisor information.

Returns

Connection information.

Implements [Services.IHypervisorConnectionService](#).

5.32.1.2 GetConnectionStatus()

```
ConnectionStatus Services.Impl.HypervisorConnectionService.GetConnectionStatus () [inline]
```

Retrieves the current connection status with the hypervisor.

Returns

Connection status.

Implements [Services.IHypervisorConnectionService](#).

5.32.1.3 InitializeConnection()

```
void Services.Impl.HypervisorConnectionService.InitializeConnection (
    string? connectionUrl) [inline]
```

Initializes connection to the hypervisor.

Parameters

<code>connectionUrl</code>	Connection URL or null for default.
----------------------------	-------------------------------------

Implements [Services.IHypervisorConnectionService](#).

The documentation for this class was generated from the following file:

- Services/Impl/HypervisorConnectionService.cs

5.33 ServicesTests.HypervisorConnectionServiceTests Class Reference

Public Member Functions

- void `SetUp ()`
- void `InitializeConnection_WhenInvokedWithoutConnectionString_ShouldConnectUsingNativeLibraryWithDefaultConnectionString ()`
- void `InitializeConnection_WhenInvoked_ShouldConnectUsingNativeLibrary ()`
- void `GetConnectionInfo_WhenInvoked_ShouldGetConnectionInfo ()`
- void `GetConnectionStatus_WhenConnectionStatusIsAlive_ShouldReturnConnectionIsAlive ()`
- void `GetConnectionStatus_WhenConnectionStatusIsAlive_ShouldReturnConnectionIsDead ()`

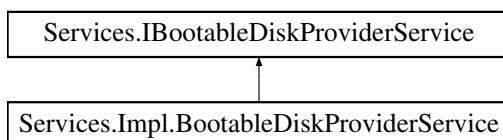
The documentation for this class was generated from the following file:

- ServicesTests/HypervisorConnectionServiceTests.cs

5.34 Services.IBootableDiskProviderService Interface Reference

Service providing information about available bootable disks.

Inheritance diagram for Services.IBootableDiskProviderService:



Public Member Functions

- Task< List< [BootableDiskModelDTO](#) > > [GetAvailableBootableDiskModels \(\)](#)
Retrieves a list of available bootable disk models.
- Task< string?> [GetBootableDiskPathById](#) (int id)
Retrieves the path to a bootable disk by its identifier.

5.34.1 Detailed Description

Service providing information about available bootable disks.

5.34.2 Member Function Documentation

5.34.2.1 GetAvailableBootableDiskModels()

Task< List< [BootableDiskModelDTO](#) > > Services.IBootableDiskProviderService.GetAvailableBootableDiskModels ()

Retrieves a list of available bootable disk models.

Returns

List of bootable disks.

Implemented in [Services.Impl.BootableDiskProviderService](#).

5.34.2.2 GetBootableDiskPathById()

```
Task< string?> Services.IBootableDiskProviderService.GetBootableDiskPathById ( int id)
```

Retrieves the path to a bootable disk by its identifier.

Parameters

<i>id</i>	Disk identifier.
-----------	------------------

Returns

Path to the disk or null if not found.

Implemented in [Services.IImpl.BootableDiskProviderService](#).

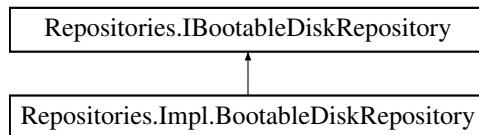
The documentation for this interface was generated from the following file:

- Services/IBootableDiskProviderService.cs

5.35 Repositories.IBootableDiskRepository Interface Reference

Repository managing bootable disks in the database.

Inheritance diagram for Repositories.IBootableDiskRepository:



Public Member Functions

- Task< List< [BootableDiskModel](#) > > [GetOnlyWithNotNullablePath](#) ()
Retrieves a list of bootable disks with non-null paths.
- Task< [BootableDiskModel](#) > [GetById](#) (int id)
Retrieves a bootable disk by identifier.

5.35.1 Detailed Description

Repository managing bootable disks in the database.

5.35.2 Member Function Documentation

5.35.2.1 GetById()

```
Task< BootableDiskModel > Repositories.IBootableDiskRepository.GetById ( int id)
```

Retrieves a bootable disk by identifier.

Parameters

<i>id</i>	Disk identifier.
-----------	------------------

Returns

Bootable disk.

Implemented in [Repositories.Impl.BootableDiskRepository](#).

5.35.2.2 GetOnlyWithNotNullablePath()

```
Task< List< BootableDiskModel > > Repositories.IBootableDiskRepository.GetOnlyWithNotNullablePath ()
```

Retrieves a list of bootable disks with non-null paths.

Returns

List of disks with paths.

Implemented in [Repositories.Impl.BootableDiskRepository](#).

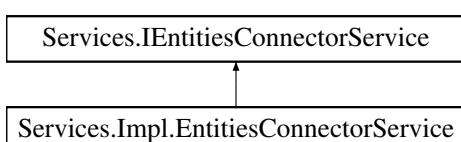
The documentation for this interface was generated from the following file:

- [Repositories/IBootableDiskRepository.cs](#)

5.36 Services.IEntitiesConnectorService Interface Reference

Service responsible for connecting network entities.

Inheritance diagram for Services.IEntitiesConnectorService:

**Public Member Functions**

- `Task< VirtualNetworkConnectionDTO > ConnectTwoEntities (int sourceEntityId, Entity Type sourceEntityType, int destinationEntityId, Entity Type destinationEntityType)`
Connects two entities of different types.
- `Task< VirtualNetworkConnectionDTO > ConnectTwoVirtualMachines (int sourceEntityId, int destinationEntityId)`
Connects two virtual machines.
- `Task< VirtualNetworkConnectionDTO > ConnectVirtualMachineToVirtualNetworkNode (int sourceEntityId, int destinationEntityId)`
Connects a virtual machine to a virtual network node.
- `Task< VirtualNetworkConnectionDTO > ConnectVirtualMachineToInternet (int sourceEntityId, int destinationEntityId)`
Connects a virtual machine to the Internet.

5.36.1 Detailed Description

Service responsible for connecting network entities.

5.36.2 Member Function Documentation

5.36.2.1 ConnectTwoEntities()

```
Task< VirtualNetworkConnectionDTO > Services.IEntitiesConnectorService.ConnectTwoEntities (
    int sourceEntityId,
    EntityType sourceEntityType,
    int destinationEntityId,
    EntityType destinationEntityType)
```

Connects two entities of different types.

Parameters

<i>sourceEntityId</i>	Source entity identifier.
<i>sourceEntityType</i>	Source entity type.
<i>destinationEntityId</i>	Destination entity identifier.
<i>destinationEntityType</i>	Destination entity type.

Returns

Created connection data.

Implemented in [Services.IImpl.EntitiesConnectorService](#).

5.36.2.2 ConnectTwoVirtualMachines()

```
Task< VirtualNetworkConnectionDTO > Services.IEntitiesConnectorService.ConnectTwoVirtual←
Machines (
    int sourceEntityId,
    int destinationEntityId)
```

Connects two virtual machines.

Parameters

<i>sourceEntityId</i>	First virtual machine identifier.
<i>destinationEntityId</i>	Second virtual machine identifier.

Returns

Created connection data.

Implemented in [Services.IImpl.EntitiesConnectorService](#).

5.36.2.3 ConnectVirtualMachineToInternet()

```
Task< VirtualNetworkConnectionDTO > Services.IEntitiesConnectorService.ConnectVirtualMachine←
ToInternet (
    int sourceEntityId,
    int destinationEntityId)
```

Connects a virtual machine to the Internet.

Parameters

<i>sourceEntityId</i>	Virtual machine identifier.
<i>destinationEntityId</i>	Internet entity identifier.

Returns

Created connection data.

Implemented in [Services.IImpl.EntitiesConnectorService](#).

5.36.2.4 ConnectVirtualMachineToVirtualNetworkNode()

```
Task< VirtualNetworkConnectionDTO > Services.IEntitiesConnectorService.ConnectVirtualMachineToVirtualNetworkNode (
    int sourceEntityId,
    int destinationEntityId)
```

Connects a virtual machine to a virtual network node.

Parameters

<i>sourceEntityId</i>	Virtual machine identifier.
<i>destinationEntityId</i>	Network node identifier.

Returns

Created connection data.

Implemented in [Services.IImpl.EntitiesConnectorService](#).

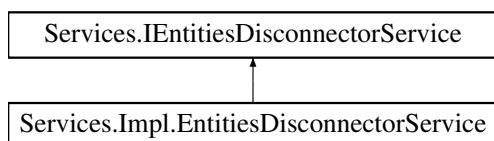
The documentation for this interface was generated from the following file:

- Services/IEntitiesConnectorService.cs

5.37 Services.IEntitiesDisconnectorService Interface Reference

Service responsible for disconnecting network entities.

Inheritance diagram for Services.IEntitiesDisconnectorService:



Public Member Functions

- Task< [VirtualNetworkConnectionDTO](#) > [DisconnectEntities](#) (int connectionId)
Disconnects entities based on connection identifier.
- Task [DisconnectVirtualMachineFromVirtualNetworkNode](#) (int connectionId, int sourceEntityId, int destinationEntityId)
Disconnects a virtual machine from a virtual network node.
- Task [DisconnectVirtualMachineFromVirtualMachine](#) (int connectionId, int sourceEntityId, int destinationEntityId)
Disconnects two virtual machines.
- Task [DisconnectVirtualMachineFromInternet](#) (int connectionId, int virtualMachineEntityId, int internetEntityId)
Disconnects a virtual machine from the Internet.

5.37.1 Detailed Description

Service responsible for disconnecting network entities.

5.37.2 Member Function Documentation

5.37.2.1 [DisconnectEntities\(\)](#)

```
Task< VirtualNetworkConnectionDTO > Services.IEntitiesDisconnectorService.DisconnectEntities (
    int connectionId)
```

Disconnects entities based on connection identifier.

Parameters

<i>connectionId</i>	Connection identifier to remove.
---------------------	----------------------------------

Returns

Removed connection data.

Implemented in [Services.IImpl.EntitiesDisconnectorService](#).

5.37.2.2 [DisconnectVirtualMachineFromInternet\(\)](#)

```
Task Services.IEntitiesDisconnectorService.DisconnectVirtualMachineFromInternet (
    int connectionId,
    int virtualMachineEntityId,
    int internetEntityId)
```

Disconnects a virtual machine from the Internet.

Parameters

<i>connectionId</i>	Connection identifier.
<i>virtualMachineEntityId</i>	Virtual machine identifier.
<i>internetEntityId</i>	Internet entity identifier.

Implemented in [Services.IImpl.EntitiesDisconnectorService](#).

5.37.2.3 DisconnectVirtualMachineFromVirtualMachine()

```
Task Services.IEntitiesDisconnectorService.DisconnectVirtualMachineFromVirtualMachine (
    int connectionId,
    int sourceEntityId,
    int destinationEntityId)
```

Disconnects two virtual machines.

Parameters

<i>connectionId</i>	Connection identifier.
<i>sourceEntityId</i>	First virtual machine identifier.
<i>destinationEntityId</i>	Second virtual machine identifier.

Implemented in [Services.IImpl.EntitiesDisconnectorService](#).

5.37.2.4 DisconnectVirtualMachineFromVirtualNetworkNode()

```
Task Services.IEntitiesDisconnectorService.DisconnectVirtualMachineFromVirtualNetworkNode (
    int connectionId,
    int sourceEntityId,
    int destinationEntityId)
```

Disconnects a virtual machine from a virtual network node.

Parameters

<i>connectionId</i>	Connection identifier.
<i>sourceEntityId</i>	Virtual machine identifier.
<i>destinationEntityId</i>	Network node identifier.

Implemented in [Services.IImpl.EntitiesDisconnectorService](#).

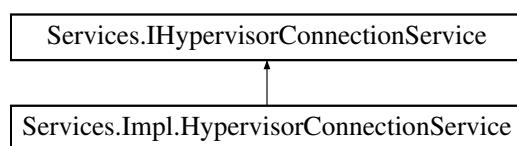
The documentation for this interface was generated from the following file:

- Services/IEntitiesDisconnectorService.cs

5.38 Services.IHypervisorConnectionService Interface Reference

Service managing connection to the virtualization hypervisor.

Inheritance diagram for Services.IHypervisorConnectionService:



Public Member Functions

- void [InitializeConnection](#) (string? connectionUrl)
Initializes connection to the hypervisor.
- [ConnectionStatus GetConnectionStatus](#) ()
Retrieves the current connection status with the hypervisor.
- [ConnectionInfo GetConnectionInfo](#) ()
Retrieves connection and hypervisor information.

5.38.1 Detailed Description

Service managing connection to the virtualization hypervisor.

5.38.2 Member Function Documentation

5.38.2.1 [GetConnectionInfo\(\)](#)

```
ConnectionInfo Services.IHypervisorConnectionService.GetConnectionInfo ()
```

Retrieves connection and hypervisor information.

Returns

Connection information.

Implemented in [ServicesImpl.HypervisorConnectionService](#).

5.38.2.2 [GetConnectionStatus\(\)](#)

```
ConnectionStatus Services.IHypervisorConnectionService.GetConnectionStatus ()
```

Retrieves the current connection status with the hypervisor.

Returns

Connection status.

Implemented in [ServicesImpl.HypervisorConnectionService](#).

5.38.2.3 [InitializeConnection\(\)](#)

```
void Services.IHypervisorConnectionService.InitializeConnection (
    string? connectionUrl)
```

Initializes connection to the hypervisor.

Parameters

<code>connectionUrl</code>	Connection URL or null for default.
----------------------------	-------------------------------------

Implemented in [Services.IImpl.HypervisorConnectionService](#).

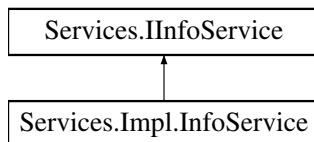
The documentation for this interface was generated from the following file:

- Services/IHypervisorConnectionService.cs

5.39 Services.IInfoService Interface Reference

Service providing system information.

Inheritance diagram for Services.IInfoService:



Public Member Functions

- [InformationModel GetSystemInfo \(\)](#)
Retrieves operating system information.

5.39.1 Detailed Description

Service providing system information.

5.39.2 Member Function Documentation

5.39.2.1 GetSystemInfo()

```
InformationModel Services.IInfoService.GetSystemInfo ()
```

Retrieves operating system information.

Returns

System information.

Implemented in [Services.IImpl.InfoService](#).

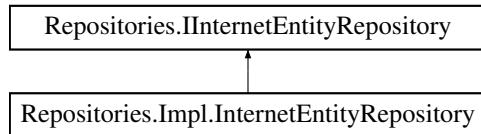
The documentation for this interface was generated from the following file:

- Services/IInfoService.cs

5.40 Repositories.IInternetEntityRepository Interface Reference

Repository managing Internet entities in the database.

Inheritance diagram for Repositories.IInternetEntityRepository:



Public Member Functions

- Task<[InternetEntityModel](#)> [Create](#) ([VirtualNetworkModel](#) virtualNetwork)
Creates a new Internet entity.
- Task<[List<InternetEntityModel>](#)> [GetAll](#) ()
Retrieves all Internet entities.
- Task<[InternetEntityModel](#)> [GetById](#) (int id)
Retrieves an Internet entity by identifier.
- Task<[InternetEntityModel](#)> [UpdatePosition](#) (int id, int x, int y)
Updates the position of an Internet entity.

5.40.1 Detailed Description

Repository managing Internet entities in the database.

5.40.2 Member Function Documentation

5.40.2.1 Create()

```
Task<InternetEntityModel> Repositories.IInternetEntityRepository.Create (
    VirtualNetworkModel virtualNetwork)
```

Creates a new Internet entity.

Parameters

<code>virtualNetwork</code>	Virtual network to connect.
-----------------------------	-----------------------------

Returns

Created Internet entity.

Implemented in [Repositories.IImpl.IInternetEntityRepository](#).

5.40.2.2 GetAll()

```
Task< List< InternetEntityModel > > Repositories.IInternetEntityRepository.GetAll ()
```

Retrieves all Internet entities.

Returns

List of Internet entities.

Implemented in [RepositoriesImpl.IInternetEntityRepository](#).

5.40.2.3 GetById()

```
Task< InternetEntityModel > Repositories.IInternetEntityRepository.GetById ( int id)
```

Retrieves an Internet entity by identifier.

Parameters

<i>id</i>	Entity identifier.
-----------	--------------------

Returns

Internet entity.

Implemented in [RepositoriesImpl.IInternetEntityRepository](#).

5.40.2.4 UpdatePosition()

```
Task< InternetEntityModel > Repositories.IInternetEntityRepository.UpdatePosition ( int id, int x, int y)
```

Updates the position of an Internet entity.

Parameters

<i>id</i>	Entity identifier.
<i>x</i>	New X coordinate.
<i>y</i>	New Y coordinate.

Returns

Updated entity.

Implemented in [RepositoriesImpl.IInternetEntityRepository](#).

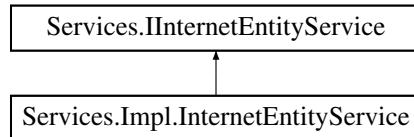
The documentation for this interface was generated from the following file:

- [Repositories/IInternetEntityRepository.cs](#)

5.41 Services.IInternetEntityService Interface Reference

Service managing Internet entities.

Inheritance diagram for Services.IInternetEntityService:



Public Member Functions

- Task< [InternetEntityModelDTO](#) > [CreateInternet\(\)](#)
Creates a new Internet entity.
- Task< List< [InternetEntityModelDTO](#) > > [GetInternetEntities\(\)](#)
Retrieves a list of all Internet entities.
- Task< [InternetEntityModelDTO](#) > [UpdateInternetEntityPosition\(int entityId, int x, int y\)](#)
Updates the position of an Internet entity on the board.

5.41.1 Detailed Description

Service managing Internet entities.

5.41.2 Member Function Documentation

5.41.2.1 CreateInternet()

Task< [InternetEntityModelDTO](#) > Services.IInternetEntityService.CreateInternet ()

Creates a new Internet entity.

Returns

Created Internet entity.

Implemented in [Services.IImpl.IInternetEntityService](#).

5.41.2.2 GetInternetEntities()

Task< List< [InternetEntityModelDTO](#) > > Services.IInternetEntityService.GetInternetEntities ()

Retrieves a list of all Internet entities.

Returns

List of Internet entities.

Implemented in [Services.IImpl.IInternetEntityService](#).

5.41.2.3 UpdateInternetEntityPosition()

```
Task< InternetEntityModelDTO > Services.IInternetEntityService.UpdateInternetEntityPosition (
    int entityId,
    int x,
    int y)
```

Updates the position of an Internet entity on the board.

Parameters

<i>entity</i> ↪ <i>Id</i>	Entity identifier.
<i>x</i>	New X coordinate.
<i>y</i>	New Y coordinate.

Returns

Updated Internet entity.

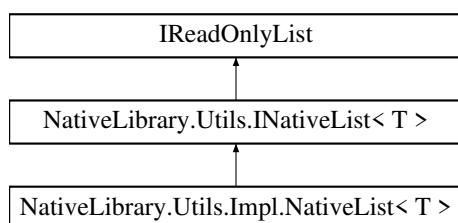
Implemented in [Services.Impl.InternetEntityService](#).

The documentation for this interface was generated from the following file:

- Services/IInternetEntityService.cs

5.42 NativeLibrary_Utils.INativeList< T > Interface Template Reference

Inheritance diagram for NativeLibrary_Utils.INativeList< T >:



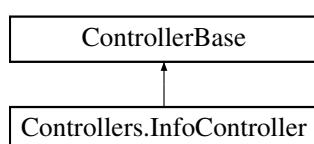
The documentation for this interface was generated from the following file:

- NativeLibrary/Utils/INativeList.cs

5.43 Controllers.InfoController Class Reference

Controller providing system information.

Inheritance diagram for Controllers.InfoController:



Public Member Functions

- **InfoController** (`IInfoService infoService`)
- `ActionResult< SystemInfoResponse > GetSystemInfo ()`
Retrieves operating system information.

5.43.1 Detailed Description

Controller providing system information.

5.43.2 Member Function Documentation

5.43.2.1 GetSystemInfo()

```
ActionResult< SystemInfoResponse > Controllers.InfoController.GetSystemInfo () [inline]
```

Retrieves operating system information.

Returns

System information.

The documentation for this class was generated from the following file:

- Controllers/InfoController.cs

5.44 ControllersTests.InfoControllerTests Class Reference

Public Member Functions

- `void Setup ()`
- `void GetSystemInfo_Invoke_ShouldReturnSystemInfo ()`

The documentation for this class was generated from the following file:

- ControllersTests/InfoControllerTests.cs

5.45 Models.InformationModel Class Reference

Model containing operating system information.

Properties

- required string **OsDescription** [get, set]
Operating system description.
- required string **OsArch** [get, set]
Operating system architecture.

5.45.1 Detailed Description

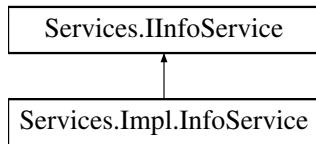
Model containing operating system information.

The documentation for this class was generated from the following file:

- Models/InformationModel.cs

5.46 Services.IImpl.InfoService Class Reference

Inheritance diagram for Services.IImpl.InfoService:



Public Member Functions

- [InformationModel GetSystemInfo \(\)](#)
Retrieves operating system information.

5.46.1 Member Function Documentation

5.46.1.1 GetSystemInfo()

`InformationModel Services.IImpl.InfoService.GetSystemInfo () [inline]`

Retrieves operating system information.

Returns

System information.

Implements [Services.IInfoService](#).

The documentation for this class was generated from the following file:

- Services/IImpl/InfoService.cs

5.47 ServicesTests.InfoServiceTests Class Reference

Public Member Functions

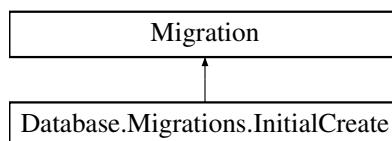
- void **GetOperatingSystem_Invoke_ShouldReturnOperatingSystem ()**

The documentation for this class was generated from the following file:

- ServicesTests/InfoServiceTests.cs

5.48 Database.Migrations.InitialCreate Class Reference

Inheritance diagram for Database.Migrations.InitialCreate:



Protected Member Functions

- override void **Up** (MigrationBuilder migrationBuilder)
- override void **Down** (MigrationBuilder migrationBuilder)
- override void **BuildTargetModel** (ModelBuilder modelBuilder)

5.48.1 Detailed Description

The documentation for this class was generated from the following files:

- Database/Migrations/20250726213527_InitialCreate.cs
- Database/Migrations/20250726213527_InitialCreate.Designer.cs

5.49 ServicesImpl.InitializationService Class Reference

Public Member Functions

- **InitializationService** ([IHypervisorConnectionService](#) connService, [IOptions< InterconnectConfig >](#) config)
- void **Initialize** ()
- Task **StartAsync** (CancellationToken cancellationToken)
- Task **StopAsync** (CancellationToken cancellationToken)

The documentation for this class was generated from the following file:

- Services/Impl/InitializationService.cs

5.50 ServicesTests.InitializationServiceTests Class Reference

Public Member Functions

- void **SetUp ()**
- void **Initialize_WhenInvoked_ShouldConnectToHypervisor ()**

The documentation for this class was generated from the following file:

- ServicesTests/InitializationServiceTests.cs

5.51 Models.Config.InterconnectConfig Class Reference

Properties

- required string **VmPrefix** [get, set]
- required string **HypervisorUrl** [get, set]
- required string **DatabaseConnectionString** [get, set]
- required int **MaxConsoleDataHistory** [get, set]

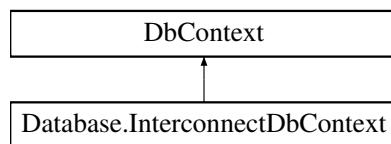
The documentation for this class was generated from the following file:

- Models/Config/InterconnectConfig.cs

5.52 Database.InterconnectDbContext Class Reference

[Database](#) context for the [Interconnect](#) application.

Inheritance diagram for Database.InterconnectDbContext:



Public Member Functions

- **InterconnectDbContext** (DbContextOptions<[InterconnectDbContext](#)> options)

Protected Member Functions

- override void **OnConfiguring** (DbContextOptionsBuilder optionsBuilder)

Properties

- DbSet< [VirtualMachineEntityModel](#) > **VirtualMachineEntityModels** [get, set]
Collection of virtual machine entities.
- DbSet< [BootableDiskModel](#) > **BootableDiskModels** [get, set]
Collection of bootable disks.
- DbSet< [VirtualNetworkEntityConnectionModel](#) > **VirtualNetworkEntityConnectionModels** [get, set]
Collection of entity connections in virtual network.
- DbSet< [VirtualNetworkNodeEntityModel](#) > **VirtualNetworkNodeEntityModels** [get, set]
Collection of virtual network nodes.
- DbSet< [InternetEntityModel](#) > **InternetEntityModels** [get, set]
Collection of Internet entities.
- DbSet< [VirtualNetworkModel](#) > **VirtualNetworkModels** [get, set]
Collection of virtual networks.
- DbSet< [VirtualMachineEntityNetworkInterfaceModel](#) > **VirtualMachineEntityNetworkInterfaceModels** [get, set]
Collection of virtual machine network interfaces.

5.52.1 Detailed Description

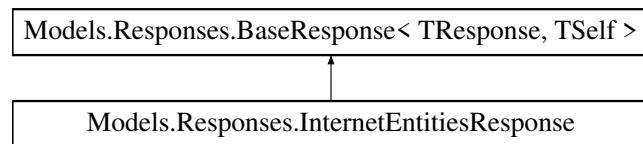
[Database](#) context for the [Interconnect](#) application.

The documentation for this class was generated from the following file:

- Database/InterconnectDbContext.cs

5.53 Models.Responses.InternetEntitiesResponse Class Reference

Inheritance diagram for Models.Responses.InternetEntitiesResponse:



Additional Inherited Members

Static Public Member Functions inherited from [Models.Responses.BaseResponse< TResponse, TSelf >](#)

- static TSelf [WithSuccess](#) (TResponse data)
Creates a successful response with data.
- static TSelf [WithEmptySuccess](#) ()
Creates an empty successful response.

Properties inherited from [Models.Responses.BaseResponse< TResponse, TSelf >](#)

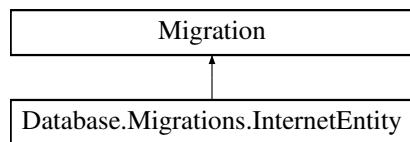
- bool **Success** [get, set]
Indicates whether the operation was successful.
- string? **ErrorMessage** [get, set]
Error message, if any error occurred.
- TResponse? **Data** [get, set]
Response data.

The documentation for this class was generated from the following file:

- Models/Responses/InternetEntitiesResponse.cs

5.54 Database.Migrations.InternetEntity Class Reference

Inheritance diagram for Database.Migrations.InternetEntity:



Protected Member Functions

- override void **Up** (MigrationBuilder migrationBuilder)
- override void **Down** (MigrationBuilder migrationBuilder)
- override void **BuildTargetModel** (ModelBuilder modelBuilder)

5.54.1 Detailed Description

The documentation for this class was generated from the following files:

- Database/Migrations/20250907212022_InternetEntity.cs
- Database/Migrations/20250907212022_InternetEntity.Designer.cs

5.55 Models.Database.InternetEntityModel Class Reference

[Database](#) model representing an Internet entity connected to a virtual network.

Properties

- int **Id** [get, set]
Entity identifier.
- required int **X** [get, set]
X coordinate of the entity position.
- required int **Y** [get, set]
Y coordinate of the entity position.
- required [VirtualNetworkModel](#) **VirtualNetwork** [get, set]
Virtual network to which the entity is connected.

5.55.1 Detailed Description

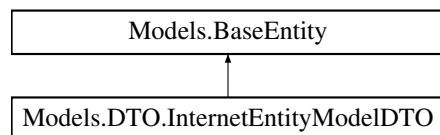
[Database](#) model representing an Internet entity connected to a virtual network.

The documentation for this class was generated from the following file:

- Models/Database/InternetEntityModel.cs

5.56 Models.DTO.InternetEntityModelDTO Class Reference

Inheritance diagram for Models.DTO.InternetEntityModelDTO:



Properties

- required string **IpAddress** [get, set]

Properties inherited from [Models BaseEntity](#)

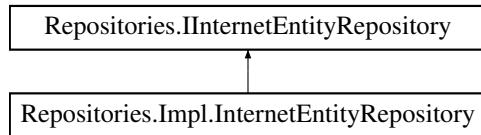
- required int **Id** [get, set]
Entity identifier.
- required int **X** [get, set]
X coordinate of the entity position on the board.
- required int **Y** [get, set]
Y coordinate of the entity position on the board.

The documentation for this class was generated from the following file:

- Models/DTO/InternetEntityModelDTO.cs

5.57 Repositories.IImpl.InternetEntityRepository Class Reference

Inheritance diagram for `Repositories.IImpl.InternetEntityRepository`:



Public Member Functions

- `InternetEntityRepository (InterconnectDbContext context)`
- `async Task< InternetEntityModel > Create (VirtualNetworkModel virtualNetwork)`
Creates a new Internet entity.
- `async Task< List< InternetEntityModel > > GetAll ()`
Retrieves all Internet entities.
- `async Task< InternetEntityModel > GetById (int id)`
Retrieves an Internet entity by identifier.
- `async Task< InternetEntityModel > UpdatePosition (int id, int x, int y)`
Updates the position of an Internet entity.

5.57.1 Member Function Documentation

5.57.1.1 Create()

```
async Task< InternetEntityModel > Repositories.IImpl.InternetEntityRepository.Create (
    VirtualNetworkModel virtualNetwork) [inline]
```

Creates a new Internet entity.

Parameters

<code>virtualNetwork</code>	Virtual network to connect.
-----------------------------	-----------------------------

Returns

Created Internet entity.

Implements `Repositories.IInternetEntityRepository`.

5.57.1.2 GetAll()

```
async Task< List< InternetEntityModel > > Repositories.IImpl.InternetEntityRepository.GetAll
() [inline]
```

Retrieves all Internet entities.

Returns

List of Internet entities.

Implements `Repositories.IInternetEntityRepository`.

5.57.1.3 GetById()

```
async Task< InternetEntityModel > Repositories.Impl.InternetEntityRepository.GetById (
    int id) [inline]
```

Retrieves an Internet entity by identifier.

Parameters

<i>id</i>	Entity identifier.
-----------	--------------------

Returns

Internet entity.

Implements [Repositories.IInternetEntityRepository](#).

5.57.1.4 UpdatePosition()

```
async Task< InternetEntityModel > Repositories.Impl.InternetEntityRepository.UpdatePosition (
    int id,
    int x,
    int y) [inline]
```

Updates the position of an Internet entity.

Parameters

<i>id</i>	Entity identifier.
<i>x</i>	New X coordinate.
<i>y</i>	New Y coordinate.

Returns

Updated entity.

Implements [Repositories.IInternetEntityRepository](#).

The documentation for this class was generated from the following file:

- [Repositories/Impl/InternetEntityRepository.cs](#)

5.58 RepositoriesTests.InternetEntityRepositoryTests Class Reference

Public Member Functions

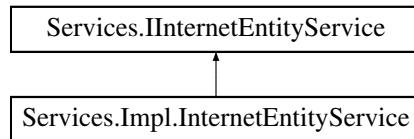
- void **SetUp ()**
- void **TearDown ()**
- async Task **Create_WhenInvoked_ShouldCreateNewInternetEntity ()**
- async Task **GetAll_WhenInvoked_ShouldGetAllInternetEntities ()**

The documentation for this class was generated from the following file:

- [RepositoriesTests/InternetEntityRepositoryTests.cs](#)

5.59 Services.Impl.InternetEntityService Class Reference

Inheritance diagram for Services.Impl.InternetEntityService:



Public Member Functions

- **InternetEntityService** ([IInternetEntityRepository](#) internetRepository, [IVirtualNetworkService](#) virtualNetworkService)
async Task<[InternetEntityModelDTO](#)> CreateInternet ()
Creates a new Internet entity.
- async Task< List<[InternetEntityModelDTO](#) > > GetInternetEntities ()
Retrieves a list of all Internet entities.
- async Task<[InternetEntityModelDTO](#)> UpdateInternetEntityPosition (int entityId, int x, int y)
Updates the position of an Internet entity on the board.

5.59.1 Member Function Documentation

5.59.1.1 CreateInternet()

```
async Task<InternetEntityModelDTO> Services.Impl.InternetEntityService.CreateInternet ()  
[inline]
```

Creates a new Internet entity.

Returns

Created Internet entity.

Implements [Services.IInternetEntityService](#).

5.59.1.2 GetInternetEntities()

```
async Task< List<InternetEntityModelDTO > > Services.Impl.InternetEntityService.GetInternetEntities ()  
[inline]
```

Retrieves a list of all Internet entities.

Returns

List of Internet entities.

Implements [Services.IInternetEntityService](#).

5.59.1.3 UpdateInternetEntityPosition()

```
async Task<InternetEntityModelDTO> Services.Impl.InternetEntityService.UpdateInternetEntityPosition (  
    int entityId,  
    int x,  
    int y) [inline]
```

Updates the position of an Internet entity on the board.

Parameters

<i>entity</i> ↪ <i>Id</i>	Entity identifier.
<i>x</i>	New X coordinate.
<i>y</i>	New Y coordinate.

Returns

Updated Internet entity.

Implements [Services.IInternetEntityService](#).

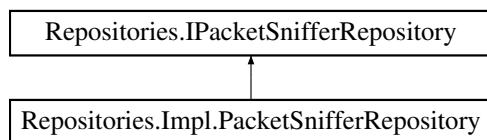
The documentation for this class was generated from the following file:

- Services/Impl/InternetEntityService.cs

5.60 Repositories.IPacketSnifferRepository Interface Reference

Repository managing packet analyzers in memory.

Inheritance diagram for Repositories.IPacketSnifferRepository:



Public Member Functions

- void [AddSniffer \(PacketSniffer sniffer\)](#)
Adds a packet analyzer to the repository.
- void [RemoveSniffer \(string bridgeName\)](#)
Removes a packet analyzer for a specified bridge.
- List< [PacketSniffer](#) > [GetOpenedSniffers \(\)](#)
Retrieves a list of opened packet analyzers.

5.60.1 Detailed Description

Repository managing packet analyzers in memory.

5.60.2 Member Function Documentation

5.60.2.1 AddSniffer()

```
void Repositories.IPacketSnifferRepository.AddSniffer (
    PacketSniffer sniffer)
```

Adds a packet analyzer to the repository.

Parameters

<code>sniffer</code>	Packet analyzer.
----------------------	------------------

Implemented in [Repositories.Impl.PacketSnifferRepository](#).

5.60.2.2 GetOpenedSniffers()

```
List< PacketSniffer > Repositories.IPacketSnifferRepository.GetOpenedSniffers ()
```

Retrieves a list of opened packet analyzers.

Returns

List of opened analyzers.

Implemented in [Repositories.Impl.PacketSnifferRepository](#).

5.60.2.3 RemoveSniffer()

```
void Repositories.IPacketSnifferRepository.RemoveSniffer (
    string bridgeName)
```

Removes a packet analyzer for a specified bridge.

Parameters

<code>bridgeName</code>	Network bridge name.
-------------------------	----------------------

Implemented in [Repositories.Impl.PacketSnifferRepository](#).

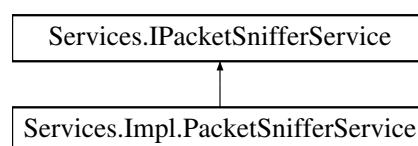
The documentation for this interface was generated from the following file:

- [Repositories/IPacketSnifferRepository.cs](#)

5.61 Services.IPacketSnifferService Interface Reference

Service for capturing network packets.

Inheritance diagram for Services.IPacketSnifferService:



Public Member Functions

- void [StartListeningForBridge](#) (string interfaceName)
Starts listening for packets on a specified network bridge.
- List<[PacketSniffer](#) > [GetOpenedSniffers](#) ()
Retrieves a list of active packet analyzers.
- bool [ListenForPacket](#) ([PacketSniffer](#) sniffer)
Listens for packets using the specified analyzer.
- [Packet?](#) [GetCapturedPacket](#) ()
Retrieves the last captured packet.

5.61.1 Detailed Description

Service for capturing network packets.

5.61.2 Member Function Documentation

5.61.2.1 GetCapturedPacket()

```
Packet? Services.IPacketSnifferService.GetCapturedPacket ()
```

Retrieves the last captured packet.

Returns

Captured packet or null if no packet available.

Implemented in [ServicesImpl.PacketSnifferService](#).

5.61.2.2 GetOpenedSniffers()

```
List<PacketSniffer > Services.IPacketSnifferService.GetOpenedSniffers ()
```

Retrieves a list of active packet analyzers.

Returns

List of opened packet sniffers.

Implemented in [ServicesImpl.PacketSnifferService](#).

5.61.2.3 ListenForPacket()

```
bool Services.IPacketSnifferService.ListenForPacket (
    PacketSniffer sniffer)
```

Listens for packets using the specified analyzer.

Parameters

<code>sniffer</code>	Packet analyzer.
----------------------	------------------

Returns

True if packet was captured successfully, false otherwise.

Implemented in [ServicesImpl.PacketSnifferService](#).

5.61.2.4 StartListeningForBridge()

```
void Services.IPacketSnifferService.StartListeningForBridge (
    string interfaceName)
```

Starts listening for packets on a specified network bridge.

Parameters

<code>interfaceName</code>	Network interface name.
----------------------------	-------------------------

Implemented in [ServicesImpl.PacketSnifferService](#).

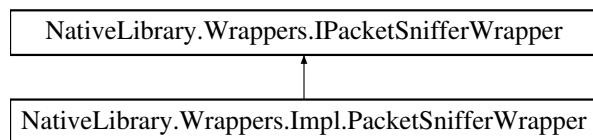
The documentation for this interface was generated from the following file:

- Services/IPacketSnifferService.cs

5.62 NativeLibrary.Wrappers.IPacketSnifferWrapper Interface Reference

Interface wrapper for native packet analyzer library.

Inheritance diagram for NativeLibrary.Wrappers.IPacketSnifferWrapper:

**Public Member Functions**

- IntPtr [OpenSnifferHandler](#) (string bridgeName)

Opens a packet analyzer handler for the specified bridge.
- bool [ListenForPacket](#) (IntPtr handler, string bridgeName)

Listens for a network packet.
- [NativePacket GetPacket](#) ()

Gets the last captured packet.
- int [GetNumberOfPackets](#) ()

Gets the number of captured packets.

5.62.1 Detailed Description

Interface wrapper for native packet analyzer library.

5.62.2 Member Function Documentation

5.62.2.1 GetNumberOfPackets()

```
int NativeLibrary.Wrappers.IPacketSnifferWrapper.GetNumberOfPackets ()
```

Gets the number of captured packets.

Returns

Number of packets.

Implemented in [NativeLibrary.WrappersImpl.PacketSnifferWrapper](#).

5.62.2.2 GetPacket()

```
NativePacket NativeLibrary.Wrappers.IPacketSnifferWrapper.GetPacket ()
```

Gets the last captured packet.

Returns

Captured packet.

Implemented in [NativeLibrary.WrappersImpl.PacketSnifferWrapper](#).

5.62.2.3 ListenForPacket()

```
bool NativeLibrary.Wrappers.IPacketSnifferWrapper.ListenForPacket (
    IntPtr handler,
    string bridgeName)
```

Listens for a network packet.

Parameters

<i>handler</i>	Pointer to the analyzer handler.
<i>bridgeName</i>	Name of the network bridge.

Returns

True if a packet was captured.

5.62.2.4 OpenSnifferHandler()

```
IntPtr NativeLibrary.Wrappers.IPacketSnifferWrapper.OpenSnifferHandler (
    string bridgeName)
```

Opens a packet analyzer handler for the specified bridge.

Parameters

<code>bridgeName</code>	Name of the network bridge.
-------------------------	-----------------------------

Returns

Pointer to the analyzer handler.

Implemented in [NativeLibrary.Wrappers.IPacketSnifferWrapper](#).

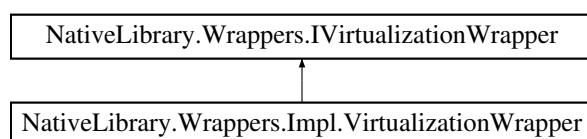
The documentation for this interface was generated from the following file:

- NativeLibrary/Wrappers/IPacketSnifferWrapper.cs

5.63 NativeLibrary.Wrappers.IVirtualizationWrapper Interface Reference

Interface wrapper for native virtualization library.

Inheritance diagram for NativeLibrary.Wrappers.IVirtualizationWrapper:



Public Member Functions

- void [`InitializeConnection`](#) (string? connectionUrl)
Initializes connection with the hypervisor.
- [`NativeConnectionInfo GetConnectionInfo`](#) ()
Gets connection information from the hypervisor.
- void [`CreateVirtualMachine`](#) (string xmlDefinition)
Creates a virtual machine based on XML definition.
- [`NativeVirtualMachineInfo GetVirtualMachineInfo`](#) (string name)
Gets information about a virtual machine.
- [`INativeList< NativeVirtualMachineInfo > GetListOfVirtualMachines`](#) ()
Gets a list of all virtual machines.
- bool [`IsConnectionAlive`](#) ()
Checks if the connection with the hypervisor is active.
- IntPtr [`OpenVirtualMachineConsole`](#) (Guid uuid)
Opens a console stream for a virtual machine.
- [`NativeStreamData GetDataFromStream`](#) (IntPtr stream)
Gets data from the console stream.
- void [`SendDataToStream`](#) (IntPtr stream, string data)
Sends data to the console stream.
- void [`CloseStream`](#) (IntPtr stream)
Closes the console stream.

- IntPtr [CreateVirtualNetwork](#) (string networkDefinition)
Creates a virtual network based on definition.
- void [AttachDeviceToVirtualMachine](#) (Guid uuid, string deviceDefinition)
Attaches a device to a virtual machine.
- void [DetachDeviceFromVirtualMachine](#) (Guid uuid, string deviceDefinition)
Detaches a device from a virtual machine.
- void [UpdateVmDevice](#) (Guid uuid, string deviceDefinition)
Updates a device on a virtual machine.
- void [DestroyNetwork](#) (string name)
Destroys a virtual network.

5.63.1 Detailed Description

Interface wrapper for native virtualization library.

5.63.2 Member Function Documentation

5.63.2.1 AttachDeviceToVirtualMachine()

```
void NativeLibrary.Wrappers.IVirtualizationWrapper.AttachDeviceToVirtualMachine (
    Guid uuid,
    string deviceDefinition)
```

Attaches a device to a virtual machine.

Parameters

<i>uuid</i>	UUID of the virtual machine.
<i>deviceDefinition</i>	Device definition in XML format.

Implemented in [NativeLibrary.WrappersImpl.VirtualizationWrapper](#).

5.63.2.2 CloseStream()

```
void NativeLibrary.Wrappers.IVirtualizationWrapper.CloseStream (
    IntPtr stream)
```

Closes the console stream.

Parameters

<i>stream</i>	Pointer to the stream.
---------------	------------------------

Implemented in [NativeLibrary.WrappersImpl.VirtualizationWrapper](#).

5.63.2.3 CreateVirtualMachine()

```
void NativeLibrary.Wrappers.IVirtualizationWrapper.CreateVirtualMachine (
    string xmlDefinition)
```

Creates a virtual machine based on XML definition.

Parameters

<i>xmlDefinition</i>	Machine definition in XML format.
----------------------	-----------------------------------

Implemented in [NativeLibrary.Wrappers.IVirtualizationWrapper](#).

5.63.2.4 CreateVirtualNetwork()

```
IntPtr NativeLibrary.Wrappers.IVirtualizationWrapper.CreateVirtualNetwork (
    string networkDefinition)
```

Creates a virtual network based on definition.

Parameters

<i>networkDefinition</i>	Network definition in XML format.
--------------------------	-----------------------------------

Returns

Pointer to the created network.

Implemented in [NativeLibrary.Wrappers.IVirtualizationWrapper](#).

5.63.2.5 DestroyNetwork()

```
void NativeLibrary.Wrappers.IVirtualizationWrapper.DestroyNetwork (
    string name)
```

Destroys a virtual network.

Parameters

<i>name</i>	Name of the network to destroy.
-------------	---------------------------------

Implemented in [NativeLibrary.Wrappers.IVirtualizationWrapper](#).

5.63.2.6 DetachDeviceFromVirtualMachine()

```
void NativeLibrary.Wrappers.IVirtualizationWrapper.DetachDeviceFromVirtualMachine (
    Guid uuid,
    string deviceDefinition)
```

Detaches a device from a virtual machine.

Parameters

<i>uuid</i>	UUID of the virtual machine.
<i>deviceDefinition</i>	Device definition in XML format.

Implemented in [NativeLibrary.Wrappers.IVirtualizationWrapper](#).

5.63.2.7 GetConnectionInfo()

```
NativeConnectionInfo NativeLibrary.Wrappers.IVirtualizationWrapper.GetConnectionInfo ()
```

Gets connection information from the hypervisor.

Returns

Connection information.

Implemented in [NativeLibrary.WrappersImpl.VirtualizationWrapper](#).

5.63.2.8 GetDataFromStream()

```
NativeStreamData NativeLibrary.Wrappers.IVirtualizationWrapper.GetDataFromStream ( IntPtr stream)
```

Gets data from the console stream.

Parameters

<i>stream</i>	Pointer to the stream.
---------------	------------------------

Returns

Data from the stream.

Implemented in [NativeLibrary.WrappersImpl.VirtualizationWrapper](#).

5.63.2.9 GetListOfVirtualMachines()

```
INativeList< NativeVirtualMachineInfo > NativeLibrary.Wrappers.IVirtualizationWrapper.GetListOfVirtualMachines ()
```

Gets a list of all virtual machines.

Returns

List of virtual machines.

Implemented in [NativeLibrary.WrappersImpl.VirtualizationWrapper](#).

5.63.2.10 GetVirtualMachineInfo()

```
NativeVirtualMachineInfo NativeLibrary.Wrappers.IVirtualizationWrapper.GetVirtualMachineInfo ( string name)
```

Gets information about a virtual machine.

Parameters

<i>name</i>	Name of the virtual machine.
-------------	------------------------------

Returns

Virtual machine information.

Implemented in [NativeLibrary.Wrappers.IVirtualizationWrapper](#).

5.63.2.11 InitializeConnection()

```
void NativeLibrary.Wrappers.IVirtualizationWrapper.InitializeConnection (
    string? connectionUrl)
```

Initializes connection with the hypervisor.

Parameters

<i>connectionUrl</i>	Connection URL or null for default.
----------------------	-------------------------------------

Implemented in [NativeLibrary.Wrappers.IVirtualizationWrapper](#).

5.63.2.12 IsConnectionAlive()

```
bool NativeLibrary.Wrappers.IVirtualizationWrapper.IsConnectionAlive ()
```

Checks if the connection with the hypervisor is active.

Returns

True if connection is active.

Implemented in [NativeLibrary.Wrappers.IVirtualizationWrapper](#).

5.63.2.13 OpenVirtualMachineConsole()

```
IntPtr NativeLibrary.Wrappers.IVirtualizationWrapper.OpenVirtualMachineConsole (
    Guid uuid)
```

Opens a console stream for a virtual machine.

Parameters

<i>uuid</i>	UUID of the virtual machine.
-------------	------------------------------

Returns

Pointer to the console stream.

Implemented in [NativeLibrary.Wrappers.IVirtualizationWrapper](#).

5.63.2.14 SendDataToStream()

```
void NativeLibrary.Wrappers.IVirtualizationWrapper.SendDataToStream (
    IntPtr stream,
    string data)
```

Sends data to the console stream.

Parameters

<i>stream</i>	Pointer to the stream.
<i>data</i>	Data to send.

Implemented in [NativeLibrary.WrappersImpl.VirtualizationWrapper](#).

5.63.2.15 UpdateVmDevice()

```
void NativeLibrary.Wrappers.IVirtualizationWrapper.UpdateVmDevice (
    Guid uuid,
    string deviceDefinition)
```

Updates a device on a virtual machine.

Parameters

<i>uuid</i>	UUID of the virtual machine.
<i>deviceDefinition</i>	Device definition in XML format.

Implemented in [NativeLibrary.WrappersImpl.VirtualizationWrapper](#).

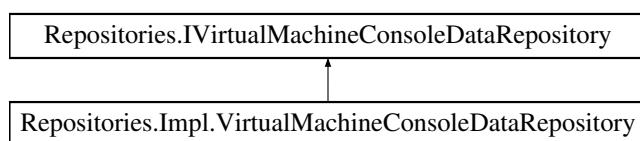
The documentation for this interface was generated from the following file:

- [NativeLibrary/Wrappers/IVirtualizationWrapper.cs](#)

5.64 Repositories.IVirtualMachineConsoleDataRepository Interface Reference

Repository managing virtual machine console data in memory.

Inheritance diagram for [Repositories.IVirtualMachineConsoleDataRepository](#):



Public Member Functions

- void [AddDataToConsole](#) (Guid *uuid*, byte[] *data*)

Adds data to a virtual machine console.
- List< byte > [GetData](#) (Guid *uuid*)

Retrieves data from a virtual machine console.

5.64.1 Detailed Description

Repository managing virtual machine console data in memory.

5.64.2 Member Function Documentation

5.64.2.1 AddDataToConsole()

```
void Repositories.IVirtualMachineConsoleDataRepository.AddDataToConsole (
    Guid uuid,
    byte[ ] data)
```

Adds data to a virtual machine console.

Parameters

<i>uuid</i>	Virtual machine UUID.
<i>data</i>	Data to add.

Implemented in [RepositoriesImpl.VirtualMachineConsoleDataRepository](#).

5.64.2.2 GetData()

```
List< byte > Repositories.IVirtualMachineConsoleDataRepository.GetData (
    Guid uuid)
```

Retrieves data from a virtual machine console.

Parameters

<i>uuid</i>	Virtual machine UUID.
-------------	-----------------------

Returns

List of bytes from console.

Implemented in [RepositoriesImpl.VirtualMachineConsoleDataRepository](#).

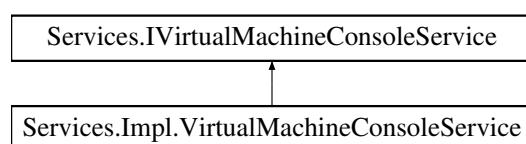
The documentation for this interface was generated from the following file:

- [Repositories/IVirtualMachineConsoleDataRepository.cs](#)

5.65 Services.IVirtualMachineConsoleService Interface Reference

Service managing virtual machine console.

Inheritance diagram for Services.IVirtualMachineConsoleService:



Public Member Functions

- byte[] [GetInitialConsoleData \(Guid uuid\)](#)
Retrieves initial console data from a virtual machine.
- [StreamInfo OpenVirtualMachineConsole \(Guid uuid\)](#)
Opens a virtual machine console stream.
- void [SendBytesToVirtualMachineConsoleByUuid \(Guid uuid, string bytes\)](#)
Sends bytes to a virtual machine console.
- [StreamData GetBytesFromConsole \(StreamInfo stream\)](#)
Retrieves data from a console stream.
- List< [StreamInfo > GetStreams \(\)](#)
Retrieves a list of all opened streams.
- void [CloseStream \(StreamInfo stream\)](#)
Closes a console stream.

5.65.1 Detailed Description

Service managing virtual machine console.

5.65.2 Member Function Documentation

5.65.2.1 CloseStream()

```
void Services.IVirtualMachineConsoleService.CloseStream (
    StreamInfo stream)
```

Closes a console stream.

Parameters

<code>stream</code>	Stream information to close.
---------------------	------------------------------

Implemented in [ServicesImpl.VirtualMachineConsoleService](#).

5.65.2.2 GetBytesFromConsole()

```
StreamData Services.IVirtualMachineConsoleService.GetBytesFromConsole (
    StreamInfo stream)
```

Retrieves data from a console stream.

Parameters

<code>stream</code>	Stream information.
---------------------	---------------------

Returns

Stream data.

Implemented in [ServicesImpl.VirtualMachineConsoleService](#).

5.65.2.3 GetInitialConsoleData()

```
byte[] Services.IVirtualMachineConsoleService.GetInitialConsoleData (
    Guid uuid)
```

Retrieves initial console data from a virtual machine.

Parameters

<i>uuid</i>	Virtual machine UUID.
-------------	-----------------------

Returns

Initial console data.

Implemented in [Services.IImpl.VirtualMachineConsoleService](#).

5.65.2.4 GetStreams()

```
List< StreamInfo > Services.IVirtualMachineConsoleService.GetStreams ()
```

Retrieves a list of all opened streams.

Returns

List of opened streams.

Implemented in [Services.IImpl.VirtualMachineConsoleService](#).

5.65.2.5 OpenVirtualMachineConsole()

```
StreamInfo Services.IVirtualMachineConsoleService.OpenVirtualMachineConsole ( Guid uuid)
```

Opens a virtual machine console stream.

Parameters

<i>uuid</i>	Virtual machine UUID.
-------------	-----------------------

Returns

Opened stream information.

Implemented in [Services.IImpl.VirtualMachineConsoleService](#).

5.65.2.6 SendBytesToVirtualMachineConsoleByUuid()

```
void Services.IVirtualMachineConsoleService.SendBytesToVirtualMachineConsoleByUuid ( Guid uuid, string bytes)
```

Sends bytes to a virtual machine console.

Parameters

<i>uuid</i>	Virtual machine UUID.
<i>bytes</i>	Bytes to send in text format.

Implemented in [ServicesImpl.VirtualMachineConsoleService](#).

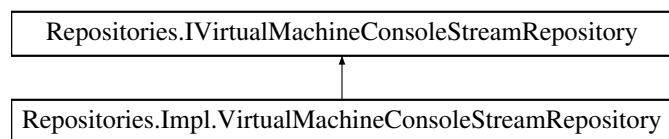
The documentation for this interface was generated from the following file:

- Services/IVirtualMachineConsoleService.cs

5.66 Repositories.IVirtualMachineConsoleStreamRepository Interface Reference

Repository managing virtual machine console streams in memory.

Inheritance diagram for Repositories.IVirtualMachineConsoleStreamRepository:



Public Member Functions

- void [Add \(StreamInfo stream\)](#)
Adds a console stream to the repository.
- void [Remove \(StreamInfo stream\)](#)
Removes a console stream from the repository.
- [StreamInfo? GetByUuid \(Guid uuid\)](#)
Retrieves a stream by virtual machine UUID.
- [List< StreamInfo > GetAllStreams \(\)](#)
Retrieves all opened streams.

5.66.1 Detailed Description

Repository managing virtual machine console streams in memory.

5.66.2 Member Function Documentation

5.66.2.1 Add()

```
void Repositories.IVirtualMachineConsoleStreamRepository.Add (
    StreamInfo stream)
```

Adds a console stream to the repository.

Parameters

<code>stream</code>	Stream information.
---------------------	---------------------

Implemented in [RepositoriesImpl.VirtualMachineConsoleStreamRepository](#).

5.66.2.2 GetAllStreams()

```
List< StreamInfo > Repositories.IVirtualMachineConsoleStreamRepository.GetAllStreams ()
```

Retrieves all opened streams.

Returns

List of streams.

Implemented in [RepositoriesImpl.VirtualMachineConsoleStreamRepository](#).

5.66.2.3 GetById()

```
StreamInfo? Repositories.IVirtualMachineConsoleStreamRepository.GetById ( Guid uuid )
```

Retrieves a stream by virtual machine UUID.

Parameters

<code>uuid</code>	Virtual machine UUID.
-------------------	-----------------------

Returns

Stream information or null.

Implemented in [RepositoriesImpl.VirtualMachineConsoleStreamRepository](#).

5.66.2.4 Remove()

```
void Repositories.IVirtualMachineConsoleStreamRepository.Remove ( StreamInfo stream )
```

Removes a console stream from the repository.

Parameters

<code>stream</code>	Stream information.
---------------------	---------------------

Implemented in [RepositoriesImpl.VirtualMachineConsoleStreamRepository](#).

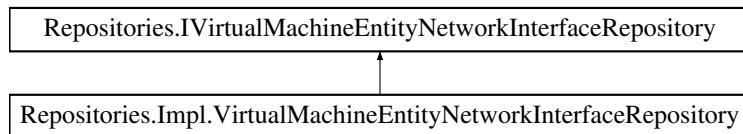
The documentation for this interface was generated from the following file:

- [Repositories/IVirtualMachineConsoleStreamRepository.cs](#)

5.67 Repositories.IVirtualMachineEntityNetworkInterfaceRepository Interface Reference

Repository managing virtual machine network interfaces in the database.

Inheritance diagram for Repositories.IVirtualMachineEntityNetworkInterfaceRepository:



Public Member Functions

- Task [Create \(VirtualMachineEntityNetworkInterfaceModel networkInterface\)](#)
Creates a new network interface.
- Task [Update \(VirtualMachineEntityNetworkInterfaceModel networkInterface\)](#)
Updates a network interface.
- Task [Remove \(VirtualMachineEntityNetworkInterfaceModel networkInterface\)](#)
Removes a network interface.
- Task<< [VirtualMachineEntityNetworkInterfaceModel?>](#) [GetByIds](#) (int virtualMachineId, int connectionId)
Retrieves a network interface by virtual machine and connection identifiers.
- Task<< List<< [VirtualMachineEntityNetworkInterfaceModel >](#) > [GetByVirtualMachineId](#) (int id)
Retrieves all network interfaces for a virtual machine.
- Task<< List<< [VirtualMachineEntityNetworkInterfaceModel >](#) > [GetByNetworkName](#) (int virtualMachineId, string networkName)
Retrieves network interfaces connected to a specific network.

5.67.1 Detailed Description

Repository managing virtual machine network interfaces in the database.

5.67.2 Member Function Documentation

5.67.2.1 Create()

```
Task Repositories.IVirtualMachineEntityNetworkInterfaceRepository.Create (
    VirtualMachineEntityNetworkInterfaceModel networkInterface)
```

Creates a new network interface.

Parameters

<i>networkInterface</i>	Interface model to create.
-------------------------	----------------------------

Implemented in [RepositoriesImpl.VirtualMachineEntityNetworkInterfaceRepository](#).

5.67.2.2 GetByIds()

```
Task< VirtualMachineEntityNetworkInterfaceModel?> Repositories.IVirtualMachineEntityNetwork<-
InterfaceRepository.GetByIds (
    int virtualMachineId,
    int connectionId)
```

Retrieves a network interface by virtual machine and connection identifiers.

Parameters

<i>virtualMachineId</i>	Virtual machine identifier.
<i>connectionId</i>	Connection identifier.

Returns

Network interface or null.

Implemented in [RepositoriesImpl.VirtualMachineEntityNetworkInterfaceRepository](#).

5.67.2.3 GetByNetworkName()

```
Task< List< VirtualMachineEntityNetworkInterfaceModel > > Repositories.IVirtualMachineEntityNetworkInterfaceRepository.GetByNetworkName (
    int virtualMachineId,
    string networkName)
```

Retrieves network interfaces connected to a specific network.

Parameters

<i>virtualMachineId</i>	Virtual machine identifier.
<i>networkName</i>	Network name.

Returns

List of network interfaces.

Implemented in [RepositoriesImpl.VirtualMachineEntityNetworkInterfaceRepository](#).

5.67.2.4 GetByVirtualMachineId()

```
Task< List< VirtualMachineEntityNetworkInterfaceModel > > Repositories.IVirtualMachineEntityNetworkInterfaceRepository.GetByVirtualMachineId (
    int id)
```

Retrieves all network interfaces for a virtual machine.

Parameters

<i>id</i>	Virtual machine identifier.
-----------	-----------------------------

Returns

List of network interfaces.

Implemented in [RepositoriesImpl.VirtualMachineEntityNetworkInterfaceRepository](#).

5.67.2.5 Remove()

```
Task Repositories.IVirtualMachineEntityNetworkInterfaceRepository.Remove (
    VirtualMachineEntityNetworkInterfaceModel networkInterface)
```

Removes a network interface.

Parameters

<i>networkInterface</i>	Interface model to remove.
-------------------------	----------------------------

Implemented in [RepositoriesImpl.VirtualMachineEntityNetworkInterfaceRepository](#).

5.67.2.6 Update()

```
Task Repositories.IVirtualMachineEntityNetworkInterfaceRepository.Update (
    VirtualMachineEntityNetworkInterfaceModel networkInterface)
```

Updates a network interface.

Parameters

<i>networkInterface</i>	Interface model to update.
-------------------------	----------------------------

Implemented in [RepositoriesImpl.VirtualMachineEntityNetworkInterfaceRepository](#).

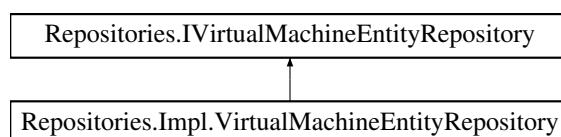
The documentation for this interface was generated from the following file:

- [Repositories/IVirtualMachineEntityNetworkInterfaceRepository.cs](#)

5.68 [Repositories.IVirtualMachineEntityRepository](#) Interface Reference

Repository managing virtual machine entities in the database.

Inheritance diagram for [Repositories.IVirtualMachineEntityRepository](#):

**Public Member Functions**

- Task [Add \(VirtualMachineEntityModel model\)](#)
Adds a new virtual machine entity.
- Task< List< [VirtualMachineEntityModel](#) > > [GetAll \(\)](#)
Retrieves all virtual machine entities.
- Task< [VirtualMachineEntityModel](#) > [GetById \(int id\)](#)
Retrieves a virtual machine entity by identifier.
- Task [Update \(VirtualMachineEntityModel model\)](#)
Updates a virtual machine entity.

5.68.1 Detailed Description

Repository managing virtual machine entities in the database.

5.68.2 Member Function Documentation

5.68.2.1 Add()

```
Task Repositories.IVirtualMachineEntityRepository.Add (
    VirtualMachineEntityModel model)
```

Adds a new virtual machine entity.

Parameters

<i>model</i>	Entity model to add.
--------------	----------------------

Implemented in [RepositoriesImpl.VirtualMachineEntityRepository](#).

5.68.2.2 GetAll()

```
Task< List< VirtualMachineEntityModel > > Repositories.IVirtualMachineEntityRepository.GetAll
()
```

Retrieves all virtual machine entities.

Returns

List of entities.

Implemented in [RepositoriesImpl.VirtualMachineEntityRepository](#).

5.68.2.3 GetById()

```
Task< VirtualMachineEntityModel > Repositories.IVirtualMachineEntityRepository.GetById (
    int id)
```

Retrieves a virtual machine entity by identifier.

Parameters

<i>id</i>	Entity identifier.
-----------	--------------------

Returns

Virtual machine entity.

Implemented in [RepositoriesImpl.VirtualMachineEntityRepository](#).

5.68.2.4 Update()

```
Task Repositories.IVirtualMachineEntityRepository.Update (
    VirtualMachineEntityModel model)
```

Updates a virtual machine entity.

Parameters

<i>model</i>	Entity model to update.
--------------	-------------------------

Implemented in [Repositories.Impl.VirtualMachineEntityRepository](#).

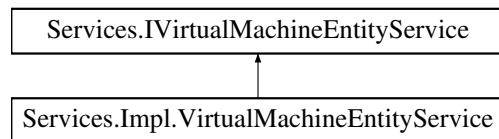
The documentation for this interface was generated from the following file:

- [Repositories/IVirtualMachineEntityRepository.cs](#)

5.69 Services.IVirtualMachineEntityService Interface Reference

Service managing virtual machine entities.

Inheritance diagram for Services.IVirtualMachineEntityService:



Public Member Functions

- Task< List< [VirtualMachineEntityDTO](#) > > [GetEntities](#) ()
Retrieves a list of all virtual machine entities.
- Task< List< [VirtualMachineEntityMacAddressDTO](#) > > [GetMacAddresses](#) ()
Retrieves a list of virtual machine MAC addresses.
- Task< [VirtualMachineEntityDTO](#) > [CreateEntity](#) (string name, int bootableDiskId, uint memory, uint virtualCpus, VirtualMachineEntityType type, int x, int y)
Creates a new virtual machine entity.
- Task< [VirtualMachineEntityDTO](#) > [UpdateEntityPosition](#) (int id, int x, int y)
Updates the position of a virtual machine entity on the board.
- Task< [VirtualMachineEntityDTO](#) > [GetById](#) (int id)
Retrieves a virtual machine entity by identifier.
- Task< [VirtualMachineEntityDTO](#) > [UpdateEntityVmUUID](#) (int id, string uuid)
Updates the virtual machine UUID for an entity.

5.69.1 Detailed Description

Service managing virtual machine entities.

5.69.2 Member Function Documentation

5.69.2.1 CreateEntity()

```
Task< VirtualMachineEntityDTO > Services.IVirtualMachineEntityService.CreateEntity (
    string name,
    int bootableDiskId,
    uint memory,
    uint virtualCpus,
    VirtualMachineEntityType type,
    int x,
    int y)
```

Creates a new virtual machine entity.

Parameters

<i>name</i>	Virtual machine name.
<i>bootableDiskId</i>	Bootable disk identifier.
<i>memory</i>	Amount of RAM in MB.
<i>virtualCpus</i>	Number of virtual CPUs.
<i>type</i>	Virtual machine entity type.
<i>x</i>	X coordinate position.
<i>y</i>	Y coordinate position.

Returns

Created virtual machine entity.

Implemented in [Services.Impl.VirtualMachineEntityService](#).

5.69.2.2 GetById()

```
Task< VirtualMachineEntityDTO > Services.IVirtualMachineEntityService.GetById (
    int id)
```

Retrieves a virtual machine entity by identifier.

Parameters

<i>id</i>	Entity identifier.
-----------	--------------------

Returns

Virtual machine entity.

Implemented in [Services.Impl.VirtualMachineEntityService](#).

5.69.2.3 GetEntities()

```
Task< List< VirtualMachineEntityDTO > > Services.IVirtualMachineEntityService.GetEntities ()
```

Retrieves a list of all virtual machine entities.

Returns

List of virtual machine entities.

Implemented in [Services.Impl.VirtualMachineEntityService](#).

5.69.2.4 GetMacAddresses()

```
Task< List< VirtualMachineEntityMacAddressDTO > > Services.IVirtualMachineEntityService.GetMacAddresses ()
```

Retrieves a list of virtual machine MAC addresses.

Returns

List of MAC addresses.

Implemented in [ServicesImpl.VirtualMachineEntityService](#).

5.69.2.5 UpdateEntityPosition()

```
Task< VirtualMachineEntityDTO > Services.IVirtualMachineEntityService.UpdateEntityPosition ( int id, int x, int y)
```

Updates the position of a virtual machine entity on the board.

Parameters

<i>id</i>	Entity identifier.
<i>x</i>	New X coordinate.
<i>y</i>	New Y coordinate.

Returns

Updated entity.

Implemented in [ServicesImpl.VirtualMachineEntityService](#).

5.69.2.6 UpdateEntityVmUUID()

```
Task< VirtualMachineEntityDTO > Services.IVirtualMachineEntityService.UpdateEntityVmUUID ( int id, string uuid)
```

Updates the virtual machine UUID for an entity.

Parameters

<i>id</i>	Entity identifier.
<i>uuid</i>	New virtual machine UUID.

Returns

Updated entity.

Implemented in [ServicesImpl.VirtualMachineEntityService](#).

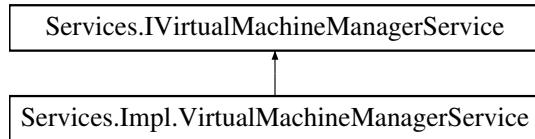
The documentation for this interface was generated from the following file:

- Services/IVirtualMachineEntityService.cs

5.70 Services.IVirtualMachineManagerService Interface Reference

Service managing virtual machines in the hypervisor.

Inheritance diagram for Services.IVirtualMachineManagerService:



Public Member Functions

- `VirtualMachineInfo CreateVirtualMachine (VirtualMachineCreateDefinition definition)`
Creates a new virtual machine in the hypervisor.
- `List< VirtualMachineInfo > GetListOfVirtualMachines ()`
Retrieves a list of all virtual machines from the hypervisor.
- `void AttachVirtualNetworkInterfaceToVirtualMachine (string name, string networkName, string macAddress)`
Attaches a network interface to a virtual machine.

5.70.1 Detailed Description

Service managing virtual machines in the hypervisor.

5.70.2 Member Function Documentation

5.70.2.1 AttachVirtualNetworkInterfaceToVirtualMachine()

```
void Services.IVirtualMachineManagerService.AttachVirtualNetworkInterfaceToVirtualMachine (
    string name,
    string networkName,
    string macAddress)
```

Attaches a network interface to a virtual machine.

Parameters

<code>name</code>	Virtual machine name.
<code>networkName</code>	Virtual network name.
<code>macAddress</code>	Interface MAC address.

Implemented in [Services.Impl.VirtualMachineManagerService](#).

5.70.2.2 CreateVirtualMachine()

```
VirtualMachineInfo Services.IVirtualMachineManagerService.CreateVirtualMachine (
    VirtualMachineCreateDefinition definition)
```

Creates a new virtual machine in the hypervisor.

Parameters

<code>definition</code>	Virtual machine definition to create.
-------------------------	---------------------------------------

Returns

Information about the created virtual machine.

Implemented in [ServicesImpl.VirtualMachineManagerService](#).

5.70.2.3 GetListOfVirtualMachines()

```
List< VirtualMachineInfo > Services.IVirtualMachineManagerService.GetListOfVirtualMachines ()
```

Retrieves a list of all virtual machines from the hypervisor.

Returns

List of virtual machines.

Implemented in [ServicesImpl.VirtualMachineManagerService](#).

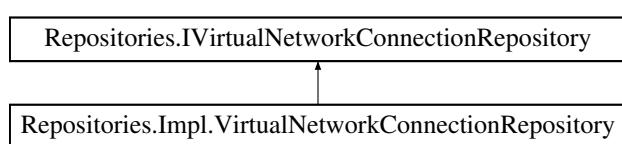
The documentation for this interface was generated from the following file:

- Services/IVirtualMachineManagerService.cs

5.71 Repositories.IVirtualNetworkConnectionRepository Interface Reference

Repository managing entity connections in the virtual network.

Inheritance diagram for `Repositories.IVirtualNetworkConnectionRepository`:



Public Member Functions

- `Task< List< VirtualNetworkEntityConnectionModel > > GetUsingEntityId (int id, EntityType type)`
Retrieves connections associated with a specific entity.
- `Task< VirtualNetworkEntityConnectionModel > GetByld (int id)`
Retrieves a connection by identifier.
- `Task< VirtualNetworkEntityConnectionModel > Create (int firstEntityId, EntityType firstEntityType, int secondEntityId, EntityType secondEntityType)`
Creates a new connection between two entities.
- `Task< List< VirtualNetworkEntityConnectionModel > > GetAll ()`
Retrieves all connections.
- `Task Remove (int id)`
Removes a connection.

5.71.1 Detailed Description

Repository managing entity connections in the virtual network.

5.71.2 Member Function Documentation

5.71.2.1 Create()

```
Task< VirtualNetworkEntityConnectionModel > Repositories.IVirtualNetworkConnectionRepository.Create (
    int firstEntityId,
    EntityType firstEntityType,
    int secondEntityId,
    EntityType secondEntityType)
```

Creates a new connection between two entities.

Parameters

<i>firstEntityId</i>	First entity identifier.
<i>firstEntityType</i>	First entity type.
<i>secondEntityId</i>	Second entity identifier.
<i>secondEntityType</i>	Second entity type.

Returns

Created connection.

Implemented in [RepositoriesImpl.VirtualNetworkConnectionRepository](#).

5.71.2.2 GetAll()

```
Task< List< VirtualNetworkEntityConnectionModel > > Repositories.IVirtualNetworkConnectionRepository.GetAll ()
```

Retrieves all connections.

Returns

List of connections.

Implemented in [RepositoriesImpl.VirtualNetworkConnectionRepository](#).

5.71.2.3 GetById()

```
Task< VirtualNetworkEntityConnectionModel > Repositories.IVirtualNetworkConnectionRepository.GetById (
    int id)
```

Retrieves a connection by identifier.

Parameters

<i>id</i>	Connection identifier.
-----------	------------------------

Returns

Connection.

Implemented in [Repositories.Impl.VirtualNetworkConnectionRepository](#).

5.71.2.4 GetUsingEntityId()

```
Task< List< VirtualNetworkEntityConnectionModel > > Repositories.IVirtualNetworkConnectionRepository.GetUsingEntityId (
    int id,
    EntityType type)
```

Retrieves connections associated with a specific entity.

Parameters

<i>id</i>	Entity identifier.
<i>type</i>	Entity type.

Returns

List of connections.

Implemented in [Repositories.Impl.VirtualNetworkConnectionRepository](#).

5.71.2.5 Remove()

```
Task Repositories.IVirtualNetworkConnectionRepository.Remove (
    int id)
```

Removes a connection.

Parameters

<i>id</i>	Connection identifier.
-----------	------------------------

Implemented in [Repositories.Impl.VirtualNetworkConnectionRepository](#).

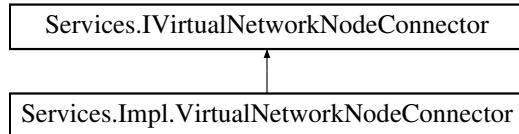
The documentation for this interface was generated from the following file:

- [Repositories/IVirtualNetworkConnectionRepository.cs](#)

5.72 Services.IVirtualNetworkNodeConnector Interface Reference

Service responsible for connecting virtual network nodes.

Inheritance diagram for Services.IVirtualNetworkNodeConnector:



Public Member Functions

- Task< [VirtualNetworkConnectionDTO](#) > [ConnectTwoVirtualNetworkNodes](#) (int sourceVirtualNetworkNode, int destinationVirtualNetworkNode)
Connects two virtual network nodes.
- Task [DisconnectTwoVirtualNetworkNodes](#) (int connectionId, int firstVirtualNetworkNodeId, int secondVirtualNetworkNode)
Disconnects two virtual network nodes.
- Task< [VirtualNetworkConnectionDTO](#) > [ConnectVirtualNetworkNodeToInternet](#) (int virtualNetworkNodeId, int internetId)
Connects a virtual network node to the Internet.
- Task [DisconnectVirtualNetworkNodeFromInternet](#) (int connectionId, int virtualNetworkNodeId)
Disconnects a virtual network node from the Internet.

5.72.1 Detailed Description

Service responsible for connecting virtual network nodes.

5.72.2 Member Function Documentation

5.72.2.1 [ConnectTwoVirtualNetworkNodes\(\)](#)

```
Task< VirtualNetworkConnectionDTO > Services.IVirtualNetworkNodeConnector.ConnectTwoVirtualNetworkNodes (
    int sourceVirtualNetworkNode,
    int destinationVirtualNetworkNode)
```

Connects two virtual network nodes.

Parameters

<code>sourceVirtualNetworkNode</code>	First node identifier.
<code>destinationVirtualNetworkNode</code>	Second node identifier.

Returns

Created connection data.

Implemented in [Services.Impl.VirtualNetworkNodeConnector](#).

5.72.2.2 ConnectVirtualNetworkNodeToInternet()

```
Task< VirtualNetworkConnectionDTO > Services.IVirtualNetworkNodeConnector.ConnectVirtual←
NetworkNodeToInternet (
    int virtualNetworkNodeId,
    int internetId)
```

Connects a virtual network node to the Internet.

Parameters

<i>virtualNetwork← Nodeld</i>	Network node identifier.
<i>internetId</i>	Internet entity identifier.

Returns

Created connection data.

Implemented in [ServicesImpl.VirtualNetworkNodeConnector](#).

5.72.2.3 DisconnectTwoVirtualNetworkNodes()

```
Task Services.IVirtualNetworkNodeConnector.DisconnectTwoVirtualNetworkNodes (
    int connectionId,
    int firstVirtualNetworkNodeId,
    int secondVirtualNetworkNode)
```

Disconnects two virtual network nodes.

Parameters

<i>connectionId</i>	Connection identifier.
<i>firstVirtualNetworkNodeId</i>	First node identifier.
<i>secondVirtualNetworkNode</i>	Second node identifier.

Implemented in [ServicesImpl.VirtualNetworkNodeConnector](#).

5.72.2.4 DisconnectVirtualNetworkNodeFromInternet()

```
Task Services.IVirtualNetworkNodeConnector.DisconnectVirtualNetworkNodeFromInternet (
    int connectionId,
    int virtualNetworkNodeId)
```

Disconnects a virtual network node from the Internet.

Parameters

<i>connectionId</i>	Connection identifier.
<i>virtualNetwork← Nodeld</i>	Network node identifier.

Implemented in [ServicesImpl.VirtualNetworkNodeConnector](#).

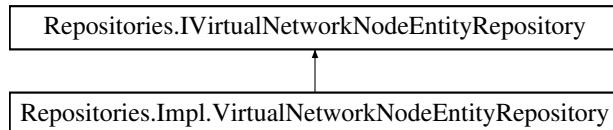
The documentation for this interface was generated from the following file:

- Services/IVirtualNetworkNodeConnector.cs

5.73 **Repositories.IVirtualNetworkNodeEntityRepository** Interface Reference

Repository managing virtual network nodes in the database.

Inheritance diagram for **Repositories.IVirtualNetworkNodeEntityRepository**:



Public Member Functions

- Task< [VirtualNetworkNodeEntityModel](#) > [Create](#) (string name, [VirtualNetworkModel](#) virtualNetwork)
Creates a new visible virtual network node.
- Task< [VirtualNetworkNodeEntityModel](#) > [CreateInvisible](#) ([VirtualNetworkModel](#) virtualNetwork)
Creates a new invisible virtual network node.
- Task< List< [VirtualNetworkNodeEntityModel](#) > > [GetAll](#) ()
Retrieves all virtual network nodes.
- Task< List< [VirtualNetworkNodeEntityModel](#) > > [GetVisible](#) ()
Retrieves visible virtual network nodes.
- Task< [VirtualNetworkNodeEntityModel](#) > [GetById](#) (int id)
Retrieves a virtual network node by identifier.
- Task< [VirtualNetworkNodeEntityModel](#) > [UpdateEntityPosition](#) (int id, int x, int y)
Updates the position of a virtual network node.
- Task< [VirtualNetworkNodeEntityModel](#) > [UpdateNetwork](#) (int id, [VirtualNetworkModel](#) virtualNetwork)
Updates the virtual network for a node.
- Task [Remove](#) (int id)
Removes a virtual network node.

5.73.1 Detailed Description

Repository managing virtual network nodes in the database.

5.73.2 Member Function Documentation

5.73.2.1 [Create\(\)](#)

```
Task< VirtualNetworkNodeEntityModel > Repositories.IVirtualNetworkNodeEntityRepository.Create
(
    string name,
    VirtualNetworkModel virtualNetwork)
```

Creates a new visible virtual network node.

Parameters

<code>name</code>	Node name.
<code>virtualNetwork</code>	Virtual network.

Returns

Created node.

Implemented in [RepositoriesImpl.VirtualNetworkNodeEntityRepository](#).

5.73.2.2 CreateInvisible()

```
Task< VirtualNetworkNodeEntityModel > Repositories.IVirtualNetworkNodeEntityRepository.←  
CreateInvisible ( VirtualNetworkModel virtualNetwork)
```

Creates a new invisible virtual network node.

Parameters

<code>virtualNetwork</code>	Virtual network.
-----------------------------	------------------

Returns

Created node.

Implemented in [RepositoriesImpl.VirtualNetworkNodeEntityRepository](#).

5.73.2.3 GetAll()

```
Task< List< VirtualNetworkNodeEntityModel > > Repositories.IVirtualNetworkNodeEntityRepository.←  
GetAll ()
```

Retrieves all virtual network nodes.

Returns

List of nodes.

Implemented in [RepositoriesImpl.VirtualNetworkNodeEntityRepository](#).

5.73.2.4 GetById()

```
Task< VirtualNetworkNodeEntityModel > Repositories.IVirtualNetworkNodeEntityRepository.GetById  
(  
    int id)
```

Retrieves a virtual network node by identifier.

Parameters

<i>id</i>	Node identifier.
-----------	------------------

Returns

Network node.

Implemented in [Repositories.Impl.VirtualNetworkNodeEntityRepository](#).

5.73.2.5 GetVisible()

```
Task< List< VirtualNetworkNodeEntityModel > > Repositories.IVirtualNetworkNodeEntityRepository.←
GetVisible ()
```

Retrieves visible virtual network nodes.

Returns

List of visible nodes.

Implemented in [Repositories.Impl.VirtualNetworkNodeEntityRepository](#).

5.73.2.6 Remove()

```
Task Repositories.IVirtualNetworkNodeEntityRepository.Remove (
    int id)
```

Removes a virtual network node.

Parameters

<i>id</i>	Node identifier.
-----------	------------------

Implemented in [Repositories.Impl.VirtualNetworkNodeEntityRepository](#).

5.73.2.7 UpdateEntityPosition()

```
Task< VirtualNetworkNodeEntityModel > Repositories.IVirtualNetworkNodeEntityRepository.←
UpdateEntityPosition (
    int id,
    int x,
    int y)
```

Updates the position of a virtual network node.

Parameters

<i>id</i>	Node identifier.
<i>x</i>	New X coordinate.
<i>y</i>	New Y coordinate.

Returns

Updated node.

Implemented in [Repositories.Impl.VirtualNetworkNodeEntityRepository](#).

5.73.2.8 UpdateNetwork()

```
Task< VirtualNetworkNodeEntityModel > Repositories.IVirtualNetworkNodeEntityRepository.UpdateNetwork (
    int id,
    VirtualNetworkModel virtualNetwork)
```

Updates the virtual network for a node.

Parameters

<i>id</i>	Node identifier.
<i>virtualNetwork</i>	New virtual network.

Returns

Updated node.

Implemented in [RepositoriesImpl.VirtualNetworkNodeEntityRepository](#).

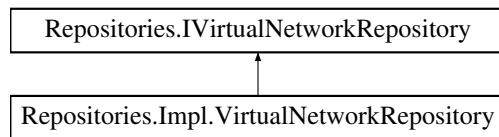
The documentation for this interface was generated from the following file:

- [Repositories/IVirtualNetworkNodeEntityRepository.cs](#)

5.74 Repositories.IVirtualNetworkRepository Interface Reference

Repository managing virtual networks in the database.

Inheritance diagram for `Repositories.IVirtualNetworkRepository`:



Public Member Functions

- Task< [VirtualNetworkModel](#) > [Create](#) (string bridgeName, Guid uuid, string? ipAddress=null)
Creates a new virtual network.
- Task< [VirtualNetworkModel](#) > [GetById](#) (int id)
Retrieves a virtual network by identifier.
- Task< [VirtualNetworkModel](#) > [GetByUuid](#) (Guid uuid)
Retrieves a virtual network by UUID.
- Task< [VirtualNetworkModel](#) > [GetByUuidWithVirtualNetworkNodes](#) (Guid uuid)
Retrieves a virtual network with nodes by UUID.
- Task [Remove](#) (int id)
Removes a virtual network.
- Task< List< [VirtualNetworkModel](#) > > [GetAll](#) ()
Retrieves all virtual networks.
- Task< [VirtualNetworkModel](#) > [GetByBridgeName](#) (string bridgeName)
Retrieves a virtual network by bridge name.

5.74.1 Detailed Description

Repository managing virtual networks in the database.

5.74.2 Member Function Documentation

5.74.2.1 Create()

```
Task< VirtualNetworkModel > Repositories.IVirtualNetworkRepository.Create (
    string bridgeName,
    Guid uuid,
    string? ipAddress = null)
```

Creates a new virtual network.

Parameters

<i>bridgeName</i>	Network bridge name.
<i>uuid</i>	Network UUID.
<i>ipAddress</i>	Network IP address (optional).

Returns

Created virtual network.

Implemented in [RepositoriesImpl.VirtualNetworkRepository](#).

5.74.2.2 GetAll()

```
Task< List< VirtualNetworkModel > > Repositories.IVirtualNetworkRepository.GetAll ()
```

Retrieves all virtual networks.

Returns

List of virtual networks.

Implemented in [RepositoriesImpl.VirtualNetworkRepository](#).

5.74.2.3 GetByBridgeName()

```
Task< VirtualNetworkModel > Repositories.IVirtualNetworkRepository.GetByBridgeName (
    string bridgeName)
```

Retrieves a virtual network by bridge name.

Parameters

<code>bridgeName</code>	Network bridge name.
-------------------------	----------------------

Returns

Virtual network.

Implemented in [RepositoriesImpl.VirtualNetworkRepository](#).

5.74.2.4 GetById()

```
Task< VirtualNetworkModel > Repositories.IVirtualNetworkRepository.GetById ( int id)
```

Retrieves a virtual network by identifier.

Parameters

<code>id</code>	Network identifier.
-----------------	---------------------

Returns

Virtual network.

Implemented in [RepositoriesImpl.VirtualNetworkRepository](#).

5.74.2.5 GetByIdUuid()

```
Task< VirtualNetworkModel > Repositories.IVirtualNetworkRepository.GetByIdUuid ( Guid uuid)
```

Retrieves a virtual network by UUID.

Parameters

<code>uuid</code>	Network UUID.
-------------------	---------------

Returns

Virtual network.

Implemented in [RepositoriesImpl.VirtualNetworkRepository](#).

5.74.2.6 GetByUuidWithVirtualNetworkNodes()

```
Task< VirtualNetworkModel > Repositories.IVirtualNetworkRepository.GetByUuidWithVirtualNetworkNodes ( Guid uuid)
```

Retrieves a virtual network with nodes by UUID.

Parameters

<i>uuid</i>	Network UUID.
-------------	---------------

Returns

Virtual network with nodes.

Implemented in [Repositories.Impl.VirtualNetworkRepository](#).

5.74.2.7 Remove()

```
Task Repositories.IVirtualNetworkRepository.Remove (
    int id)
```

Removes a virtual network.

Parameters

<i>id</i>	Network identifier.
-----------	---------------------

Implemented in [Repositories.Impl.VirtualNetworkRepository](#).

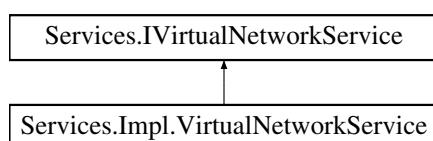
The documentation for this interface was generated from the following file:

- [Repositories/IVirtualNetworkRepository.cs](#)

5.75 Services.IVirtualNetworkService Interface Reference

Service managing virtual networks.

Inheritance diagram for Services.IVirtualNetworkService:



Public Member Functions

- Task< List< [VirtualNetworkConnectionDTO](#) > > [GetVirtualNetworkConnections](#) ()

Retrieves a list of all connections in the virtual network.
- Task< [VirtualNetworkNodeEntityDTO](#) > [CreateVirtualNetworkNode](#) (string? name)

Creates a new virtual network node.
- Task< List< [VirtualNetworkNodeEntityDTO](#) > > [GetVisibleVirtualNetworkNodeEntities](#) ()

Retrieves a list of visible virtual network nodes.
- Task< [VirtualNetworkNodeEntityDTO](#) > [UpdateVirtualNetworkNodeEntityPosition](#) (int entityId, int x, int y)

Updates the position of a virtual network node.
- Task [AttachNetworkInterfaceToVirtualMachine](#) (int vmId, int connectionId, [VirtualNetworkInterfaceCreateDefinition](#) interfaceDefinition)

Attaches a network interface to a virtual machine.
- Task [UpdateNetworkForVirtualMachineNetworkInterface](#) (int vmId, int connectionId, string networkName)

Updates the network for a virtual machine network interface.
- Task< [VirtualNetworkModel](#) > [CreateInternetVirtualNetwork](#) ()

Creates a virtual network for Internet connection.
- Task< [VirtualNetworkModel](#) > [CreateNodeVirtualNetwork](#) ()

Creates a virtual network for a network node.
- Task< List< [VirtualNetworkModel](#) > > [GetAllVirtualNetworks](#) ()

Retrieves all virtual networks.
- Task< [VirtualNetworkModel](#) > [GetVirtualNetworkUsingBridgeName](#) (string bridgeName)

Retrieves a virtual network based on bridge name.

5.75.1 Detailed Description

Service managing virtual networks.

5.75.2 Member Function Documentation

5.75.2.1 [AttachNetworkInterfaceToVirtualMachine\(\)](#)

```
Task Services.IVirtualNetworkService.AttachNetworkInterfaceToVirtualMachine (
    int vmId,
    int connectionId,
    VirtualNetworkInterfaceCreateDefinition interfaceDefinition)
```

Attaches a network interface to a virtual machine.

Parameters

<code>vmId</code>	Virtual machine identifier.
<code>connectionId</code>	Connection identifier.
<code>interfaceDefinition</code>	Network interface definition.

Implemented in [ServicesImpl.VirtualNetworkService](#).

5.75.2.2 CreateInternetVirtualNetwork()

Task< [VirtualNetworkModel](#) > Services.IVirtualNetworkService.CreateInternetVirtualNetwork ()

Creates a virtual network for Internet connection.

Returns

Created virtual network.

Implemented in [ServicesImpl.VirtualNetworkService](#).

5.75.2.3 CreateNodeVirtualNetwork()

Task< [VirtualNetworkModel](#) > Services.IVirtualNetworkService.CreateNodeVirtualNetwork ()

Creates a virtual network for a network node.

Returns

Created virtual network.

Implemented in [ServicesImpl.VirtualNetworkService](#).

5.75.2.4 CreateVirtualNetworkNode()

Task< [VirtualNetworkNodeEntityDTO](#) > Services.IVirtualNetworkService.CreateVirtualNetworkNode (string? name)

Creates a new virtual network node.

Parameters

<code>name</code>	Node name.
-------------------	------------

Returns

Created network node.

Implemented in [ServicesImpl.VirtualNetworkService](#).

5.75.2.5 GetAllVirtualNetworks()

Task< List< [VirtualNetworkModel](#) > > Services.IVirtualNetworkService.GetAllVirtualNetworks ()

Retrieves all virtual networks.

Returns

List of virtual networks.

Implemented in [ServicesImpl.VirtualNetworkService](#).

5.75.2.6 GetVirtualNetworkConnections()

```
Task< List< VirtualNetworkConnectionDTO > > Services.IVirtualNetworkService.GetVirtualNetworkConnections ()
```

Retrieves a list of all connections in the virtual network.

Returns

List of connections.

Implemented in [ServicesImpl.VirtualNetworkService](#).

5.75.2.7 GetVirtualNetworkUsingBridgeName()

```
Task< VirtualNetworkModel > Services.IVirtualNetworkService.GetVirtualNetworkUsingBridgeName ( string bridgeName)
```

Retrieves a virtual network based on bridge name.

Parameters

<i>bridgeName</i>	Network bridge name.
-------------------	----------------------

Returns

Virtual network.

Implemented in [ServicesImpl.VirtualNetworkService](#).

5.75.2.8 GetVisibleVirtualNetworkNodeEntities()

```
Task< List< VirtualNetworkNodeEntityDTO > > Services.IVirtualNetworkService.GetVisibleVirtualNetworkNodeEntities ()
```

Retrieves a list of visible virtual network nodes.

Returns

List of visible nodes.

Implemented in [ServicesImpl.VirtualNetworkService](#).

5.75.2.9 UpdateNetworkForVirtualMachineNetworkInterface()

```
Task Services.IVirtualNetworkService.UpdateNetworkForVirtualMachineNetworkInterface ( int vmId, int connectionId, string networkName)
```

Updates the network for a virtual machine network interface.

Parameters

<i>vmlId</i>	Virtual machine identifier.
<i>connectionId</i>	Connection identifier.
<i>networkName</i>	New network name.

Implemented in [Services.Impl.VirtualNetworkService](#).

5.75.2.10 UpdateVirtualNetworkNodeEntityPosition()

```
Task< VirtualNetworkNodeEntityDTO > Services.IVirtualNetworkService.UpdateVirtualNetworkNode<-
EntityPosition (
    int entityId,
    int x,
    int y)
```

Updates the position of a virtual network node.

Parameters

<i>entityId</i>	Node identifier.
<i>x</i>	New X coordinate.
<i>y</i>	New Y coordinate.

Returns

Updated node.

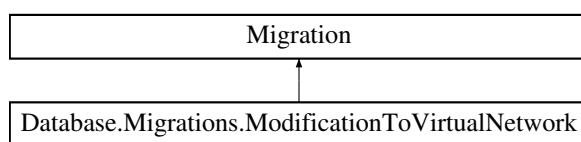
Implemented in [Services.Impl.VirtualNetworkService](#).

The documentation for this interface was generated from the following file:

- Services/IVirtualNetworkService.cs

5.76 Database.Migrations.ModificationToVirtualNetwork Class Reference

Inheritance diagram for Database.Migrations.ModificationToVirtualNetwork:



Protected Member Functions

- `override void Up (MigrationBuilder migrationBuilder)`
- `override void Down (MigrationBuilder migrationBuilder)`
- `override void BuildTargetModel (ModelBuilder modelBuilder)`

5.76.1 Detailed Description

The documentation for this class was generated from the following files:

- Database/Migrations/20250906194200_ModificationToVirtualNetwork.cs
- Database/Migrations/20250906194200_ModificationToVirtualNetwork.Designer.cs

5.77 NativeLibrary.Structs.NativeConnectionInfo Struct Reference

Public Attributes

- uint **CpuCount**
- uint **CpuFreq**
- long **TotalMemory**
- string **ConnectionString**
- string **DriverType**
- NativeVersion **LibVersion**
- NativeVersion **DriverVersion**

The documentation for this struct was generated from the following file:

- NativeLibrary/Structs/NativeConnectionInfo.cs

5.78 NativeLibrary.Structs.NativeExecutionInfo Struct Reference

Public Attributes

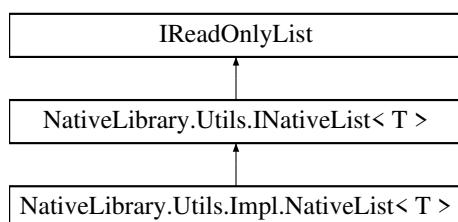
- bool **ErrorOccurred**
- string **Msg**

The documentation for this struct was generated from the following file:

- NativeLibrary/Structs/NativeExecutionInfo.cs

5.79 NativeLibrary.Utils.Impl.NativeList< T > Class Template Reference

Inheritance diagram for NativeLibrary.Utils.Impl.NativeList< T >:



Public Member Functions

- **NativeList** (nint data, int size)
- **IEnumerator< T > GetEnumerator ()**

Properties

- **T this[int index]** [get]
- **int Count** [get]

The documentation for this class was generated from the following file:

- NativeLibrary/Utils/Impl/NativeList.cs

5.80 NativeLibrary.Structs.NativePacket Struct Reference

Public Attributes

- **string InterfaceName**
- **IntPtr Content**
- **int ContentLength**
- **uint TimestampMicroseconds**

The documentation for this struct was generated from the following file:

- NativeLibrary/Structs/NativePacket.cs

5.81 NativeLibrary.Structs.NativeStreamData Struct Reference

Public Attributes

- **byte[] Buffer**
- **bool IsStreamBroken**

The documentation for this struct was generated from the following file:

- NativeLibrary/Structs/NativeStreamData.cs

5.82 NativeLibrary.Structs.NativeStreamInfo Struct Reference

Public Attributes

- **string Uuid**

The documentation for this struct was generated from the following file:

- NativeLibrary/Structs/NativeStreamInfo.cs

5.83 NativeLibrary.Structs.NativeVirtualMachineInfo Struct Reference

Public Attributes

- string **Uuid**
- string **Name**
- ulong **UsedMemory**
- byte **State**

The documentation for this struct was generated from the following file:

- NativeLibrary/Structs/NativeVirtualMachineInfo.cs

5.84 Models.Packet Class Reference

Represents a captured network packet.

Properties

- required int **Id** [get, set]
Packet identifier.
- required DataLinkLayerPacketType **DataLinkLayerPacketType** [get, set]
Data link layer packet type.
- required string **SourceMacAddress** [get, set]
Source MAC address.
- required string **DestinationMacAddress** [get, set]
Destination MAC address.
- required string **Content** [get, set]
Packet content in hexadecimal format.
- required ulong **TimestampMicroseconds** [get, set]
Packet capture timestamp in microseconds.
- int? **IpVersion** [get, set]
IP protocol version (4 or 6), if applicable.
- string? **SourceIpAddress** [get, set]
Source IP address, if applicable.
- string? **DestinationIpAddress** [get, set]
Destination IP address, if applicable.

5.84.1 Detailed Description

Represents a captured network packet.

The documentation for this class was generated from the following file:

- Models/Packet.cs

5.85 Models.PacketSniffer Class Reference

Represents a packet sniffer for a specific network bridge.

Properties

- required string **BridgeName** [get, set]

Name of the network bridge being monitored.
- required IntPtr **Handler** [get, set]

Pointer to the native packet sniffer handler.

5.85.1 Detailed Description

Represents a packet sniffer for a specific network bridge.

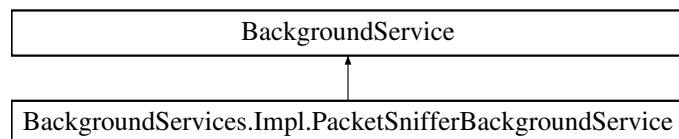
The documentation for this class was generated from the following file:

- Models/PacketSniffer.cs

5.86 BackgroundServices.Impl.PacketSnifferBackgroundService Class Reference

Background service for managing network packet sniffing and broadcasting.

Inheritance diagram for BackgroundServices.Impl.PacketSnifferBackgroundService:



Public Member Functions

- [**PacketSnifferBackgroundService**](#) ([ILogger< PacketSnifferBackgroundService >](#) logger, [IHubContext< PacketSnifferHub >](#) hubContext, [IPacketSnifferService](#) packetSnifferService, [IVirtualNetworkService](#) virtualNetworkService)

Initializes a new instance of the [PacketSnifferBackgroundService](#).

Protected Member Functions

- override async Task [**ExecuteAsync**](#) ([CancellationToken](#) stoppingToken)

Executes the background service to listen for and broadcast captured packets.

5.86.1 Detailed Description

Background service for managing network packet sniffing and broadcasting.

5.86.2 Constructor & Destructor Documentation

5.86.2.1 PacketSnifferBackgroundService()

```
BackgroundServices.Impl.PacketSnifferBackgroundService.PacketSnifferBackgroundService (
    ILogger< PacketSnifferBackgroundService > logger,
    IHubContext< PacketSnifferHub > hubContext,
    IPacketSnifferService packetSnifferService,
    IVirtualNetworkService virtualNetworkService) [inline]
```

Initializes a new instance of the [PacketSnifferBackgroundService](#).

Parameters

<i>logger</i>	Logger instance.
<i>hubContext</i>	SignalR hub context for packet transmission.
<i>packetSnifferService</i>	Packet sniffer service.
<i>virtualNetworkService</i>	Virtual network service.

5.86.3 Member Function Documentation

5.86.3.1 ExecuteAsync()

```
override async Task BackgroundServices.Impl.PacketSnifferBackgroundService.ExecuteAsync (
    CancellationToken stoppingToken) [inline], [protected]
```

Executes the background service to listen for and broadcast captured packets.

Parameters

<i>stoppingToken</i>	Cancellation token for stopping the service.
----------------------	--

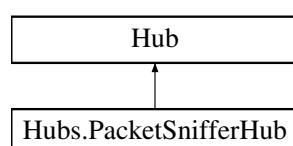
The documentation for this class was generated from the following file:

- BackgroundServices/Impl/PacketSnifferBackgroundService.cs

5.87 Hubs.PacketSnifferHub Class Reference

SignalR hub for transmitting captured network packets.

Inheritance diagram for Hubs.PacketSnifferHub:



Public Member Functions

- `async Task JoinDefaultGroup ()`
Adds client to default packet analyzer group.

Static Public Attributes

- `static readonly string DefaultGroupName = "default"`
Default group name for packet analyzer.

5.87.1 Detailed Description

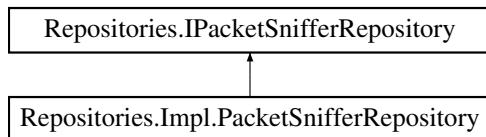
SignalR hub for transmitting captured network packets.

The documentation for this class was generated from the following file:

- `Hubs/PacketSnifferHub.cs`

5.88 Repositories.Impl.PacketSnifferRepository Class Reference

Inheritance diagram for `Repositories.Impl.PacketSnifferRepository`:



Public Member Functions

- `void AddSniffer (PacketSniffer sniffer)`
Adds a packet analyzer to the repository.
- `void RemoveSniffer (string bridgeName)`
Removes a packet analyzer for a specified bridge.
- `List< PacketSniffer > GetOpenedSniffers ()`
Retrieves a list of opened packet analyzers.

5.88.1 Member Function Documentation

5.88.1.1 AddSniffer()

```
void Repositories.Impl.PacketSnifferRepository.AddSniffer (
    PacketSniffer sniffer) [inline]
```

Adds a packet analyzer to the repository.

Parameters

<code>sniffer</code>	Packet analyzer.
----------------------	------------------

Implements [Repositories.IPacketSnifferRepository](#).

5.88.1.2 GetOpenedSniffers()

```
List< PacketSniffer > Repositories.Impl.PacketSnifferRepository.GetOpenedSniffers () [inline]
```

Retrieves a list of opened packet analyzers.

Returns

List of opened analyzers.

Implements [Repositories.IPacketSnifferRepository](#).

5.88.1.3 RemoveSniffer()

```
void Repositories.Impl.PacketSnifferRepository.RemoveSniffer (
    string bridgeName) [inline]
```

Removes a packet analyzer for a specified bridge.

Parameters

<code>bridgeName</code>	Network bridge name.
-------------------------	----------------------

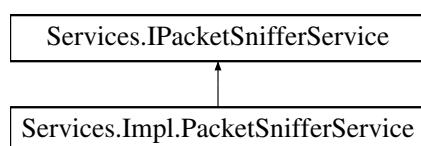
Implements [Repositories.IPacketSnifferRepository](#).

The documentation for this class was generated from the following file:

- [Repositories/Impl/PacketSnifferRepository.cs](#)

5.89 Services.Impl.PacketSnifferService Class Reference

Inheritance diagram for Services.Impl.PacketSnifferService:



Public Member Functions

- **PacketSnifferService** (`IPacketSnifferWrapper` snifferWrapper, `IPacketSnifferRepository` packetSnifferRepository)
- void **StartListeningForBridge** (string bridgeName)

Starts listening for packets on a specified network bridge.
- List<`PacketSniffer`> **GetOpenedSniffers** ()

Retrieves a list of active packet analyzers.
- bool **ListenForPacket** (`PacketSniffer` sniffer)

Listens for packets using the specified analyzer.
- `Packet?` **GetCapturedPacket** ()

Retrieves the last captured packet.

5.89.1 Member Function Documentation

5.89.1.1 GetCapturedPacket()

`Packet? Services.Impl.PacketSnifferService.GetCapturedPacket () [inline]`

Retrieves the last captured packet.

Returns

Captured packet or null if no packet available.

Implements `Services.IPacketSnifferService`.

5.89.1.2 GetOpenedSniffers()

`List< PacketSniffer > Services.Impl.PacketSnifferService.GetOpenedSniffers () [inline]`

Retrieves a list of active packet analyzers.

Returns

List of opened packet sniffers.

Implements `Services.IPacketSnifferService`.

5.89.1.3 ListenForPacket()

`bool Services.Impl.PacketSnifferService.ListenForPacket (
 PacketSniffer sniffer) [inline]`

Listens for packets using the specified analyzer.

Parameters

<code>sniffer</code>	Packet analyzer.
----------------------	------------------

Returns

True if packet was captured successfully, false otherwise.

Implements `Services.IPacketSnifferService`.

5.89.1.4 StartListeningForBridge()

```
void Services.Impl.PacketSnifferService.StartListeningForBridge (
    string interfaceName) [inline]
```

Starts listening for packets on a specified network bridge.

Parameters

<i>interfaceName</i>	Network interface name.
----------------------	-------------------------

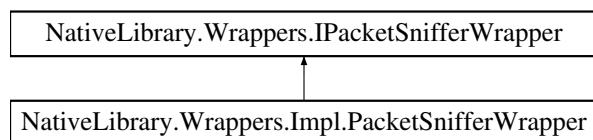
Implements [Services.IPacketSnifferService](#).

The documentation for this class was generated from the following file:

- Services/Impl/PacketSnifferService.cs

5.90 NativeLibrary.Wrappers.Impl.PacketSnifferWrapper Class Reference

Inheritance diagram for NativeLibrary.Wrappers.Impl.PacketSnifferWrapper:



Public Member Functions

- int [GetNumberOfPackets \(\)](#)
Gets the number of captured packets.
- [NativePacket GetPacket \(\)](#)
Gets the last captured packet.
- IntPtr [OpenSnifferHandler \(string bridgeName\)](#)
Opens a packet analyzer handler for the specified bridge.
- bool [ListenForPacket \(nint handler, string bridgeName\)](#)

Public Member Functions inherited from [NativeLibrary.Wrappers.IPacketSnifferWrapper](#)

- bool [ListenForPacket \(IntPtr handler, string bridgeName\)](#)
Listens for a network packet.

5.90.1 Member Function Documentation

5.90.1.1 [GetNumberOfPackets\(\)](#)

```
int NativeLibrary.Wrappers.Impl.PacketSnifferWrapper.GetNumberOfPackets () [inline]
```

Gets the number of captured packets.

Returns

Number of packets.

Implements [NativeLibrary.Wrappers.IPacketSnifferWrapper](#).

5.90.1.2 GetPacket()

```
NativePacket NativeLibrary.Wrappers.IPacketSnifferWrapper.GetPacket () [inline]
```

Gets the last captured packet.

Returns

Captured packet.

Implements [NativeLibrary.Wrappers.IPacketSnifferWrapper](#).

5.90.1.3 OpenSnifferHandler()

```
IntPtr NativeLibrary.Wrappers.IPacketSnifferWrapper.OpenSnifferHandler (
    string bridgeName) [inline]
```

Opens a packet analyzer handler for the specified bridge.

Parameters

<code>bridgeName</code>	Name of the network bridge.
-------------------------	-----------------------------

Returns

Pointer to the analyzer handler.

Implements [NativeLibrary.Wrappers.IPacketSnifferWrapper](#).

The documentation for this class was generated from the following file:

- [NativeLibrary/Wrappers/Impl/PacketSnifferWrapper.cs](#)

5.91 Interconnect.Program Class Reference

Main class of the [Interconnect](#) application.

Static Public Member Functions

- static void [Main](#) (string[] args)
Application entry point.

5.91.1 Detailed Description

Main class of the [Interconnect](#) application.

5.91.2 Member Function Documentation

5.91.2.1 Main()

```
static void Interconnect.Program.Main (
    string[] args) [inline], [static]
```

Application entry point.

Parameters

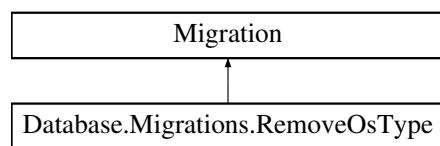
args	Command line arguments.
------	-------------------------

The documentation for this class was generated from the following file:

- Interconnect/Program.cs

5.92 Database.Migrations.RemoveOsType Class Reference

Inheritance diagram for Database.Migrations.RemoveOsType:



Protected Member Functions

- override void **Up** (MigrationBuilder migrationBuilder)
- override void **Down** (MigrationBuilder migrationBuilder)
- override void **BuildTargetModel** (ModelBuilder modelBuilder)

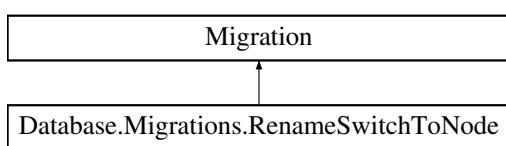
5.92.1 Detailed Description

The documentation for this class was generated from the following files:

- Database/Migrations/20250927183203_RemoveOsType.cs
- Database/Migrations/20250927183203_RemoveOsType.Designer.cs

5.93 Database.Migrations.RenameSwitchToNode Class Reference

Inheritance diagram for Database.Migrations.RenameSwitchToNode:



Protected Member Functions

- override void **Up** (MigrationBuilder migrationBuilder)
- override void **Down** (MigrationBuilder migrationBuilder)
- override void **BuildTargetModel** (ModelBuilder modelBuilder)

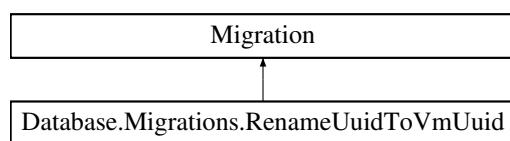
5.93.1 Detailed Description

The documentation for this class was generated from the following files:

- Database/Migrations/20251019212536_RenameSwitchToNode.cs
- Database/Migrations/20251019212536_RenameSwitchToNode.Designer.cs

5.94 Database.Migrations.RenameUuidToVmUuid Class Reference

Inheritance diagram for Database.Migrations.RenameUuidToVmUuid:



Protected Member Functions

- override void **Up** (MigrationBuilder migrationBuilder)
- override void **Down** (MigrationBuilder migrationBuilder)
- override void **BuildTargetModel** (ModelBuilder modelBuilder)

5.94.1 Detailed Description

The documentation for this class was generated from the following files:

- Database/Migrations/20250727102040_RenameUuidToVmUuid.cs
- Database/Migrations/20250727102040_RenameUuidToVmUuid.Designer.cs

5.95 Models.Requests.SendDataToConsoleRequest Class Reference

Properties

- required string **Uuid** [get, set]
- required string **Data** [get, set]

The documentation for this class was generated from the following file:

- Models/Requests/SendDataToConsoleRequest.cs

5.96 Models.StreamData Class Reference

Represents data read from a stream.

Properties

- required byte[] **Data** [get, set]
Data read from the stream.
- bool **IsStreamBroken** [get, set]
Indicates whether the stream has been broken.

5.96.1 Detailed Description

Represents data read from a stream.

The documentation for this class was generated from the following file:

- Models/StreamData.cs

5.97 Models.StreamInfo Class Reference

Information about a virtual machine console stream.

Properties

- Guid **Uuid** [get, set]
Unique UUID identifier of the virtual machine.
- IntPtr **Stream** [get, set]
Pointer to the native console stream.

5.97.1 Detailed Description

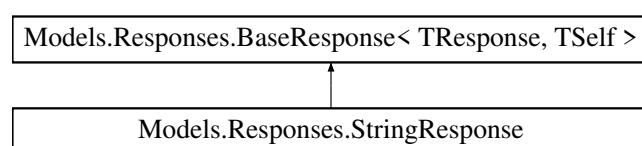
Information about a virtual machine console stream.

The documentation for this class was generated from the following file:

- Models/StreamInfo.cs

5.98 Models.Responses.StringResponse Class Reference

Inheritance diagram for Models.Responses.StringResponse:



Additional Inherited Members

Static Public Member Functions inherited from Models.Responses.BaseResponse< TResponse, TSelf >

- static TSelf [WithSuccess](#) (TResponse data)
Creates a successful response with data.
- static TSelf [WithEmptySuccess](#) ()
Creates an empty successful response.

Properties inherited from Models.Responses.BaseResponse< TResponse, TSelf >

- bool **Success** [get, set]
Indicates whether the operation was successful.
- string? **ErrorMessage** [get, set]
Error message, if any error occurred.
- TResponse? **Data** [get, set]
Response data.

The documentation for this class was generated from the following file:

- Models/Responses/StringResponse.cs

5.99 Models.Responses.SystemInfoResponse Class Reference

Properties

- required string **Os** [get, set]
- required string **Arch** [get, set]

The documentation for this class was generated from the following file:

- Models/Responses/SystemInfoResponse.cs

5.100 Models.TerminalData Class Reference

Virtual machine terminal data.

Properties

- required string **Uuid** [get, set]
UUID of the virtual machine.
- required string **Data** [get, set]
Terminal data in text format.

5.100.1 Detailed Description

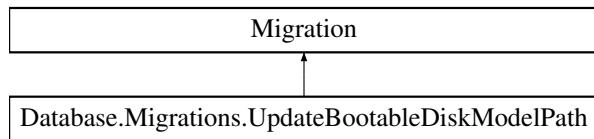
Virtual machine terminal data.

The documentation for this class was generated from the following file:

- Models/TerminalData.cs

5.101 Database.Migrations.UpdateBootableDiskModelPath Class Reference

Inheritance diagram for Database.Migrations.UpdateBootableDiskModelPath:



Protected Member Functions

- override void **Up** (MigrationBuilder migrationBuilder)
- override void **Down** (MigrationBuilder migrationBuilder)
- override void **BuildTargetModel** (ModelBuilder modelBuilder)

5.101.1 Detailed Description

The documentation for this class was generated from the following files:

- Database/Migrations/20250728193215_UpdateBootableDiskModelPath.cs
- Database/Migrations/20250728193215_UpdateBootableDiskModelPath.Designer.cs

5.102 Models.Requests.UpdateEntityPositionRequest Class Reference

Properties

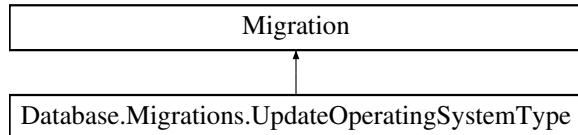
- required int **Id** [get, set]
- required **EntityType Type** [get, set]
- required int **X** [get, set]
- required int **Y** [get, set]

The documentation for this class was generated from the following file:

- Models/Requests/UpdateEntityPositionRequest.cs

5.103 Database.Migrations.UpdateOperatingSystemType Class Reference

Inheritance diagram for Database.Migrations.UpdateOperatingSystemType:



Protected Member Functions

- override void **Up** (MigrationBuilder migrationBuilder)
- override void **Down** (MigrationBuilder migrationBuilder)
- override void **BuildTargetModel** (ModelBuilder modelBuilder)

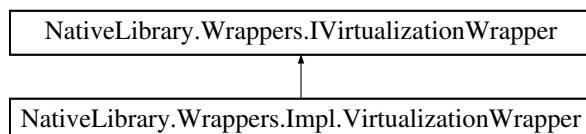
5.103.1 Detailed Description

The documentation for this class was generated from the following files:

- Database/Migrations/20250728194949_UpdateOperatingSystemType.cs
- Database/Migrations/20250728194949_UpdateOperatingSystemType.Designer.cs

5.104 NativeLibrary.Wrappers.IImpl.VirtualizationWrapper Class Reference

Inheritance diagram for NativeLibrary.Wrappers.IImpl.VirtualizationWrapper:



Public Member Functions

- void **InitializeConnection** (string? connectionUrl)
Initializes connection with the hypervisor.
- **NativeConnectionInfo GetConnectionInfo ()**
Gets connection information from the hypervisor.
- void **CreateVirtualMachine** (string xmlDefinition)
Creates a virtual machine based on XML definition.
- **NativeVirtualMachineInfo GetVirtualMachineInfo (string name)**
Gets information about a virtual machine.
- **INativeList< NativeVirtualMachineInfo > GetListOfVirtualMachines ()**

- Gets a list of all virtual machines.
- bool [IsConnectionAlive \(\)](#)
Checks if the connection with the hypervisor is active.
- IntPtr [OpenVirtualMachineConsole \(Guid uuid\)](#)
Opens a console stream for a virtual machine.
- void [SendDataToStream \(IntPtr stream, string data\)](#)
Sends data to the console stream.
- [NativeStreamData GetDataFromStream \(IntPtr stream\)](#)
Gets data from the console stream.
- void [CloseStream \(IntPtr stream\)](#)
Closes the console stream.
- IntPtr [CreateVirtualNetwork \(string networkDefinition\)](#)
Creates a virtual network based on definition.
- void [AttachDeviceToVirtualMachine \(Guid uuid, string deviceDefinition\)](#)
Attaches a device to a virtual machine.
- void [DetachDeviceFromVirtualMachine \(Guid uuid, string deviceDefinition\)](#)
Detaches a device from a virtual machine.
- void [UpdateVmDevice \(Guid uuid, string deviceDefinition\)](#)
Updates a device on a virtual machine.
- void [DestroyNetwork \(string name\)](#)
Destroys a virtual network.

5.104.1 Member Function Documentation

5.104.1.1 AttachDeviceToVirtualMachine()

```
void NativeLibrary.Wrappers.Implementation.VirtualizationWrapper.AttachDeviceToVirtualMachine (
    Guid uuid,
    string deviceDefinition) [inline]
```

Attaches a device to a virtual machine.

Parameters

<i>uuid</i>	UUID of the virtual machine.
<i>deviceDefinition</i>	Device definition in XML format.

Implements [NativeLibrary.Wrappers.IVirtualizationWrapper](#).

5.104.1.2 CloseStream()

```
void NativeLibrary.Wrappers.Implementation.VirtualizationWrapper.CloseStream (
    IntPtr stream) [inline]
```

Closes the console stream.

Parameters

<i>stream</i>	Pointer to the stream.
---------------	------------------------

Implements [NativeLibrary.Wrappers.IVirtualizationWrapper](#).

5.104.1.3 CreateVirtualMachine()

```
void NativeLibrary.Wrappers.IImpl.VirtualizationWrapper.CreateVirtualMachine (
    string xmlDefinition) [inline]
```

Creates a virtual machine based on XML definition.

Parameters

<i>xmlDefinition</i>	Machine definition in XML format.
----------------------	-----------------------------------

Implements [NativeLibrary.Wrappers.IVirtualizationWrapper](#).

5.104.1.4 CreateVirtualNetwork()

```
IntPtr NativeLibrary.Wrappers.IImpl.VirtualizationWrapper.CreateVirtualNetwork (
    string networkDefinition) [inline]
```

Creates a virtual network based on definition.

Parameters

<i>networkDefinition</i>	Network definition in XML format.
--------------------------	-----------------------------------

Returns

Pointer to the created network.

Implements [NativeLibrary.Wrappers.IVirtualizationWrapper](#).

5.104.1.5 DestroyNetwork()

```
void NativeLibrary.Wrappers.IImpl.VirtualizationWrapper.DestroyNetwork (
    string name) [inline]
```

Destroys a virtual network.

Parameters

<i>name</i>	Name of the network to destroy.
-------------	---------------------------------

Implements [NativeLibrary.Wrappers.IVirtualizationWrapper](#).

5.104.1.6 DetachDeviceFromVirtualMachine()

```
void NativeLibrary.Wrappers.IImpl.VirtualizationWrapper.DetachDeviceFromVirtualMachine (
    Guid uuid,
    string deviceDefinition) [inline]
```

Detaches a device from a virtual machine.

Parameters

<i>uuid</i>	UUID of the virtual machine.
<i>deviceDefinition</i>	Device definition in XML format.

Implements [NativeLibrary.Wrappers.IVirtualizationWrapper](#).

5.104.1.7 GetConnectionInfo()

```
NativeConnectionInfo NativeLibrary.WrappersImpl.VirtualizationWrapper.GetConnectionInfo (
    [inline]
```

Gets connection information from the hypervisor.

Returns

Connection information.

Implements [NativeLibrary.Wrappers.IVirtualizationWrapper](#).

5.104.1.8 GetDataFromStream()

```
NativeStreamData NativeLibrary.WrappersImpl.VirtualizationWrapper.GetDataFromStream (
    IntPtr stream) [inline]
```

Gets data from the console stream.

Parameters

<i>stream</i>	Pointer to the stream.
---------------	------------------------

Returns

Data from the stream.

Implements [NativeLibrary.Wrappers.IVirtualizationWrapper](#).

5.104.1.9 GetListOfVirtualMachines()

```
INativeList< NativeVirtualMachineInfo > NativeLibrary.WrappersImpl.VirtualizationWrapper.GetListOfVirtualMachines () [inline]
```

Gets a list of all virtual machines.

Returns

List of virtual machines.

Implements [NativeLibrary.Wrappers.IVirtualizationWrapper](#).

5.104.1.10 GetVirtualMachineInfo()

```
NativeVirtualMachineInfo NativeLibrary.WrappersImpl.VirtualizationWrapper.GetVirtualMachineInfo (
    string name) [inline]
```

Gets information about a virtual machine.

Parameters

<i>name</i>	Name of the virtual machine.
-------------	------------------------------

Returns

Virtual machine information.

Implements [NativeLibrary.Wrappers.IVirtualizationWrapper](#).

5.104.1.11 InitializeConnection()

```
void NativeLibrary.Wrappers.IImpl.VirtualizationWrapper.InitializeConnection (
    string? connectionUrl) [inline]
```

Initializes connection with the hypervisor.

Parameters

<i>connectionUrl</i>	Connection URL or null for default.
----------------------	-------------------------------------

Implements [NativeLibrary.Wrappers.IVirtualizationWrapper](#).

5.104.1.12 IsConnectionAlive()

```
bool NativeLibrary.Wrappers.IImpl.VirtualizationWrapper.IsConnectionAlive () [inline]
```

Checks if the connection with the hypervisor is active.

Returns

True if connection is active.

Implements [NativeLibrary.Wrappers.IVirtualizationWrapper](#).

5.104.1.13 OpenVirtualMachineConsole()

```
IntPtr NativeLibrary.Wrappers.IImpl.VirtualizationWrapper.OpenVirtualMachineConsole (
    Guid uuid) [inline]
```

Opens a console stream for a virtual machine.

Parameters

<i>uuid</i>	UUID of the virtual machine.
-------------	------------------------------

Returns

Pointer to the console stream.

Implements [NativeLibrary.Wrappers.IVirtualizationWrapper](#).

5.104.1.14 SendDataToStream()

```
void NativeLibrary.Wrappers.IImpl.VirtualizationWrapper.SendDataToStream (
    IntPtr stream,
    string data) [inline]
```

Sends data to the console stream.

Parameters

<i>stream</i>	Pointer to the stream.
<i>data</i>	Data to send.

Implements [NativeLibrary.Wrappers.IVirtualizationWrapper](#).

5.104.1.15 UpdateVmDevice()

```
void NativeLibrary.WrappersImpl.VirtualizationWrapper.UpdateVmDevice (
    Guid uuid,
    string deviceDefinition) [inline]
```

Updates a device on a virtual machine.

Parameters

<i>uuid</i>	UUID of the virtual machine.
<i>deviceDefinition</i>	Device definition in XML format.

Implements [NativeLibrary.Wrappers.IVirtualizationWrapper](#).

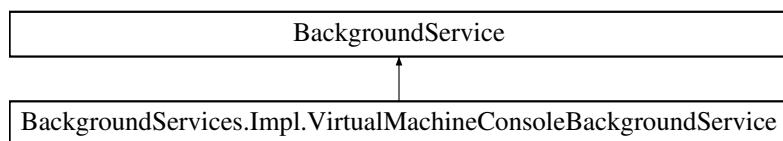
The documentation for this class was generated from the following file:

- NativeLibrary/Wrappers/Impl/VirtualizationWrapper.cs

5.105 BackgroundServicesImpl.VirtualMachineConsoleBackground Service Class Reference

Background service for managing virtual machine console data streaming.

Inheritance diagram for BackgroundServicesImpl.VirtualMachineConsoleBackgroundService:

**Public Member Functions**

- [`VirtualMachineConsoleBackgroundService`](#) (`ILogger< VirtualMachineConsoleBackgroundService >` logger, `IVirtualMachineConsoleService` vmConsoleService, `IHubContext< VirtualMachineConsoleHub >` hubContext)

Initializes a new instance of the `VirtualMachineConsoleBackgroundService`.

Protected Member Functions

- override async Task [ExecuteAsync](#) (CancellationToken *stoppingToken*)
Executes the background service to listen for and stream console data.

5.105.1 Detailed Description

Background service for managing virtual machine console data streaming.

5.105.2 Constructor & Destructor Documentation

5.105.2.1 VirtualMachineConsoleBackgroundService()

```
BackgroundServices.Impl.VirtualMachineConsoleBackgroundService.VirtualMachineConsoleBackground←
Service (
    ILogger< VirtualMachineConsoleBackgroundService > logger,
    IVirtualMachineConsoleService vmConsoleService,
    IHubContext< VirtualMachineConsoleHub > hubContext) [inline]
```

Initializes a new instance of the [VirtualMachineConsoleBackgroundService](#).

Parameters

<i>logger</i>	Logger instance.
<i>vmConsoleService</i>	Virtual machine console service.
<i>hubContext</i>	SignalR hub context for console communication.

5.105.3 Member Function Documentation

5.105.3.1 ExecuteAsync()

```
override async Task BackgroundServices.Impl.VirtualMachineConsoleBackgroundService.Execute←
Async (
    CancellationToken stoppingToken) [inline], [protected]
```

Executes the background service to listen for and stream console data.

Parameters

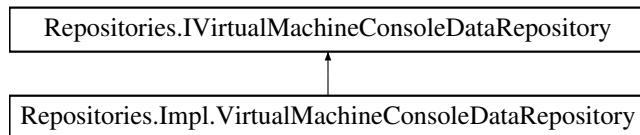
<i>stoppingToken</i>	Cancellation token for stopping the service.
----------------------	--

The documentation for this class was generated from the following file:

- BackgroundServices/Impl/VirtualMachineConsoleBackgroundService.cs

5.106 Repositories.Impl.VirtualMachineConsoleDataRepository Class Reference

Inheritance diagram for Repositories.Impl.VirtualMachineConsoleDataRepository:



Public Member Functions

- **VirtualMachineConsoleDataRepository** (IOptions< InterconnectConfig > config)
- void **AddDataToConsole** (Guid uuid, byte[] data)

Adds data to a virtual machine console.
- List< byte > **GetData** (Guid uuid)

Retrieves data from a virtual machine console.

5.106.1 Member Function Documentation

5.106.1.1 AddDataToConsole()

```
void Repositories.Impl.VirtualMachineConsoleDataRepository.AddDataToConsole (
    Guid uuid,
    byte[] data) [inline]
```

Adds data to a virtual machine console.

Parameters

<i>uuid</i>	Virtual machine UUID.
<i>data</i>	Data to add.

Implements [Repositories.IVirtualMachineConsoleDataRepository](#).

5.106.1.2 GetData()

```
List< byte > Repositories.Impl.VirtualMachineConsoleDataRepository.GetData (
    Guid uuid) [inline]
```

Retrieves data from a virtual machine console.

Parameters

<i>uuid</i>	Virtual machine UUID.
-------------	-----------------------

Returns

List of bytes from console.

Implements [Repositories.IVirtualMachineConsoleDataRepository](#).

The documentation for this class was generated from the following file:

- [Repositories/Impl/VirtualMachineConsoleDataRepository.cs](#)

5.107 RepositoriesTests.VirtualMachineConsoleDataRepositoryTests Class Reference

Public Member Functions

- void **Setup ()**
- void **AddDataToConsole_WhenInvoked_ShouldAddDataToConsole ()**
- void **AddDataToConsole_ExceedDataLength_ShouldTrimData ()**

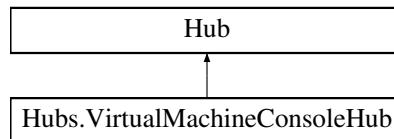
The documentation for this class was generated from the following file:

- `RepositoriesTests/VirtualMachineConsoleDataRepositoryTests.cs`

5.108 Hubs.VirtualMachineConsoleHub Class Reference

SignalR hub for communicating with virtual machine console.

Inheritance diagram for Hubs.VirtualMachineConsoleHub:



Public Member Functions

- **VirtualMachineConsoleHub** (`IVirtualMachineConsoleService virtualMachineConsole`)
• `async Task JoinConsoleGroup (string uuid)`
Adds client to console group for a specific virtual machine.
• `async Task LeaveConsoleGroup (string uuid)`
Removes client from console group for a specific virtual machine.
• `TerminalDataResponse GetInitialDataForConsole (string uuid)`
Retrieves initial console data for a virtual machine.
• `void SendDataToConsole (SendDataToConsoleRequest request)`
Sends data to a virtual machine console.

5.108.1 Detailed Description

SignalR hub for communicating with virtual machine console.

5.108.2 Member Function Documentation

5.108.2.1 GetInitialDataForConsole()

```
TerminalDataResponse Hubs.VirtualMachineConsoleHub.GetInitialDataForConsole (
    string uuid) [inline]
```

Retrieves initial console data for a virtual machine.

Parameters

<i>uuid</i>	Virtual machine UUID.
-------------	-----------------------

Returns

Initial console data.

5.108.2.2 JoinConsoleGroup()

```
async Task Hubs.VirtualMachineConsoleHub.JoinConsoleGroup (
    string uuid) [inline]
```

Adds client to console group for a specific virtual machine.

Parameters

<i>uuid</i>	Virtual machine UUID.
-------------	-----------------------

5.108.2.3 LeaveConsoleGroup()

```
async Task Hubs.VirtualMachineConsoleHub.LeaveConsoleGroup (
    string uuid) [inline]
```

Removes client from console group for a specific virtual machine.

Parameters

<i>uuid</i>	Virtual machine UUID.
-------------	-----------------------

5.108.2.4 SendDataToConsole()

```
void Hubs.VirtualMachineConsoleHub.SendDataToConsole (
    SendDataToConsoleRequest request) [inline]
```

Sends data to a virtual machine console.

Parameters

<i>request</i>	Data to send.
----------------	---------------

The documentation for this class was generated from the following file:

- Hubs/VirtualMachineConsoleHub.cs

5.109 HubsTests.VirtualMachineConsoleHubTests Class Reference

Public Member Functions

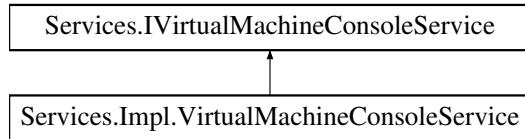
- void **Setup** ()
- void **TearDown** ()
- void **GetInitialDataForConsole_WhenInvoked_ShouldGetInitialDataForConsole** ()
- void **SendDataToConsole_WhenInvoked_ShouldSendDataToConsole** ()

The documentation for this class was generated from the following file:

- HubsTests/VirtualMachineConsoleHubTests.cs

5.110 Services.Impl.VirtualMachineConsoleService Class Reference

Inheritance diagram for Services.Impl.VirtualMachineConsoleService:



Public Member Functions

- **VirtualMachineConsoleService** ([IVirtualizationWrapper](#) virtualizationWrapper, [IVirtualMachineConsoleDataRepository](#) consoleDataRepository, [IVirtualMachineConsoleStreamRepository](#) consoleStreamRepository)
 - byte[] **GetInitialConsoleData** (Guid uuid)

Retrieves initial console data from a virtual machine.
 - **StreamData GetBytesFromConsole** ([StreamInfo](#) stream)

Retrieves data from a console stream.
 - **StreamInfo OpenVirtualMachineConsole** (Guid uuid)

Opens a virtual machine console stream.
 - void **SendBytesToVirtualMachineConsoleByUuid** (Guid uuid, string data)

Sends bytes to a virtual machine console.
 - List<[StreamInfo](#)> **GetStreams** ()

Retrieves a list of all opened streams.
 - void **CloseStream** ([StreamInfo](#) stream)

Closes a console stream.

5.110.1 Member Function Documentation

5.110.1.1 CloseStream()

```
void Services.Impl.VirtualMachineConsoleService.CloseStream (
    StreamInfo stream) [inline]
```

Closes a console stream.

Parameters

<i>stream</i>	Stream information to close.
---------------	------------------------------

Implements [Services.IVirtualMachineConsoleService](#).

5.110.1.2 GetBytesFromConsole()

```
StreamData Services.Impl.VirtualMachineConsoleService.GetBytesFromConsole (
    StreamInfo stream) [inline]
```

Retrieves data from a console stream.

Parameters

<i>stream</i>	Stream information.
---------------	---------------------

Returns

Stream data.

Implements [Services.IVirtualMachineConsoleService](#).

5.110.1.3 GetInitialConsoleData()

```
byte[] Services.Impl.VirtualMachineConsoleService.GetInitialConsoleData (
    Guid uuid) [inline]
```

Retrieves initial console data from a virtual machine.

Parameters

<i>uuid</i>	Virtual machine UUID.
-------------	-----------------------

Returns

Initial console data.

Implements [Services.IVirtualMachineConsoleService](#).

5.110.1.4 GetStreams()

```
List< StreamInfo > Services.Impl.VirtualMachineConsoleService.GetStreams () [inline]
```

Retrieves a list of all opened streams.

Returns

List of opened streams.

Implements [Services.IVirtualMachineConsoleService](#).

5.110.1.5 OpenVirtualMachineConsole()

```
StreamInfo Services.Impl.VirtualMachineConsoleService.OpenVirtualMachineConsole (
    Guid uuid) [inline]
```

Opens a virtual machine console stream.

Parameters

<i>uuid</i>	Virtual machine UUID.
-------------	-----------------------

Returns

Opened stream information.

Implements [Services.IVirtualMachineConsoleService](#).

5.110.1.6 SendBytesToVirtualMachineConsoleByUuid()

```
void Services.Impl.VirtualMachineConsoleService.SendBytesToVirtualMachineConsoleByUuid (
    Guid uuid,
    string bytes) [inline]
```

Sends bytes to a virtual machine console.

Parameters

<i>uuid</i>	Virtual machine UUID.
<i>bytes</i>	Bytes to send in text format.

Implements [Services.IVirtualMachineConsoleService](#).

The documentation for this class was generated from the following file:

- Services/Impl/VirtualMachineConsoleService.cs

5.111 ServicesTests.VirtualMachineConsoleServiceTests Class Reference**Public Member Functions**

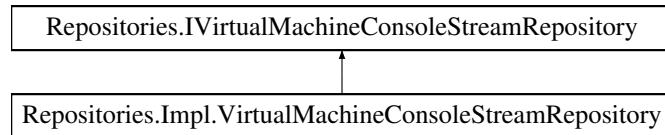
- void **Setup ()**
- void **GetInitialConsoleData_WhenInvoked_ShouldReturnInitialConsoleData ()**
- void **GetBytesFromConsole_WhenInvoked_ShouldGetBytesFromConsole ()**
- void **GetBytesFromConsole_WhenInvoked_ShouldSaveBytesToRepository ()**
- void **OpenVirtualMachineConsole_WhenInvoked_ShouldOpenVirtualMachineConsole ()**
- void **OpenVirtualMachineConsole_WhenInvokedAndVmCreated_ShouldAddStreamToRepository ()**
- void **SendBytesToVirtualMachineConsoleByUuid_WhenInvoked_ShouldSendDataToStream ()**
- void **SendBytesToVirtualMachineConsoleByUuid_WhenInvokedWithNotOpenedConsole_ShouldOpenConsole ()**
- void **GetStreams_WhenInvoked_ShouldReturnStreams ()**
- void **CloseStream_WhenInvoked_ShouldRemoveStreamFromRepository ()**
- void **CloseStream_WhenInvoked_ShouldCloseStream ()**

The documentation for this class was generated from the following file:

- ServicesTests/VirtualMachineConsoleServiceTests.cs

5.112 **Repositories.Impl.VirtualMachineConsoleStreamRepository** Class Reference

Inheritance diagram for **Repositories.Impl.VirtualMachineConsoleStreamRepository**:



Public Member Functions

- void [Add \(StreamInfo stream\)](#)
Adds a console stream to the repository.
- List<[StreamInfo](#)> [GetAllStreams \(\)](#)
Retrieves all opened streams.
- StreamInfo? [GetByUuid \(Guid uuid\)](#)
Retrieves a stream by virtual machine UUID.
- void [Remove \(StreamInfo stream\)](#)
Removes a console stream from the repository.

5.112.1 Member Function Documentation

5.112.1.1 Add()

```
void Repositories.Impl.VirtualMachineConsoleStreamRepository.Add (
    StreamInfo stream) [inline]
```

Adds a console stream to the repository.

Parameters

<code>stream</code>	Stream information.
---------------------	---------------------

Implements [Repositories.IVirtualMachineConsoleStreamRepository](#).

5.112.1.2 GetAllStreams()

```
List< StreamInfo > Repositories.Impl.VirtualMachineConsoleStreamRepository.GetAllStreams () [inline]
```

Retrieves all opened streams.

Returns

List of streams.

Implements [Repositories.IVirtualMachineConsoleStreamRepository](#).

5.112.1.3 GetByUuid()

```
StreamInfo? Repositories.Impl.VirtualMachineConsoleStreamRepository.GetByUuid (
    Guid uuid) [inline]
```

Retrieves a stream by virtual machine UUID.

Parameters

<i>uuid</i>	Virtual machine UUID.
-------------	-----------------------

Returns

Stream information or null.

Implements [Repositories.IVirtualMachineConsoleStreamRepository](#).

5.112.1.4 Remove()

```
void RepositoriesImpl.VirtualMachineConsoleStreamRepository.Remove (
    StreamInfo stream) [inline]
```

Removes a console stream from the repository.

Parameters

<i>stream</i>	Stream information.
---------------	---------------------

Implements [Repositories.IVirtualMachineConsoleStreamRepository](#).

The documentation for this class was generated from the following file:

- [Repositories/Impl/VirtualMachineConsoleStreamRepository.cs](#)

5.113 **RepositoriesTests.VirtualMachineConsoleStreamRepositoryTests** Class Reference

Public Member Functions

- void **Setup** ()
- void **Add_WhenInvoked_ShouldAddNewStream** ()
- void **GetAllStreams_WhenInvoked_ShouldGetAllStreams** ()
- void **Remove_WhenInvoked_ShouldRemoveStream** ()

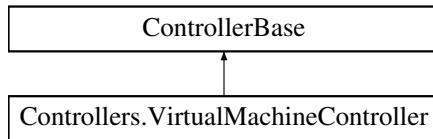
The documentation for this class was generated from the following file:

- [RepositoriesTests/VirtualMachineConsoleStreamRepositoryTests.cs](#)

5.114 Controllers.VirtualMachineController Class Reference

Controller managing virtual machines.

Inheritance diagram for Controllers.VirtualMachineController:



Public Member Functions

- **VirtualMachineController** (`IBootableDiskProviderService bootableDiskProviderService`)
• `async Task< ActionResult< BootableDisksResponse > > GetAvailableBootableDisks ()`
Retrieves a list of available bootable disks.

5.114.1 Detailed Description

Controller managing virtual machines.

5.114.2 Member Function Documentation

5.114.2.1 GetAvailableBootableDisks()

```
async Task< ActionResult< BootableDisksResponse > > Controllers.VirtualMachineController.GetAvailableBootableDisks () [inline]
```

Retrieves a list of available bootable disks.

Returns

List of bootable disks.

The documentation for this class was generated from the following file:

- Controllers/VirtualMachineController.cs

5.115 Models.VirtualMachineCreateDefinition Class Reference

Definition for creating a new virtual machine.

Public Member Functions

- `string GetVirtualMachineNameWithPrefix (string prefix)`
Generates a virtual machine name with a prefix.

Properties

- required string **Name** [get, set]

Virtual machine name.
- required uint **Memory** [get, set]

Amount of RAM memory in MB.
- required uint **VirtualCpus** [get, set]

Number of virtual CPUs.
- required string **BootableDiskPath** [get, set]

Path to the bootable disk.

5.115.1 Detailed Description

Definition for creating a new virtual machine.

5.115.2 Member Function Documentation

5.115.2.1 GetVirtualMachineNameWithPrefix()

```
string Models.VirtualMachineCreateDefinition.GetVirtualMachineNameWithPrefix (
    string prefix) [inline]
```

Generates a virtual machine name with a prefix.

Parameters

<i>prefix</i>	Prefix to add before the name.
---------------	--------------------------------

Returns

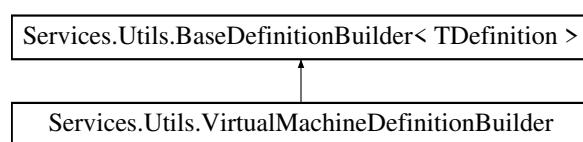
Virtual machine name with prefix.

The documentation for this class was generated from the following file:

- Models/VirtualMachineCreateDefinition.cs

5.116 Services.Utils.VirtualMachineDefinitionBuilder Class Reference

Inheritance diagram for Services.Utils.VirtualMachineDefinitionBuilder:



Public Member Functions

- `VirtualMachineDefinitionBuilder SetPrefix (string prefix)`
- override `VirtualMachineDefinitionBuilder SetFromCreateDefinition (VirtualMachineCreateDefinition definition)`
- override string `Build ()`

Public Member Functions inherited from `Services.Utils.BaseDefinitionBuilder< TDefinition >`

- `BaseDefinitionBuilder< TDefinition > SetFromCreateDefinition (TDefinition definition)`
- string `Build ()`

Additional Inherited Members

Protected Member Functions inherited from `Services.Utils.BaseDefinitionBuilder< TDefinition >`

- delegate void `BuildingBlock (XmlWriter writer)`
- void `CheckIsEverythingProvided (params object?[] args)`
- StringWriter `CreateXmlWriter ()`

Protected Attributes inherited from `Services.Utils.BaseDefinitionBuilder< TDefinition >`

- `XmlWriter`

The documentation for this class was generated from the following file:

- Services/Utils/VirtualMachineDefinitionBuilder.cs

5.117 ServicesTests.Utils.VirtualMachineDefinitionBuilderTests Class Reference

Public Member Functions

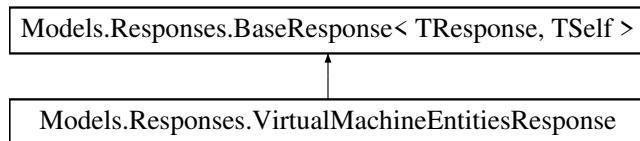
- void `OnSetup ()`
- void `Build_WhenNothingIsProvided_ShouldThrowException ()`
- void `SetFromCreateDefinition_WhenPrefixIsNotProvided_ShouldThrowException ()`
- void `Build_WhenBootableDiskPathProvided_ShouldIncludeBootableDiskPathInXml ()`
- void `Build_WhenMemoryProvided_ShouldIncludeMemoryInXml ()`
- void `Build_WhenNameProvided_ShouldIncludeNameInXml ()`
- void `Build_WhenVirtualCpusProvided_ShouldIncludeVirtualCpusInXml ()`

The documentation for this class was generated from the following file:

- ServicesTests/Utils/VirtualMachineDefinitionBuilderTests.cs

5.118 Models.Responses.VirtualMachineEntitiesResponse Class Reference

Inheritance diagram for Models.Responses.VirtualMachineEntitiesResponse:



Additional Inherited Members

Static Public Member Functions inherited from Models.Responses.BaseResponse< TResponse, TSelf >

- static TSelf [WithSuccess](#) (TResponse data)
Creates a successful response with data.
- static TSelf [WithEmptySuccess](#) ()
Creates an empty successful response.

Properties inherited from Models.Responses.BaseResponse< TResponse, TSelf >

- bool **Success** [get, set]
Indicates whether the operation was successful.
- string? **ErrorMessage** [get, set]
Error message, if any error occurred.
- TResponse? **Data** [get, set]
Response data.

The documentation for this class was generated from the following file:

- Models/Responses/VirtualMachineEntitiesResponse.cs

5.119 Models.DTO.VirtualMachineEntitiesWithMacAddressesDTO Class Reference

Properties

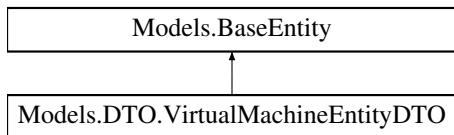
- required List< [VirtualMachineEntityDTO](#) > **VirtualMachineEntities** [get, set]
- required List< [VirtualMachineEntityMacAddressDTO](#) > **MacAddressEntities** [get, set]

The documentation for this class was generated from the following file:

- Models/DTO/VirtualMachineEntitiesWithMacAddressesDTO.cs

5.120 Models.DTO.VirtualMachineEntityDTO Class Reference

Inheritance diagram for Models.DTO.VirtualMachineEntityDTO:



Properties

- Guid? **VmUuid** [get, set]
- required string **Name** [get, set]
- VirtualMachineEntityType **Type** = VirtualMachineEntityType.Host [get, set]
- **VirtualMachineState State** = VirtualMachineState.Unknown [get, set]

Properties inherited from [Models.BaseEntity](#)

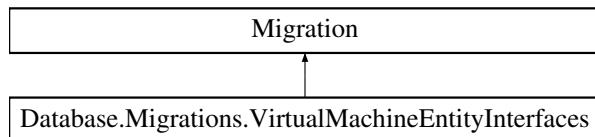
- required int **Id** [get, set]
Entity identifier.
- required int **X** [get, set]
X coordinate of the entity position on the board.
- required int **Y** [get, set]
Y coordinate of the entity position on the board.

The documentation for this class was generated from the following file:

- Models/DTO/VirtualMachineEntityDTO.cs

5.121 Database.Migrations.VirtualMachineEntityInterfaces Class Reference

Inheritance diagram for Database.Migrations.VirtualMachineEntityInterfaces:



Protected Member Functions

- override void **Up** (MigrationBuilder migrationBuilder)
- override void **Down** (MigrationBuilder migrationBuilder)
- override void **BuildTargetModel** (ModelBuilder modelBuilder)

5.121.1 Detailed Description

The documentation for this class was generated from the following files:

- Database/Migrations/20260118124006_VirtualMachineEntityInterfaces.cs
- Database/Migrations/20260118124006_VirtualMachineEntityInterfaces.Designer.cs

5.122 Models.DTO.VirtualMachineEntityMacAddressDTO Class Reference

Properties

- required int **VirtualMachineEntityId** [get, set]
- List< string > **MacAddresses** = [] [get, set]

The documentation for this class was generated from the following file:

- Models/DTO/VirtualMachineEntityMacAddressDTO.cs

5.123 Models.Database.VirtualMachineEntityModel Class Reference

[Database](#) model representing a virtual machine entity.

Properties

- int **Id** [get, set]
Entity identifier.
- Guid? **VmUuid** [get, set]
Virtual machine UUID in the hypervisor.
- required string **Name** [get, set]
Virtual machine name.
- VirtualMachineEntityType **Type** = VirtualMachineEntityType.Host [get, set]
Virtual machine entity type.
- required int **X** [get, set]
X coordinate of the entity position.
- required int **Y** [get, set]
Y coordinate of the entity position.

5.123.1 Detailed Description

[Database](#) model representing a virtual machine entity.

The documentation for this class was generated from the following file:

- Models/Database/VirtualMachineEntityModel.cs

5.124 Models.Database.VirtualMachineEntityNetworkInterfaceModel Class Reference

[Database](#) model representing a virtual machine network interface.

Properties

- int **Id** [get, set]
Interface identifier.
- required string **Definition** [get, set]
Network interface definition in XML format.
- int **VirtualMachineEntityId** [get, set]
Virtual machine entity identifier.
- [VirtualMachineEntityModel?](#) **VirtualMachineEntity** [get, set]
Virtual machine entity.
- int **VirtualNetworkEntityConnectionId** [get, set]
Network connection identifier.
- [VirtualNetworkEntityConnectionModel?](#) **VirtualNetworkEntityConnection** [get, set]
Network connection.

5.124.1 Detailed Description

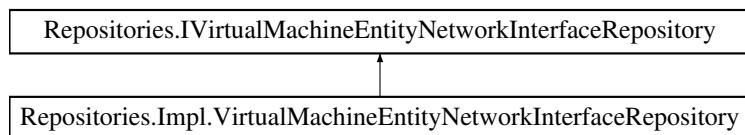
[Database](#) model representing a virtual machine network interface.

The documentation for this class was generated from the following file:

- Models/Database/VirtualMachineEntityNetworkInterfaceModel.cs

5.125 Repositories.IImpl.VirtualMachineEntityNetworkInterfaceRepository Class Reference

Inheritance diagram for `Repositories.IImpl.VirtualMachineEntityNetworkInterfaceRepository`:



Public Member Functions

- **VirtualMachineEntityNetworkInterfaceRepository** (`InterconnectDbContext` context)
- Task `Create` (`VirtualMachineEntityNetworkInterfaceModel` networkInterface)

Creates a new network interface.
- Task `Update` (`VirtualMachineEntityNetworkInterfaceModel` networkInterface)

Updates a network interface.
- Task `Remove` (`VirtualMachineEntityNetworkInterfaceModel` networkInterface)

Removes a network interface.
- Task<`VirtualMachineEntityNetworkInterfaceModel?`> `GetByIds` (int virtualMachineId, int connectionId)

Retrieves a network interface by virtual machine and connection identifiers.
- Task<`List<VirtualMachineEntityNetworkInterfaceModel>`>> `GetByNetworkName` (int virtualMachineId, string networkName)

Retrieves network interfaces connected to a specific network.
- Task<`List<VirtualMachineEntityNetworkInterfaceModel>`>> `GetByVirtualMachineId` (int id)

Retrieves all network interfaces for a virtual machine.

5.125.1 Member Function Documentation

5.125.1.1 Create()

```
Task Repositories.Impl.VirtualMachineEntityNetworkInterfaceRepository.Create (
    VirtualMachineEntityNetworkInterfaceModel networkInterface) [inline]
```

Creates a new network interface.

Parameters

<code>networkInterface</code>	Interface model to create.
-------------------------------	----------------------------

Implements `Repositories.IVirtualMachineEntityNetworkInterfaceRepository`.

5.125.1.2 GetByIds()

```
Task<VirtualMachineEntityNetworkInterfaceModel?> Repositories.Impl.VirtualMachineEntityNetworkInterfaceRepository.GetByIds (
    int virtualMachineId,
    int connectionId)
```

Retrieves a network interface by virtual machine and connection identifiers.

Parameters

<code>virtualMachineId</code>	Virtual machine identifier.
<code>connectionId</code>	Connection identifier.

Returns

Network interface or null.

Implements `Repositories.IVirtualMachineEntityNetworkInterfaceRepository`.

5.125.1.3 GetByNetworkName()

```
Task< List< VirtualMachineEntityNetworkInterfaceModel > > Repositories.Impl.VirtualMachineEntityNetworkInterfaceRepository.GetByNetworkName (
    int virtualMachineId,
    string networkName)
```

Retrieves network interfaces connected to a specific network.

Parameters

<i>virtualMachineId</i>	Virtual machine identifier.
<i>networkName</i>	Network name.

Returns

List of network interfaces.

Implements [Repositories.IVirtualMachineEntityNetworkInterfaceRepository](#).

5.125.1.4 GetByVirtualMachineId()

```
Task< List< VirtualMachineEntityNetworkInterfaceModel > > Repositories.Impl.VirtualMachineEntityNetworkInterfaceRepository.GetByVirtualMachineId (
    int id)
```

Retrieves all network interfaces for a virtual machine.

Parameters

<i>id</i>	Virtual machine identifier.
-----------	-----------------------------

Returns

List of network interfaces.

Implements [Repositories.IVirtualMachineEntityNetworkInterfaceRepository](#).

5.125.1.5 Remove()

```
Task Repositories.Impl.VirtualMachineEntityNetworkInterfaceRepository.Remove (
    VirtualMachineEntityNetworkInterfaceModel networkInterface) [inline]
```

Removes a network interface.

Parameters

<i>networkInterface</i>	Interface model to remove.
-------------------------	----------------------------

Implements [Repositories.IVirtualMachineEntityNetworkInterfaceRepository](#).

5.125.1.6 Update()

```
Task Repositories.Impl.VirtualMachineEntityNetworkInterfaceRepository.Update (
    VirtualMachineEntityNetworkInterfaceModel networkInterface) [inline]
```

Updates a network interface.

Parameters

<i>networkInterface</i>	Interface model to update.
-------------------------	----------------------------

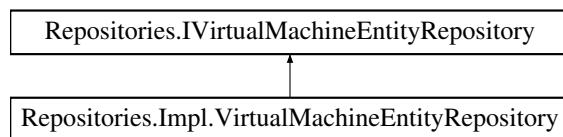
Implements [Repositories.IVirtualMachineEntityNetworkInterfaceRepository](#).

The documentation for this class was generated from the following file:

- [Repositories/Impl/VirtualMachineEntityNetworkInterfaceRepository.cs](#)

5.126 Repositories.Impl.VirtualMachineEntityRepository Class Reference

Inheritance diagram for [Repositories.Impl.VirtualMachineEntityRepository](#):



Public Member Functions

- **VirtualMachineEntityRepository** ([InterconnectDbContext](#) context)
- `async Task Add (VirtualMachineEntityModel model)`

Adds a new virtual machine entity.
- `async Task< List< VirtualMachineEntityModel > > GetAll ()`

Retrieves all virtual machine entities.
- `async Task< VirtualMachineEntityModel > GetById (int id)`

Retrieves a virtual machine entity by identifier.
- `async Task Update (VirtualMachineEntityModel model)`

Updates a virtual machine entity.

5.126.1 Member Function Documentation

5.126.1.1 Add()

```
async Task Repositories.Impl.VirtualMachineEntityRepository.Add (
    VirtualMachineEntityModel model) [inline]
```

Adds a new virtual machine entity.

Parameters

<i>model</i>	Entity model to add.
--------------	----------------------

Implements [Repositories.IVirtualMachineEntityRepository](#).

5.126.1.2 GetAll()

```
async Task< List< VirtualMachineEntityModel > > Repositories.Impl.VirtualMachineEntity←  
Repository.GetAll () [inline]
```

Retrieves all virtual machine entities.

Returns

List of entities.

Implements [Repositories.IVirtualMachineEntityRepository](#).

5.126.1.3 GetById()

```
async Task< VirtualMachineEntityModel > Repositories.Impl.VirtualMachineEntityRepository.Get←  
ById ( [inline]  
      int id)
```

Retrieves a virtual machine entity by identifier.

Parameters

<i>id</i>	Entity identifier.
-----------	--------------------

Returns

Virtual machine entity.

Implements [Repositories.IVirtualMachineEntityRepository](#).

5.126.1.4 Update()

```
async Task Repositories.Impl.VirtualMachineEntityRepository.Update ( [inline]  
                      VirtualMachineEntityModel model)
```

Updates a virtual machine entity.

Parameters

<i>model</i>	Entity model to update.
--------------	-------------------------

Implements [Repositories.IVirtualMachineEntityRepository](#).

The documentation for this class was generated from the following file:

- [Repositories/Impl/VirtualMachineEntityRepository.cs](#)

5.127 RepositoriesTests.VirtualMachineEntityRepositoryTests Class Reference

Public Member Functions

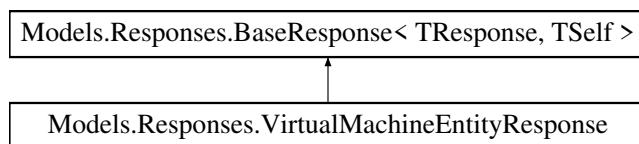
- void **Setup ()**
- void **Teardown ()**
- async Task **Add_WhenInvoked_ShouldAddEntity ()**
- async Task **GetAll_WhenInvoked_ShouldGetAllEntities ()**
- async Task **GetById_WhenInvoked_ShouldGetEntityById ()**
- async Task **Update_WhenInvoked_ShouldUpdateEntity ()**

The documentation for this class was generated from the following file:

- [RepositoriesTests/VirtualMachineEntityRepositoryTests.cs](#)

5.128 Models.Responses.VirtualMachineEntityResponse Class Reference

Inheritance diagram for [Models.Responses.VirtualMachineEntityResponse](#):



Additional Inherited Members

Static Public Member Functions inherited from [Models.Responses.BaseResponse< TResponse, TSelf >](#)

- static TSelf [WithSuccess](#) (TResponse data)
Creates a successful response with data.
- static TSelf [WithEmptySuccess](#) ()
Creates an empty successful response.

Properties inherited from [Models.Responses.BaseResponse< TResponse, TSelf >](#)

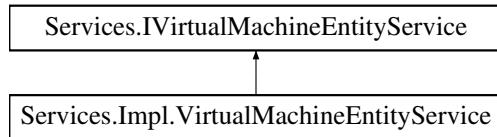
- bool **Success** [get, set]
Indicates whether the operation was successful.
- string? **ErrorMessage** [get, set]
Error message, if any error occurred.
- TResponse? **Data** [get, set]
Response data.

The documentation for this class was generated from the following file:

- [Models/Responses/VirtualMachineEntityResponse.cs](#)

5.129 Services.Impl.VirtualMachineEntityService Class Reference

Inheritance diagram for Services.Impl.VirtualMachineEntityService:



Public Member Functions

- **VirtualMachineEntityService** ([IVirtualMachineEntityRepository](#) repository, [IBootableDiskProviderService](#) bootableDiskProviderService, [IVirtualMachineManagerService](#) vmManagerService, [IVirtualMachineEntityNetworkInterfaceRepository](#) networkInterfaceRepository)
- `async Task< VirtualMachineEntityDTO > CreateEntity (string name, int bootableDiskId, uint memory, uint virtualCpus, VirtualMachineEntityType type, int x, int y)`
Creates a new virtual machine entity.
- `async Task< List< VirtualMachineEntityDTO > > GetEntities ()`
Retrieves a list of all virtual machine entities.
- `async Task< List< VirtualMachineEntityMacAddressDTO > > GetMacAddresses ()`
Retrieves a list of virtual machine MAC addresses.
- `async Task< VirtualMachineEntityDTO > GetByIid (int id)`
Retrieves a virtual machine entity by identifier.
- `async Task< VirtualMachineEntityDTO > UpdateEntityPosition (int id, int x, int y)`
Updates the position of a virtual machine entity on the board.
- `async Task< VirtualMachineEntityDTO > UpdateEntityVmUUID (int id, string uuid)`
Updates the virtual machine UUID for an entity.

5.129.1 Member Function Documentation

5.129.1.1 CreateEntity()

```
async Task< VirtualMachineEntityDTO > Services.Impl.VirtualMachineEntityService.CreateEntity (
    string name,
    int bootableDiskId,
    uint memory,
    uint virtualCpus,
    VirtualMachineEntityType type,
    int x,
    int y) [inline]
```

Creates a new virtual machine entity.

Parameters

<code>name</code>	Virtual machine name.
<code>bootableDiskId</code>	Bootable disk identifier.
<code>memory</code>	Amount of RAM in MB.
<code>virtualCpus</code>	Number of virtual CPUs.

<i>type</i>	Virtual machine entity type.
<i>x</i>	X coordinate position.
<i>y</i>	Y coordinate position.

Returns

Created virtual machine entity.

Implements [Services.IVirtualMachineEntityService](#).

5.129.1.2 GetById()

```
async Task< VirtualMachineEntityDTO > Services.Impl.VirtualMachineEntityService.GetById ( int id) [inline]
```

Retrieves a virtual machine entity by identifier.

Parameters

<i>id</i>	Entity identifier.
-----------	--------------------

Returns

Virtual machine entity.

Implements [Services.IVirtualMachineEntityService](#).

5.129.1.3 GetEntities()

```
async Task< List< VirtualMachineEntityDTO > > Services.Impl.VirtualMachineEntityService.GetEntities () [inline]
```

Retrieves a list of all virtual machine entities.

Returns

List of virtual machine entities.

Implements [Services.IVirtualMachineEntityService](#).

5.129.1.4 GetMacAddresses()

```
async Task< List< VirtualMachineEntityMacAddressDTO > > Services.Impl.VirtualMachineEntityService.GetMacAddresses () [inline]
```

Retrieves a list of virtual machine MAC addresses.

Returns

List of MAC addresses.

Implements [Services.IVirtualMachineEntityService](#).

5.129.1.5 UpdateEntityPosition()

```
async Task< VirtualMachineEntityDTO > Services.Impl.VirtualMachineEntityService.UpdateEntity←
Position (
    int id,
    int x,
    int y) [inline]
```

Updates the position of a virtual machine entity on the board.

Parameters

<i>id</i>	Entity identifier.
<i>x</i>	New X coordinate.
<i>y</i>	New Y coordinate.

Returns

Updated entity.

Implements [Services.IVirtualMachineEntityService](#).

5.129.1.6 UpdateEntityVmUUID()

```
async Task< VirtualMachineEntityDTO > Services.Impl.VirtualMachineEntityService.UpdateEntity←
VmUUID (
    int id,
    string uuid) [inline]
```

Updates the virtual machine UUID for an entity.

Parameters

<i>id</i>	Entity identifier.
<i>uuid</i>	New virtual machine UUID.

Returns

Updated entity.

Implements [Services.IVirtualMachineEntityService](#).

The documentation for this class was generated from the following file:

- Services/Impl/VirtualMachineEntityService.cs

5.130 ServicesTests.VirtualMachineEntityServiceTests Class Reference

Public Member Functions

- void **SetUp** ()
- async Task **CreateEntity_WhenInvoked_ShouldReturnEntity** ()
- async Task **CreateEntity_WhenInvoked_ShouldCreateEntityInRepository** ()
- async Task **GetEntities_WhenEntitiesExist_ShouldReturnListOfEntities** ()
- async Task **GetEntityById_WhenEntityExist_ShouldReturnEntity** ()
- async Task **UpdateEntityPosition_WhenEntityExist_UpdatesPosition** ()
- async Task **UpdateEntityVmUUID_WhenInvoked_ShouldUpdateEntityVmUUID** ()

The documentation for this class was generated from the following file:

- ServicesTests/VirtualMachineEntityServiceTests.cs

5.131 Models.VirtualMachineInfo Class Reference

Information about a virtual machine.

Properties

- required string **Uuid** [get, set]

Virtual machine UUID.
- required string **Name** [get, set]

Virtual machine name.
- required ulong **UsedMemory** [get, set]

Used memory in bytes.
- required byte **State** [get, set]

Virtual machine state.

5.131.1 Detailed Description

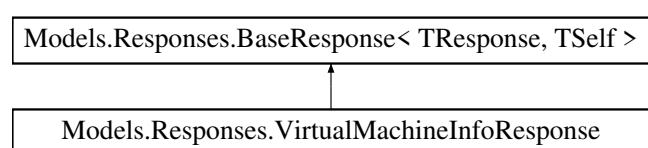
Information about a virtual machine.

The documentation for this class was generated from the following file:

- Models/VirtualMachineInfo.cs

5.132 Models.Responses.VirtualMachineInfoResponse Class Reference

Inheritance diagram for Models.Responses.VirtualMachineInfoResponse:



Additional Inherited Members

Static Public Member Functions inherited from Models.Responses.BaseResponse< TResponse, TSelf >

- static TSelf [WithSuccess](#) (TResponse data)
Creates a successful response with data.
- static TSelf [WithEmptySuccess](#) ()
Creates an empty successful response.

Properties inherited from Models.Responses.BaseResponse< TResponse, TSelf >

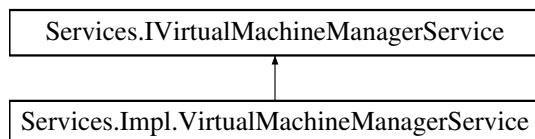
- bool **Success** [get, set]
Indicates whether the operation was successful.
- string? **ErrorMessage** [get, set]
Error message, if any error occurred.
- TResponse? **Data** [get, set]
Response data.

The documentation for this class was generated from the following file:

- Models/Responses/VirtualMachineInfoResponse.cs

5.133 Services.Impl.VirtualMachineManagerService Class Reference

Inheritance diagram for Services.Impl.VirtualMachineManagerService:



Public Member Functions

- **VirtualMachineManagerService** ([IVirtualizationWrapper](#) vmManager, [IOptions< InterconnectConfig >](#) config, [IVirtualMachineConsoleService](#) vmConsoleService)
- **VirtualMachineInfo CreateVirtualMachine** ([VirtualMachineCreateDefinition](#) definition)
Creates a new virtual machine in the hypervisor.
- **List< VirtualMachineInfo > GetListOfVirtualMachines** ()
Retrieves a list of all virtual machines from the hypervisor.
- **void AttachVirtualNetworkInterfaceToVirtualMachine** (string name, string networkName, string macAddress)
Attaches a network interface to a virtual machine.

5.133.1 Member Function Documentation

5.133.1.1 AttachVirtualNetworkInterfaceToVirtualMachine()

```

void Services.Impl.VirtualMachineManagerService.AttachVirtualNetworkInterfaceToVirtualMachine
(
    string name,
    string networkName,
    string macAddress) [inline]
  
```

Attaches a network interface to a virtual machine.

Parameters

<code>name</code>	Virtual machine name.
<code>networkName</code>	Virtual network name.
<code>macAddress</code>	Interface MAC address.

Implements [Services.IVirtualMachineManagerService](#).

5.133.1.2 CreateVirtualMachine()

```
VirtualMachineInfo Services.Impl.VirtualMachineManagerService.CreateVirtualMachine (
    VirtualMachineCreateDefinition definition) [inline]
```

Creates a new virtual machine in the hypervisor.

Parameters

<code>definition</code>	Virtual machine definition to create.
-------------------------	---------------------------------------

Returns

Information about the created virtual machine.

Implements [Services.IVirtualMachineManagerService](#).

5.133.1.3 GetListOfVirtualMachines()

```
List< VirtualMachineInfo > Services.Impl.VirtualMachineManagerService.GetListOfVirtualMachines
() [inline]
```

Retrieves a list of all virtual machines from the hypervisor.

Returns

List of virtual machines.

Implements [Services.IVirtualMachineManagerService](#).

The documentation for this class was generated from the following file:

- Services/Impl/VirtualMachineManagerService.cs

5.134 ServicesTests.VirtualMachineManagerServiceTests Class Reference

Public Member Functions

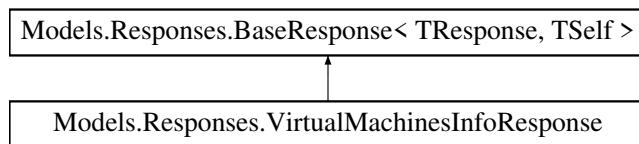
- void **SetUp** ()
- void **CreateVirtualMachine_WhenInvoked_ShouldCreateVirtualMachineUsingNativeLibrary** ()
- void **CreateVirtualMachine_AfterVirtualMachineCreated_ShouldOpenVirtualMachineConsole** ()
- void **GetListOfVirtualMachines_WhenInvoked_ShouldGetListOfVirtualMachinesUsingNativeLibrary** ()
- void **AttachVirtualNetworkInterfaceToVirtualMachine_WhenInvoked_ShouldAttachVirtualNetworkInterfaceToVirtualMachine** ()

The documentation for this class was generated from the following file:

- ServicesTests/VirtualMachineManagerServiceTests.cs

5.135 Models.Responses.VirtualMachinesInfoResponse Class Reference

Inheritance diagram for Models.Responses.VirtualMachinesInfoResponse:



Additional Inherited Members

Static Public Member Functions inherited from Models.Responses.BaseResponse< TResponse, TSelf >

- static TSelf **WithSuccess** (TResponse data)
Creates a successful response with data.
- static TSelf **WithEmptySuccess** ()
Creates an empty successful response.

Properties inherited from Models.Responses.BaseResponse< TResponse, TSelf >

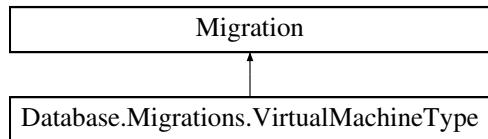
- bool **Success** [get, set]
Indicates whether the operation was successful.
- string? **ErrorMessage** [get, set]
Error message, if any error occurred.
- TResponse? **Data** [get, set]
Response data.

The documentation for this class was generated from the following file:

- Models/Responses/VirtualMachinesInfoResponse.cs

5.136 Database.Migrations.VirtualMachineType Class Reference

Inheritance diagram for Database.Migrations.VirtualMachineType:



Protected Member Functions

- override void **Up** (MigrationBuilder migrationBuilder)
- override void **Down** (MigrationBuilder migrationBuilder)
- override void **BuildTargetModel** (ModelBuilder modelBuilder)

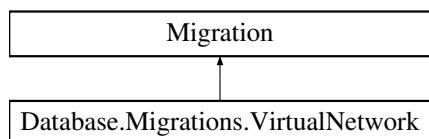
5.136.1 Detailed Description

The documentation for this class was generated from the following files:

- Database/Migrations/20260117231943_VirtualMachineType.cs
- Database/Migrations/20260117231943_VirtualMachineType.Designer.cs

5.137 Database.Migrations.VirtualNetwork Class Reference

Inheritance diagram for Database.Migrations.VirtualNetwork:



Protected Member Functions

- override void **Up** (MigrationBuilder migrationBuilder)
- override void **Down** (MigrationBuilder migrationBuilder)
- override void **BuildTargetModel** (ModelBuilder modelBuilder)

5.137.1 Detailed Description

The documentation for this class was generated from the following files:

- Database/Migrations/20250914132927_VirtualNetwork.cs
- Database/Migrations/20250914132927_VirtualNetwork.Designer.cs

5.138 Models.DTO.VirtualNetworkConnectionDTO Class Reference

Properties

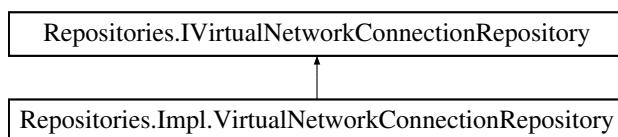
- required int **Id** [get, set]
- required int **SourceEntityId** [get, set]
- required **EntityType** **SourceEntityType** [get, set]
- required int **DestinationEntityId** [get, set]
- required **EntityType** **DestinationEntityType** [get, set]

The documentation for this class was generated from the following file:

- Models/DTO/VirtualNetworkConnectionDTO.cs

5.139 RepositoriesImpl.VirtualNetworkConnectionRepository Class Reference

Inheritance diagram for RepositoriesImpl.VirtualNetworkConnectionRepository:



Public Member Functions

- **VirtualNetworkConnectionRepository** (`InterconnectDbContext` context)
- `async Task< VirtualNetworkEntityConnectionModel > Create (int firstEntityId, EntityType firstEntityType, int secondEntityId, EntityType secondEntityType)`

Creates a new connection between two entities.
- `Task< List< VirtualNetworkEntityConnectionModel > > GetAll ()`

Retrieves all connections.
- `async Task< VirtualNetworkEntityConnectionModel > GetByld (int id)`

Retrieves a connection by identifier.
- `async Task< List< VirtualNetworkEntityConnectionModel > > GetUsingEntityId (int id, EntityType type)`

Retrieves connections associated with a specific entity.
- `async Task Remove (int id)`

Removes a connection.

5.139.1 Member Function Documentation

5.139.1.1 Create()

```

async Task< VirtualNetworkEntityConnectionModel > RepositoriesImpl.VirtualNetworkConnectionRepository.Create (
    int firstEntityId,
    EntityType firstEntityType,
    int secondEntityId,
    EntityType secondEntityType) [inline]
  
```

Creates a new connection between two entities.

Parameters

<i>firstEntityId</i>	First entity identifier.
<i>firstEntityType</i>	First entity type.
<i>secondEntityId</i>	Second entity identifier.
<i>secondEntityType</i>	Second entity type.

Returns

Created connection.

Implements [Repositories.IVirtualNetworkConnectionRepository](#).

5.139.1.2 GetAll()

```
Task< List< VirtualNetworkEntityConnectionModel > > Repositories.Impl.VirtualNetworkConnectionRepository.GetAll () [inline]
```

Retrieves all connections.

Returns

List of connections.

Implements [Repositories.IVirtualNetworkConnectionRepository](#).

5.139.1.3 GetById()

```
async Task< VirtualNetworkEntityConnectionModel > Repositories.Impl.VirtualNetworkConnectionRepository.GetById (
    int id) [inline]
```

Retrieves a connection by identifier.

Parameters

<i>id</i>	Connection identifier.
-----------	------------------------

Returns

Connection.

Implements [Repositories.IVirtualNetworkConnectionRepository](#).

5.139.1.4 GetUsingEntityId()

```
async Task< List< VirtualNetworkEntityConnectionModel > > Repositories.Impl.VirtualNetworkConnectionRepository.GetUsingEntityId (
    int id,
    EntityType type) [inline]
```

Retrieves connections associated with a specific entity.

Parameters

<i>id</i>	Entity identifier.
<i>type</i>	Entity type.

Returns

List of connections.

Implements [Repositories.IVirtualNetworkConnectionRepository](#).

5.139.1.5 Remove()

```
async Task RepositoriesImpl.VirtualNetworkConnectionRepository.Remove (
    int id) [inline]
```

Removes a connection.

Parameters

<i>id</i>	Connection identifier.
-----------	------------------------

Implements [Repositories.IVirtualNetworkConnectionRepository](#).

The documentation for this class was generated from the following file:

- [Repositories/Impl/VirtualNetworkConnectionRepository.cs](#)

5.140 RepositoriesTests.VirtualNetworkConnectionRepositoryTests Class Reference**Public Member Functions**

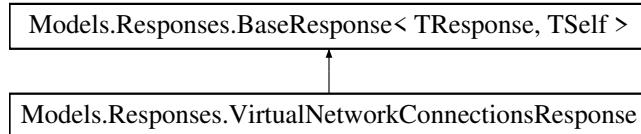
- void **SetUp** ()
- void **TearDown** ()
- async Task **Create_WhenInvoked_ShouldCreateVirtualNetworkConnectionEntity** ()
- async Task **GetAll_WhenInvoked_ShouldGetAllVirtualNetworkConnectionEntities** ()
- async Task **GetUsingEntityId_WhenInvokedWithSourceEntity_ShouldGetVirtualNetworkConnectionEntity** ()
- async Task **GetUsingEntityId_WhenInvokedWithDestinationEntity_ShouldGetVirtualNetworkConnectionEntity** ()

The documentation for this class was generated from the following file:

- [RepositoriesTests/VirtualNetworkConnectionRepositoryTests.cs](#)

5.141 Models.Responses.VirtualNetworkConnectionsResponse Class Reference

Inheritance diagram for Models.Responses.VirtualNetworkConnectionsResponse:



Additional Inherited Members

Static Public Member Functions inherited from Models.Responses.BaseResponse< TResponse, TSelf >

- static TSelf [WithSuccess](#) (TResponse data)
Creates a successful response with data.
- static TSelf [WithEmptySuccess](#) ()
Creates an empty successful response.

Properties inherited from Models.Responses.BaseResponse< TResponse, TSelf >

- bool **Success** [get, set]
Indicates whether the operation was successful.
- string? **ErrorMessage** [get, set]
Error message, if any error occurred.
- TResponse? **Data** [get, set]
Response data.

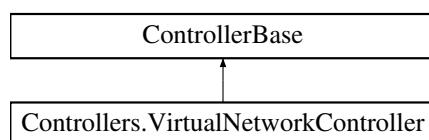
The documentation for this class was generated from the following file:

- Models/Responses/VirtualNetworkConnectionsResponse.cs

5.142 Controllers.VirtualNetworkController Class Reference

Controller managing virtual networks and connections.

Inheritance diagram for Controllers.VirtualNetworkController:



Public Member Functions

- **VirtualNetworkController** (IVirtualNetworkService virtualNetworkService, IEntitiesConnectorService entitiesConnectorService, IEntitiesDisconnecterService entitiesDisconnecterService)
- async Task<[VirtualNetworkConnectionsResponse](#)> **ConnectEntities** ([ConnectEntitiesRequest](#) req)
Connects two entities in the virtual network.
- async Task<[StringResponse](#)> **DisconnectEntities** ([VirtualNetworkEntityConnectionRequest](#) req)
Disconnects entities in the virtual network.
- async Task<[VirtualNetworkConnectionsResponse](#)> **GetAllConnections** ()
Retrieves all connections in the virtual network.

5.142.1 Detailed Description

Controller managing virtual networks and connections.

5.142.2 Member Function Documentation

5.142.2.1 ConnectEntities()

```
async Task<VirtualNetworkConnectionsResponse> Controllers.VirtualNetworkController.ConnectEntities (
    ConnectEntitiesRequest req) [inline]
```

Connects two entities in the virtual network.

Parameters

<i>req</i>	Connection data.
------------	------------------

Returns

Created connection.

5.142.2.2 DisconnectEntities()

```
async Task<StringResponse> Controllers.VirtualNetworkController.DisconnectEntities (
    VirtualNetworkEntityConnectionRequest req) [inline]
```

Disconnects entities in the virtual network.

Parameters

<i>req</i>	Connection data to remove.
------------	----------------------------

Returns

Operation confirmation.

5.142.2.3 GetAllConnections()

```
async Task< VirtualNetworkConnectionsResponse > Controllers.VirtualNetworkController.GetAllConnections () [inline]
```

Retrieves all connections in the virtual network.

Returns

List of connections.

The documentation for this class was generated from the following file:

- Controllers/VirtualNetworkController.cs

5.143 Models.VirtualNetworkCreateDefinition Class Reference

Definition for creating a new virtual network.

Properties

- required string **NetworkName** [get, set]
Virtual network name.
- required string **BridgeName** [get, set]
Network bridge name.
- bool? **ForwardNat** [get, set]
Whether to enable NAT for the network.
- string? **MacAddress** [get, set]
Network interface MAC address.
- string? **IpAddress** [get, set]
Network IP address.
- string? **NetMask** [get, set]
Subnet mask.
- string? **DhcpStartRange** [get, set]
DHCP range start address.
- string? **DhcpEndRange** [get, set]
DHCP range end address.

5.143.1 Detailed Description

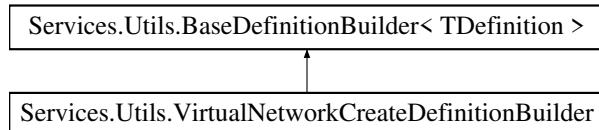
Definition for creating a new virtual network.

The documentation for this class was generated from the following file:

- Models/VirtualNetworkCreateDefinition.cs

5.144 Services.Utils.VirtualNetworkCreateDefinitionBuilder Class Reference

Inheritance diagram for Services.Utils.VirtualNetworkCreateDefinitionBuilder:



Public Member Functions

- override [VirtualNetworkCreateDefinitionBuilder](#) **SetFromCreateDefinition** ([VirtualNetworkCreateDefinition](#) definition)
- override string **Build** ()

Public Member Functions inherited from [Services.Utils.BaseDefinitionBuilder< TDefinition >](#)

- [BaseDefinitionBuilder< TDefinition >](#) **SetFromCreateDefinition** (TDefinition definition)
- string **Build** ()

Additional Inherited Members

Protected Member Functions inherited from [Services.Utils.BaseDefinitionBuilder< TDefinition >](#)

- delegate void **BuildingBlock** (XmlWriter writer)
- void **CheckIsEverythingProvided** (params object?[] args)
- StringWriter **CreateXmlWriter** ()

Protected Attributes inherited from [Services.Utils.BaseDefinitionBuilder< TDefinition >](#)

- **XmlWriter**

The documentation for this class was generated from the following file:

- Services/Utils/VirtualNetworkCreateDefinitionBuilder.cs

5.145 ServicesTests.Utils.VirtualNetworkDefinitionBuilderTests Class Reference

Public Member Functions

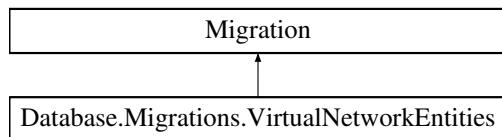
- void **OnSetup** ()
- void **Build_WhenNothingIsProvided_ShouldThrowException** ()
- void **Build_WhenInvoked_ShouldIncludeNetworkName** ()
- void **Build_WhenInvoked_ShouldIncludeMacAddress** ()
- void **Build_WhenInvoked_ShouldIncludeIpAddress** ()
- void **Build_WhenInvoked_ShouldIncludeNetmask** ()
- void **Build_WhenInvoked_ShouldIncludeDhcpRange** ()
- void **Build_WhenInvoked_ShouldIncludeBridgeName** ()
- void **Build_WhenInvokedWithDhcpDisabled_ShouldNotIncludeDhcpRange** ()

The documentation for this class was generated from the following file:

- ServicesTests/Utils/VirtualNetworkDefinitionBuilderTests.cs

5.146 Database.Migrations.VirtualNetworkEntities Class Reference

Inheritance diagram for Database.Migrations.VirtualNetworkEntities:



Protected Member Functions

- override void **Up** (MigrationBuilder migrationBuilder)
- override void **Down** (MigrationBuilder migrationBuilder)
- override void **BuildTargetModel** (ModelBuilder modelBuilder)

5.146.1 Detailed Description

The documentation for this class was generated from the following files:

- Database/Migrations/20250906140923_VirtualNetworkEntities.cs
- Database/Migrations/20250906140923_VirtualNetworkEntities.Designer.cs

5.147 Models.Database.VirtualNetworkEntityConnectionModel Class Reference

[Database](#) model representing a connection between entities in a virtual network.

Properties

- int **Id** [get, set]
Connection identifier.
- required int **SourceEntityId** [get, set]
Source entity identifier.
- required [EntityType](#) **SourceEntityType** [get, set]
Source entity type.
- required int **DestinationEntityId** [get, set]
Destination entity identifier.
- required [EntityType](#) **DestinationEntityType** [get, set]
Destination entity type.

5.147.1 Detailed Description

[Database](#) model representing a connection between entities in a virtual network.

The documentation for this class was generated from the following file:

- Models/Database/VirtualNetworkEntityConnectionModel.cs

5.148 Models.Requests.VirtualNetworkEntityConnectionRequest Class Reference

Properties

- required int **Id** [get, set]

The documentation for this class was generated from the following file:

- Models/Requests/VirtualNetworkEntityConnectionRequest.cs

5.149 Models.VirtualNetworkInterfaceCreateDefinition Class Reference

Definition for creating a network interface for a virtual machine.

Properties

- required string **MacAddress** [get, set]
Network interface MAC address.
- required string **NetworkName** [get, set]
Virtual network name to connect to.

5.149.1 Detailed Description

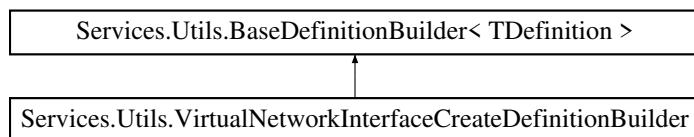
Definition for creating a network interface for a virtual machine.

The documentation for this class was generated from the following file:

- Models/VirtualNetworkInterfaceCreateDefinition.cs

5.150 Services.Utils.VirtualNetworkInterfaceCreateDefinitionBuilder Class Reference

Inheritance diagram for Services.Utils.VirtualNetworkInterfaceCreateDefinitionBuilder:



Public Member Functions

- override [VirtualNetworkInterfaceCreateDefinitionBuilder SetFromCreateDefinition](#) ([VirtualNetworkInterfaceCreateDefinition definition](#))
- [VirtualNetworkInterfaceCreateDefinitionBuilder SetFromXml](#) (string [xml](#))
- [VirtualNetworkInterfaceCreateDefinitionBuilder SetNetworkName](#) (string [networkName](#))
- override string **Build** ()

Public Member Functions inherited from Services.Utils.BaseDefinitionBuilder< TDefinition >

- [BaseDefinitionBuilder< TDefinition > SetFromCreateDefinition](#) ([TDefinition definition](#))
- string **Build** ()

Additional Inherited Members

Protected Member Functions inherited from Services.Utils.BaseDefinitionBuilder< TDefinition >

- delegate void **BuildingBlock** (XmlWriter writer)
- void **CheckIsEverythingIsProvided** (params object?[] args)
- StringWriter **CreateXmlWriter** ()

Protected Attributes inherited from Services.Utils.BaseDefinitionBuilder< TDefinition >

- XmlWriter

The documentation for this class was generated from the following file:

- Services/Utils/VirtualNetworkInterfaceDefinitionBuilder.cs

5.151 ServicesTests.Utils.VirtualNetworkInterfaceCreateDefinitionBuilderTests Class Reference

Public Member Functions

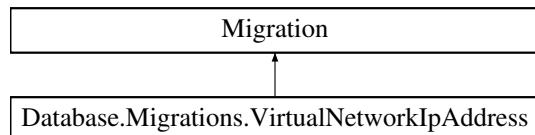
- void **OnSetup** ()
- void **Build_WhenNothingIsProvided_ShouldThrowException** ()
- void **Build_WhenInvoked_ShouldContainNetworkName** ()
- void **Build_WhenInvoked_ShouldContainMacAddress** ()

The documentation for this class was generated from the following file:

- ServicesTests/Utils/VirtualNetworkInterfaceCreateDefinitionBuilderTests.cs

5.152 Database.Migrations.VirtualNetworkIpAddress Class Reference

Inheritance diagram for Database.Migrations.VirtualNetworkIpAddress:



Protected Member Functions

- override void **Up** (MigrationBuilder migrationBuilder)
- override void **Down** (MigrationBuilder migrationBuilder)
- override void **BuildTargetModel** (ModelBuilder modelBuilder)

5.152.1 Detailed Description

The documentation for this class was generated from the following files:

- Database/Migrations/20250927161009_VirtualNetworkIpAddress.cs
- Database/Migrations/20250927161009_VirtualNetworkIpAddress.Designer.cs

5.153 Models.Database.VirtualNetworkModel Class Reference

[Database](#) model representing a virtual network.

Properties

- int **Id** [get, set]
Network identifier.
- required string **BridgeName** [get, set]
Network bridge name.
- required Guid **Uuid** [get, set]
Unique network UUID identifier.
- string? **IpAddress** [get, set]
Network IP address.
- List<[VirtualNetworkNodeEntityModel](#)> **VirtualNetworkNodes** = [] [get, set]
List of virtual network nodes.
- List<[InternetEntityModel](#)> **Internets** = [] [get, set]
List of Internet entities connected to the network.

5.153.1 Detailed Description

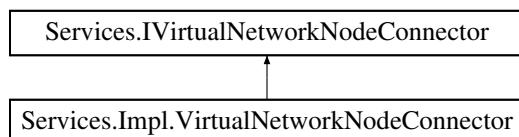
[Database](#) model representing a virtual network.

The documentation for this class was generated from the following file:

- Models/Database/VirtualNetworkModel.cs

5.154 Services.Impl.VirtualNetworkNodeConnector Class Reference

Inheritance diagram for Services.Impl.VirtualNetworkNodeConnector:



Public Member Functions

- **VirtualNetworkNodeConnector** ([IVirtualNetworkNodeEntityRepository](#) virtualNetworkNodeRepository, [IVirtualNetworkConnectionRepository](#) connectionRepository, [IVirtualNetworkRepository](#) networkRepository, [IIInternetEntityRepository](#) internetEntityRepository, [IVirtualNetworkService](#) virtualNetworkService, [IVirtualMachineEntityNetworkInterfaceRepository](#) networkInterfaceRepository)
virtualNetworkNodeRepository, connectionRepository, networkRepository, internetEntityRepository, virtualNetworkService, networkInterfaceRepository
- async Task<[VirtualNetworkConnectionDTO](#)> **ConnectTwoVirtualNetworkNodes** (int sourceVirtualNetworkNode, int destinationVirtualNetworkNode)
Connects two virtual network nodes.
- async Task **DisconnectTwoVirtualNetworkNodes** (int connectionId, int firstVirtualNetworkNodeId, int secondVirtualNetworkNode)
Disconnects two virtual network nodes.
- async Task<[VirtualNetworkConnectionDTO](#)> **ConnectVirtualNetworkNodeToInternet** (int virtualNetworkNodeId, int internetId)
Connects a virtual network node to the Internet.
- async Task **DisconnectVirtualNetworkNodeFromInternet** (int connectionId, int virtualNetworkNodeId)
Disconnects a virtual network node from the Internet.

5.154.1 Member Function Documentation

5.154.1.1 ConnectTwoVirtualNetworkNodes()

```
async Task< VirtualNetworkConnectionDTO > Services.Impl.VirtualNetworkNodeConnector.ConnectTwoVirtualNetworkNodes (
    int sourceVirtualNetworkNode,
    int destinationVirtualNetworkNode) [inline]
```

Connects two virtual network nodes.

Parameters

<i>sourceVirtualNetworkNode</i>	First node identifier.
<i>destinationVirtualNetworkNode</i>	Second node identifier.

Returns

Created connection data.

Implements [Services.IVirtualNetworkNodeConnector](#).

5.154.1.2 ConnectVirtualNetworkNodeToInternet()

```
async Task< VirtualNetworkConnectionDTO > Services.Impl.VirtualNetworkNodeConnector.ConnectVirtualNetworkNodeToInternet (
    int virtualNetworkNodeId,
    int internetId) [inline]
```

Connects a virtual network node to the Internet.

Parameters

<i>virtualNetworkNodeId</i>	Network node identifier.
<i>internetId</i>	Internet entity identifier.

Returns

Created connection data.

Implements [Services.IVirtualNetworkNodeConnector](#).

5.154.1.3 DisconnectTwoVirtualNetworkNodes()

```
async Task Services.Impl.VirtualNetworkNodeConnector.DisconnectTwoVirtualNetworkNodes (
    int connectionId,
    int firstVirtualNetworkNodeId,
    int secondVirtualNetworkNode) [inline]
```

Disconnects two virtual network nodes.

Parameters

<i>connectionId</i>	Connection identifier.
<i>firstVirtualNetworkNodeId</i>	First node identifier.
<i>secondVirtualNetworkNode</i>	Second node identifier.

Implements [Services.IVirtualNetworkNodeConnector](#).

5.154.1.4 DisconnectVirtualNetworkNodeFromInternet()

```
async Task Services.Implementation.VirtualNetworkNodeConnector.DisconnectVirtualNetworkNodeFromInternet
(
    int connectionId,
    int virtualNetworkNode←
    Nod→Id) [inline]
```

Disconnects a virtual network node from the Internet.

Parameters

<i>connectionId</i>	Connection identifier.
<i>virtualNetworkNode[←] Nod[→]Id</i>	Network node identifier.

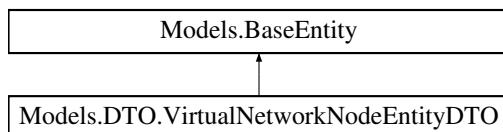
Implements [Services.IVirtualNetworkNodeConnector](#).

The documentation for this class was generated from the following file:

- Services/Impl/VirtualNetworkNodeConnector.cs

5.155 Models.DTO.VirtualNetworkNodeEntityDTO Class Reference

Inheritance diagram for Models.DTO.VirtualNetworkNodeEntityDTO:



Properties

- string? **Name** [get, set]
- Guid **Uuid** [get, set]

Properties inherited from [Models BaseEntity](#)

- required int **Id** [get, set]
Entity identifier.
- required int **X** [get, set]
X coordinate of the entity position on the board.
- required int **Y** [get, set]
Y coordinate of the entity position on the board.

The documentation for this class was generated from the following file:

- Models/DTO/VirtualNetworkNodeEntityDTO.cs

5.156 [Models Database VirtualNetworkNodeEntityModel Class Reference](#)

[Database](#) model representing a virtual network node (switch/router).

Properties

- int **Id** [get, set]
Node identifier.
- string? **Name** [get, set]
Network node name.
- required bool **Visible** [get, set]
Determines whether the node is visible on the board.
- int **X** [get, set]
X coordinate of the node position.
- int **Y** [get, set]
Y coordinate of the node position.
- required [VirtualNetworkModel](#) **VirtualNetwork** [get, set]
Virtual network to which the node belongs.

5.156.1 Detailed Description

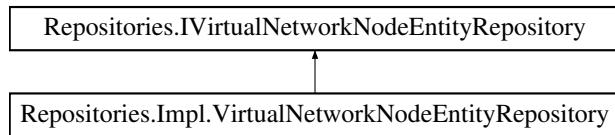
[Database](#) model representing a virtual network node (switch/router).

The documentation for this class was generated from the following file:

- Models/Database/VirtualNetworkNodeEntityModel.cs

5.157 Repositories.Impl.VirtualNetworkNodeEntityRepository Class Reference

Inheritance diagram for Repositories.Impl.VirtualNetworkNodeEntityRepository:



Public Member Functions

- **VirtualNetworkNodeEntityRepository** (`InterconnectDbContext` context)
- `async Task< VirtualNetworkNodeEntityModel > Create (string name, VirtualNetworkModel virtualNetwork)`
Creates a new visible virtual network node.
- `async Task< VirtualNetworkNodeEntityModel > CreateInvisible (VirtualNetworkModel virtualNetwork)`
Creates a new invisible virtual network node.
- `Task< List< VirtualNetworkNodeEntityModel > > GetAll ()`
Retrieves all virtual network nodes.
- `Task< VirtualNetworkNodeEntityModel > GetById (int id)`
Retrieves a virtual network node by identifier.
- `Task< List< VirtualNetworkNodeEntityModel > > GetVisible ()`
Retrieves visible virtual network nodes.
- `async Task Remove (int id)`
Removes a virtual network node.
- `async Task< VirtualNetworkNodeEntityModel > UpdateEntityPosition (int id, int x, int y)`
Updates the position of a virtual network node.
- `async Task< VirtualNetworkNodeEntityModel > UpdateNetwork (int id, VirtualNetworkModel virtualNetwork)`
Updates the virtual network for a node.

5.157.1 Member Function Documentation

5.157.1.1 Create()

```
async Task< VirtualNetworkNodeEntityModel > Repositories.Impl.VirtualNetworkNodeEntityRepository.←
Create (
    string name,
    VirtualNetworkModel virtualNetwork) [inline]
```

Creates a new visible virtual network node.

Parameters

<code>name</code>	Node name.
<code>virtualNetwork</code>	Virtual network.

Returns

Created node.

Implements [Repositories.IVirtualNetworkNodeEntityRepository](#).

5.157.1.2 CreateInvisible()

```
async Task< VirtualNetworkNodeEntityModel > Repositories.Impl.VirtualNetworkNodeEntityRepository.←
CreateInvisible (
    VirtualNetworkModel virtualNetwork) [inline]
```

Creates a new invisible virtual network node.

Parameters

<i>virtualNetwork</i>	Virtual network.
-----------------------	------------------

Returns

Created node.

Implements [Repositories.IVirtualNetworkNodeEntityRepository](#).

5.157.1.3 GetAll()

```
Task< List< VirtualNetworkNodeEntityModel > > Repositories.Impl.VirtualNetworkNodeEntity←
Repository.GetAll () [inline]
```

Retrieves all virtual network nodes.

Returns

List of nodes.

Implements [Repositories.IVirtualNetworkNodeEntityRepository](#).

5.157.1.4 GetById()

```
Task< VirtualNetworkNodeEntityModel > Repositories.Impl.VirtualNetworkNodeEntityRepository.←
GetById (
    int id) [inline]
```

Retrieves a virtual network node by identifier.

Parameters

<i>id</i>	Node identifier.
-----------	------------------

Returns

Network node.

Implements [Repositories.IVirtualNetworkNodeEntityRepository](#).

5.157.1.5 GetVisible()

```
Task< List< VirtualNetworkNodeEntityModel > > Repositories.Impl.VirtualNetworkNodeEntityRepository.GetVisible () [inline]
```

Retrieves visible virtual network nodes.

Returns

List of visible nodes.

Implements [Repositories.IVirtualNetworkNodeEntityRepository](#).

5.157.1.6 Remove()

```
async Task Repositories.Impl.VirtualNetworkNodeEntityRepository.Remove ( int id) [inline]
```

Removes a virtual network node.

Parameters

<i>id</i>	Node identifier.
-----------	------------------

Implements [Repositories.IVirtualNetworkNodeEntityRepository](#).

5.157.1.7 UpdateEntityPosition()

```
async Task< VirtualNetworkNodeEntityModel > Repositories.Impl.VirtualNetworkNodeEntityRepository.UpdateEntityPosition ( int id, int x, int y) [inline]
```

Updates the position of a virtual network node.

Parameters

<i>id</i>	Node identifier.
<i>x</i>	New X coordinate.
<i>y</i>	New Y coordinate.

Returns

Updated node.

Implements [Repositories.IVirtualNetworkNodeEntityRepository](#).

5.157.1.8 UpdateNetwork()

```
async Task< VirtualNetworkNodeEntityModel > Repositories.Impl.VirtualNetworkNodeEntityRepository.UpdateNetwork ( int id, VirtualNetworkModel virtualNetwork) [inline]
```

Updates the virtual network for a node.

Parameters

<i>id</i>	Node identifier.
<i>virtualNetwork</i>	New virtual network.

Returns

Updated node.

Implements [Repositories.IVirtualNetworkNodeEntityRepository](#).

The documentation for this class was generated from the following file:

- [Repositories/Impl/VirtualNetworkNodeEntityRepository.cs](#)

5.158 **RepositoriesTests.VirtualNetworkNodeEntityRepositoryTests** Class Reference

Public Member Functions

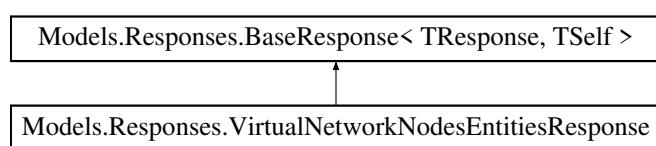
- void **SetUp** ()
- void **Teardown** ()
- async Task **Create_WhenInvoked_ShouldCreateVisibleVirtualNetworkNode** ()
- async Task **Create_WhenInvoked_ShouldCreateInvisibleVirtualNetworkNode** ()
- async Task **GetAll_WhenInvoked_ShouldGetAllVirtualNetworkNodes** ()
- async Task **GetById_WhenInvokedWithCorrectId_ShouldGetVirtualNetworkNodeById** ()
- async Task **UpdateEntityPosition_WhenInvoked_ShouldUpdateEntityPosition** ()

The documentation for this class was generated from the following file:

- [RepositoriesTests/VirtualNetworkNodeEntityRepositoryTests.cs](#)

5.159 **Models.Responses.VirtualNetworkNodesEntitiesResponse** Class Reference

Inheritance diagram for **Models.Responses.VirtualNetworkNodesEntitiesResponse**:



Additional Inherited Members

Static Public Member Functions inherited from Models.Responses.BaseResponse< TResponse, TSelf >

- static TSelf [WithSuccess](#) (TResponse data)
Creates a successful response with data.
- static TSelf [WithEmptySuccess](#) ()
Creates an empty successful response.

Properties inherited from Models.Responses.BaseResponse< TResponse, TSelf >

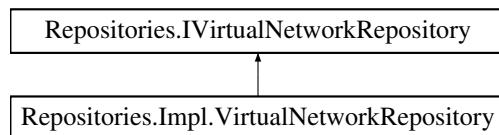
- bool **Success** [get, set]
Indicates whether the operation was successful.
- string? **ErrorMessage** [get, set]
Error message, if any error occurred.
- TResponse? **Data** [get, set]
Response data.

The documentation for this class was generated from the following file:

- Models/Responses/VirtualNetworkNodesEntitiesResponse.cs

5.160 Repositories.Impl.VirtualNetworkRepository Class Reference

Inheritance diagram for Repositories.Impl.VirtualNetworkRepository:



Public Member Functions

- **VirtualNetworkRepository** ([InterConnectDbContext](#) context)
- [async Task< VirtualNetworkModel > Create](#) (string bridgeName, Guid uuid, string? ipAddress=null)
Creates a new virtual network.
- [Task< List< VirtualNetworkModel > > GetAll](#) ()
Retrieves all virtual networks.
- [Task< VirtualNetworkModel > GetByBridgeName](#) (string bridgeName)
Retrieves a virtual network by bridge name.
- [Task< VirtualNetworkModel > GetById](#) (int id)
Retrieves a virtual network by identifier.
- [Task< VirtualNetworkModel > GetByUuid](#) (Guid uuid)
Retrieves a virtual network by UUID.
- [Task< VirtualNetworkModel > GetByUuidWithVirtualNetworkNodes](#) (Guid uuid)
Retrieves a virtual network with nodes by UUID.
- [async Task Remove](#) (int id)
Removes a virtual network.

5.160.1 Member Function Documentation

5.160.1.1 Create()

```
async Task< VirtualNetworkModel > Repositories.Impl.VirtualNetworkRepository.Create (
    string bridgeName,
    Guid uuid,
    string? ipAddress = null) [inline]
```

Creates a new virtual network.

Parameters

<i>bridgeName</i>	Network bridge name.
<i>uuid</i>	Network UUID.
<i>ipAddress</i>	Network IP address (optional).

Returns

Created virtual network.

Implements [Repositories.IVirtualNetworkRepository](#).

5.160.1.2 GetAll()

```
Task< List< VirtualNetworkModel > > Repositories.Impl.VirtualNetworkRepository.GetAll () [inline]
```

Retrieves all virtual networks.

Returns

List of virtual networks.

Implements [Repositories.IVirtualNetworkRepository](#).

5.160.1.3 GetByBridgeName()

```
Task< VirtualNetworkModel > Repositories.Impl.VirtualNetworkRepository.GetByBridgeName (
    string bridgeName) [inline]
```

Retrieves a virtual network by bridge name.

Parameters

<i>bridgeName</i>	Network bridge name.
-------------------	----------------------

Returns

Virtual network.

Implements [Repositories.IVirtualNetworkRepository](#).

5.160.1.4 GetById()

```
Task< VirtualNetworkModel > Repositories.Impl.VirtualNetworkRepository.GetById (
    int id) [inline]
```

Retrieves a virtual network by identifier.

Parameters

<i>id</i>	Network identifier.
-----------	---------------------

Returns

Virtual network.

Implements [Repositories.IVirtualNetworkRepository](#).

5.160.1.5 GetByUuid()

```
Task< VirtualNetworkModel > Repositories.Impl.VirtualNetworkRepository.GetByUuid (
    Guid uuid) [inline]
```

Retrieves a virtual network by UUID.

Parameters

<i>uuid</i>	Network UUID.
-------------	---------------

Returns

Virtual network.

Implements [Repositories.IVirtualNetworkRepository](#).

5.160.1.6 GetByUuidWithVirtualNetworkNodes()

```
Task< VirtualNetworkModel > Repositories.Impl.VirtualNetworkRepository.GetByUuidWithVirtual←
NetworkNodes (
    Guid uuid) [inline]
```

Retrieves a virtual network with nodes by UUID.

Parameters

<i>uuid</i>	Network UUID.
-------------	---------------

Returns

Virtual network with nodes.

Implements [Repositories.IVirtualNetworkRepository](#).

5.160.1.7 Remove()

```
async Task Repositories.Impl.VirtualNetworkRepository.Remove (
    int id) [inline]
```

Removes a virtual network.

Parameters

<i>id</i>	Network identifier.
-----------	---------------------

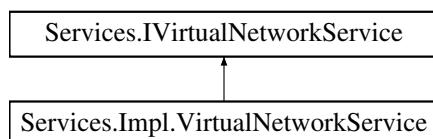
Implements [Repositories.IVirtualNetworkRepository](#).

The documentation for this class was generated from the following file:

- [Repositories/Impl/VirtualNetworkRepository.cs](#)

5.161 Services.Impl.VirtualNetworkService Class Reference

Inheritance diagram for Services.Impl.VirtualNetworkService:



Public Member Functions

- **VirtualNetworkService** ([IVirtualizationWrapper](#) wrapper, [IVirtualMachineEntityRepository](#) vmEntityRepository, [IVirtualNetworkConnectionRepository](#) connectionRepository, [IVirtualNetworkNodeEntityRepository](#) virtualNetworkNodeRepository, [IVirtualNetworkRepository](#) networkRepository, [IPacketSnifferService](#) packetSnifferService, [IVirtualMachineEntityNetworkInterfaceRepository](#) networkInterfaceRepository)
 - `async Task< List< VirtualNetworkConnectionDTO > > GetVirtualNetworkConnections ()`

Retrieves a list of all connections in the virtual network.
 - `async Task< VirtualNetworkNodeEntityDTO > CreateVirtualNetworkNode (string? name)`

Creates a new virtual network node.
 - `async Task< List< VirtualNetworkNodeEntityDTO > > GetVisibleVirtualNetworkNodeEntities ()`

Retrieves a list of visible virtual network nodes.
 - `async Task< VirtualNetworkNodeEntityDTO > UpdateVirtualNetworkNodeEntityPosition (int entityId, int x, int y)`

Updates the position of a virtual network node.
 - `async Task AttachNetworkInterfaceToVirtualMachine (int vmlId, int connectionId, VirtualNetworkInterfaceCreateDefinition interfaceDefinition)`

Attaches a network interface to a virtual machine.
 - `async Task UpdateNetworkForVirtualMachineNetworkInterface (int vmlId, int connectionId, string networkName)`

Updates the network for a virtual machine network interface.
 - `async Task< VirtualNetworkModel > CreateNodeVirtualNetwork ()`

Creates a virtual network for a network node.
 - `async Task< VirtualNetworkModel > CreateInternetVirtualNetwork ()`

Creates a virtual network for Internet connection.
 - `Task< List< VirtualNetworkModel > > GetAllVirtualNetworks ()`

Retrieves all virtual networks.
 - `Task< VirtualNetworkModel > GetVirtualNetworkUsingBridgeName (string bridgeName)`

Retrieves a virtual network based on bridge name.

5.161.1 Member Function Documentation

5.161.1.1 AttachNetworkInterfaceToVirtualMachine()

```
async Task Services.Impl.VirtualNetworkService.AttachNetworkInterfaceToVirtualMachine (
    int vmId,
    int connectionId,
    VirtualNetworkInterfaceCreateDefinition interfaceDefinition) [inline]
```

Attaches a network interface to a virtual machine.

Parameters

<i>vmId</i>	Virtual machine identifier.
<i>connectionId</i>	Connection identifier.
<i>interfaceDefinition</i>	Network interface definition.

Implements [Services.IVirtualNetworkService](#).

5.161.1.2 CreateInternetVirtualNetwork()

```
async Task< VirtualNetworkModel > Services.Impl.VirtualNetworkService.CreateInternetVirtual←
Network () [inline]
```

Creates a virtual network for Internet connection.

Returns

Created virtual network.

Implements [Services.IVirtualNetworkService](#).

5.161.1.3 CreateNodeVirtualNetwork()

```
async Task< VirtualNetworkModel > Services.Impl.VirtualNetworkService.CreateNodeVirtualNetwork
() [inline]
```

Creates a virtual network for a network node.

Returns

Created virtual network.

Implements [Services.IVirtualNetworkService](#).

5.161.1.4 CreateVirtualNetworkNode()

```
async Task< VirtualNetworkNodeEntityDTO > Services.Impl.VirtualNetworkService.CreateVirtual←
NetworkNode (
    string? name) [inline]
```

Creates a new virtual network node.

Parameters

<i>name</i>	Node name.
-------------	------------

Returns

Created network node.

Implements [Services.IVirtualNetworkService](#).

5.161.1.5 GetAllVirtualNetworks()

```
Task< List< VirtualNetworkModel > > Services.Impl.VirtualNetworkService.GetAllVirtualNetworks()
() [inline]
```

Retrieves all virtual networks.

Returns

List of virtual networks.

Implements [Services.IVirtualNetworkService](#).

5.161.1.6 GetVirtualNetworkConnections()

```
async Task< List< VirtualNetworkConnectionDTO > > Services.Impl.VirtualNetworkService.GetVirtualNetworkConnections()
() [inline]
```

Retrieves a list of all connections in the virtual network.

Returns

List of connections.

Implements [Services.IVirtualNetworkService](#).

5.161.1.7 GetVirtualNetworkUsingBridgeName()

```
Task< VirtualNetworkModel > Services.Impl.VirtualNetworkService.GetVirtualNetworkUsingBridgeName(
    string bridgeName) [inline]
```

Retrieves a virtual network based on bridge name.

Parameters

<i>bridgeName</i>	Network bridge name.
-------------------	----------------------

Returns

Virtual network.

Implements [Services.IVirtualNetworkService](#).

5.161.1.8 GetVisibleVirtualNetworkNodeEntities()

```
async Task< List< VirtualNetworkNodeEntityDTO > > Services.Impl.VirtualNetworkService.GetVisibleVirtualNetworkNodeEntities () [inline]
```

Retrieves a list of visible virtual network nodes.

Returns

List of visible nodes.

Implements [Services.IVirtualNetworkService](#).

5.161.1.9 UpdateNetworkForVirtualMachineNetworkInterface()

```
async Task Services.Impl.VirtualNetworkService.UpdateNetworkForVirtualMachineNetworkInterface (
    int vmId,
    int connectionId,
    string networkName) [inline]
```

Updates the network for a virtual machine network interface.

Parameters

<i>vmId</i>	Virtual machine identifier.
<i>connectionId</i>	Connection identifier.
<i>networkName</i>	New network name.

Implements [Services.IVirtualNetworkService](#).

5.161.1.10 UpdateVirtualNetworkNodeEntityPosition()

```
async Task< VirtualNetworkNodeEntityDTO > Services.Impl.VirtualNetworkService.UpdateVirtualNetworkNodeEntityPosition (
    int entityId,
    int x,
    int y) [inline]
```

Updates the position of a virtual network node.

Parameters

<i>entityId</i>	Node identifier.
<i>x</i>	New X coordinate.
<i>y</i>	New Y coordinate.

Returns

Updated node.

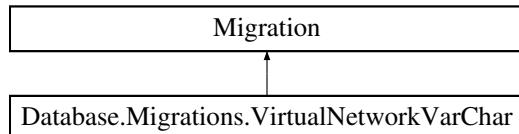
Implements [Services.IVirtualNetworkService](#).

The documentation for this class was generated from the following file:

- Services/Impl/VirtualNetworkService.cs

5.162 Database.Migrations.VirtualNetworkVarChar Class Reference

Inheritance diagram for Database.Migrations.VirtualNetworkVarChar:



Protected Member Functions

- override void **Up** (MigrationBuilder migrationBuilder)
- override void **Down** (MigrationBuilder migrationBuilder)
- override void **BuildTargetModel** (ModelBuilder modelBuilder)

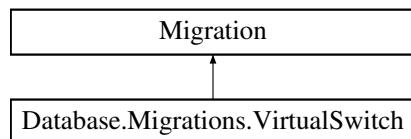
5.162.1 Detailed Description

The documentation for this class was generated from the following files:

- Database/Migrations/20250927161142_VirtualNetworkVarChar.cs
- Database/Migrations/20250927161142_VirtualNetworkVarChar.Designer.cs

5.163 Database.Migrations.VirtualSwitch Class Reference

Inheritance diagram for Database.Migrations.VirtualSwitch:



Protected Member Functions

- override void **Up** (MigrationBuilder migrationBuilder)
- override void **Down** (MigrationBuilder migrationBuilder)
- override void **BuildTargetModel** (ModelBuilder modelBuilder)

5.163.1 Detailed Description

The documentation for this class was generated from the following files:

- Database/Migrations/20250906192140_VirtualSwitch.cs
- Database/Migrations/20250906192140_VirtualSwitch.Designer.cs

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