Demand Asset Data Model

Data Dictionary

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Tables

Objects

Name
app.app_config *Table to store configuration for DDM to Demand asset transfer within the app.*
app.ddm_dimensions *Stores table/field information to populate Demand asset dimensions from a DDM.*
app.ddm_filter_values *Stores any filters that need to be applied to data during transfer from DDM to Demand asset.*
app.ddm_filters *Defines a filter to use for DDM to Demand asset transfer.*
config.advanced_params *Parameters that can be configurable in the workflow apart from the ones in the application UI are present in this table. These are configured at the run configuration level.*
config.algorithm_overrides *Specifies algorithms to override for specified LOD groups from the time_series_groups table.*
config.feature_assignment *The feature assignment table works in tandem with the feature_groups table, allowing for granular assignment of feature groups to a specific LOD.*
config.feature_availability_prediction_time *Whether forward-looking features are available/to be used in model training or not, can be configured accordingly using these tables. If forward looking data is not present/ not intended to use, we consider only lags of the corresponding feature in the training process. We recommend using forward-looking features corresponding to the forecast horizon only when: (1) Features are available at prediction time (e.g. price); (2) We have high confidence in the accuracy of forecasted features and we are not executing extensive back-testing techniques (e.g no multi-fold evaluation); or, (3) If the focus is not to learn from the past but to perform scenario analysis. In this case, a what-if approach is required to make assumptions of the future*
config.feature_groups *The trend cloud features are treated as common features across time series. But in cases where this assumption does not apply then these tables can be used to assign a group of trend cloud features to a particular group of time series. It gives the flexibility to use different features for modelling different time series.*
config.input_parameters *Parameters that are fed into the algorithm execution, based on a specified run_config_id for the particular algorithm execution. This table is provided in "wide format" for compatibility with the app studio UI.*
config.run_config *The run config table is the core table in the config schema. All other tables in this schema are foreign-keyed to the `run_config_id`. There are several stored procedures detailed below that rely on this table as well that can be used to manage run configurations.*
config.time_series_groups *Algorithm_overrides can be used in tandem with time_series_groups to assign a particular algorithm to a particular group of time series. It gives the flexibility to override to execute a few specific algorithms for a few LODs. Maybe after executing the "Demand Modeler Workflow" and analyzing the outputs, based on execution learning, users can use the "Algorithm Override" table to override a few specific algorithms for a few LODs. Ideally, users should leverage all computational resources at once, analyze the strategy outputs and warnings and manually update the "Algorithm Override" table to improve future executions.*
input.app_aliases *Supports aliasing on the application front end.*
input.app_ddm_transfer *Supports saving of the most recent DDM transfer configuration.*
input.event_info *The Event Info table helps us to store information regarding promotions, calendar events etc. that occur over a duration of time. They can be only timestamp specific (or) correspond to different dimensions in level of detail along with the timestamp.*

input.mapped_features
Mapped features table helps us to include additional internal or external time series that can be used as features to enhance the learning process. These tables are also time-dependent, so a timestamp column is present. The features can correspond to different dimensions in level of detail. In the demand forecasting example, a mapped features table might have Location Item price or Location weather as a field, but not demand. Only multivariate methods that accept external features can take advantage of these features. We recommend using forward-looking features corresponding to the forecast horizon only when: (1) Features are available at prediction time (e.g., price). (2) We have high confidence in the accuracy of forecasted features and we are not executing extensive back-testing techniques (e.g., no multi-fold evaluation). (3) If the focus is not to learn from the past but to perform scenario analysis. In this case, a what-if approach is required to make assumptions of the future. Whether forward-looking features are available/to be used in model training or not, can be configured accordingly in the "Feature Availability at Prediction Time" table. If forward looking data is not present/ not intended to use, we consider only lags of the corresponding feature in the training process.

input.target_time_series
Stores all the time series we are trying to forecast. It is a transactional table that stores historical data on the target value. It is keyed by a number of dimensions (the Level of Detail or LOD), such as city or sku, used to link each record to corresponding data in other tables. It includes a timestamp column that lists the date of each historical data point and is used to link the record to corresponding data in other tables. Also, it contains a column containing the historical value, which should always be present for all rows to ensure more accurate forecasts.

input.target_time_series_agg
Stores values prepared by the forecasting process, at the aggregation level specified by the most recent Demand Modeler execution. Consider the scenario where data in the target_time_series table is stored at a Weekly aggregation and forecasting is configured at the Monthly level - this table will be stored at the Monthly level. Its purpose is to serve as a helper for reporting, since timestamps in the target_output table can join directly to this.

input.trend_cloud_feature_selection
High-level list of all available data in trend cloud. Data is cleaned a presented for easier feature selection relative to the raw representation found in the `trend_cloud_metadata` table. Setting the `is_selected` Boolean variable to True a user can choose which features to be used in model training. This is a core table used in the `pull_trend_cloud_data` action, defining trend cloud time series data that needs to be fetched.

input.trend_cloud_features
Trend cloud features are time-dependent. These are the economic index related features, weather related features etc. available in the Data Cube. The main difference of the Trend cloud features table is that it is independent of level of detail dimensions. It is populated from the trend_cloud_feature_selection table where used = TRUE.

input.trend_cloud_metadata
Most granular representation of trend cloud data, containing mapping to time series ids that allow for trend cloud data to be fetched from the trend cloud itself. It is meant to be joined on the `trend_cloud_feature_selection` table to obtain the full set of trend cloud data targeted as input for the use case.

master.dim_1_dim_2_dim_3_master
Combined master data tables include attributes or hierarchies or categorical variables associated with dimensional combinations in the level of detail. These attributes can provide a valuable context in time series modeling in global context. In the current version we support a maximum of 10 attributes for each dimension.

master.dim_1_dim_2_master
Combined master data tables include attributes or hierarchies or categorical variables associated with dimensional combinations in the level of detail. These attributes can provide a valuable context in time series modeling in global context. In the current version we support a maximum of 10 attributes for each dimension.

master.dim_1_dim_3_master
Combined master data tables include attributes or hierarchies or categorical variables associated with dimensional combinations in the level of detail. These attributes can provide a valuable context in time series modeling in global context. In the current version we support a maximum of 10 attributes for each dimension.

master.dim_1_master
Master data tables include attributes or hierarchies or categorical variables associated with dimensions in the level of detail. These attributes can provide a valuable context in time series modeling in global context. In the current version we support a maximum of 10 attributes for each dimension.

master.dim_2_dim_3_master
Combined master data tables include attributes or hierarchies or categorical variables associated with dimensional combinations in the level of detail. These attributes can provide a valuable context in time series modeling in global context. In the current version we support a maximum of 10 attributes for each dimension.

master.dim_2_master
Master data tables include attributes or hierarchies or categorical variables associated with dimensions in the level of detail. These attributes can provide a valuable context in time series modeling in global context. In the current version we support a maximum of 10 attributes for each dimension.

master.dim_3_master *Master data tables include attributes or hierarchies or categorical variables associated with dimensions in the level of detail. These attributes can provide a valuable context in time series modeling in global context. In the current version we support a maximum of 10 attributes for each dimension.*
master.main_master *Stores valid dimension 1, 2, 3 combinations. A trigger AFTER INSERT to the target_time_series table will ensure consistency with combinations in target_time_series as rows are added. This table is referenced in dbo views to recreate prevous table structure with verbose dimension listings.*
output.correlation_table *This table contains correlation of target value per level of detail with raw/ derived features.*
output.error_metrics *This table contains the user selected error metrics at LOD - Model - Fold level on the validation folds. It should help users identify LODs that have great/poor forecasts and the best models identified for each of the LODs.*
output.estimator_configuration *Optional table to show estimator-specific information.*
output.estimator_lod_mapping *Optional table that shows which estimators were selected for a given LOD for a given algorithm run id.*
output.feature_report *This table summarizes the output of feature selection step. It included both raw as well as derived features and 'selected' boolean variable indicating the feature is selected after the feature selection process.*
output.target_output *This table contains predictions and forecasts values at LOD – Model - Fold level. It also contains actuals corresponding to the validation window.*
output.time_series_attributes *Time series attributes table contains the values of a few a important attributes like num_observations, target_mean, target_variance, etc. for each time series. It is in long format to make it independent of the number of attributes generated.*
output.time_series_excluded *This table contains information of all the time series for which the forecasts are not generated along with corresponding reason.*
output.trend_seasonality *This table contains trend and seasonality components of the time series target value obtained from the stl decomposition.*
reporting.best_model_timeline *This table contains summed values for demand, forecast and prediction, aggregated by quarter and filtered by best model for the LOD/timestamp.*
reporting.error_metrics_curated *Represents best practices in error reporting from the feature_report table. Filtered to only include the models selected as the best model and error is found only for unbiased tests. Averaged over all computed folds.*
reporting.error_metrics_report *Reporting on error metric values from a specific algorithm run_id. Currently defaulted to show the best model in this table only.*
reporting.error_wMAPE_bucketing *wMAPE calculations at an aggregate level for a given LOD.*
reporting.features_distinct *A distinct list of features for a given run_id, for use with filtering dropdowns within the app UI.*
reporting.features_timeline *Feature values for a run_id at execution time, aggregated at a quarterly granularity.*
tracking.advanced_params_tracking *Run tracking copy of data from config.advanced_params table - see documentation for config.advanced_params table for further details.*
tracking.algorithm_overrides_tracking *Run tracking copy of data from config.algorithm_overrides table - see documentation for config.algorithm_overrides table for further details.*
tracking.asset_version *Provides tracking around the version of the database, based on upgrades that have been run on the data asset.*
tracking.execution_log_tracking *Table to store logs outputted by the algorithm execution in freeform text.*

tracking.execution_time_tracking *Table which stores granular timing for aspects of an algorithm execution.*
tracking.feature_assignment_tracking *Run tracking copy of data from config.feature_assignment table - see documentation for config.feature_assignment table for further details.*
tracking.feature_availability_prediction_time_tracking *Run tracking copy of data from config.feature_availability_prediction_time table - see documentation for config.feature_availability_prediction_time table for further details.*
tracking.feature_groups_tracking *Run tracking copy of data from config.feature_groups table - see documentation for config.feature_groups table for further details.*
tracking.input_parameters_tracking *Run tracking copy of data from config.input_parameters table - see documentation for config.input_parameters table for further details.*
tracking.run_tracking *The run_tracking table is core to referencing the algorithm execution in history and for reporting purposes. It stores some basic metadata about the algorithm execution, the type of action that was triggered and also links back the run_config table, providing insight into the run configuration that was used for the algorithm execution.*
tracking.time_series_groups_tracking *Run tracking copy of data from config.time_series_groups table - see documentation for config.time_series_groups table for further details.*

[app].[app_config]

Description

Table to store configuration for DDM to Demand asset transfer within the app.

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity
PK C	app_config_sk *Surrogate key for app_config*	bigint	8	NOT NULL	1 - 1
	ddm_file_id *FileId (data asset id) for DDM that contains customer data for demand forecasting*	uniqueidentifier	16	NULL allowed	
	ddm_last_start_date *Previous transfer start date*	datetime	8	NULL allowed	
	ddm_last_end_date *Previous transfer end date*	datetime	8	NULL allowed	
	ddm_model_building_enabled *Flag for whether model building is enabled*	bit	1	NULL allowed	
	ddm_model_building_file_id *FileId to use with model building process*	uniqueidentifier	16	NULL allowed	
	ddm_model_building_name *Name of model building recipe*	nvarchar(255)	510	NULL allowed	
	ddm_model_building_recipe_id *FileId for model building recipe*	uniqueidentifier	16	NULL allowed	
	ddm_demand_source_table *Table to source demand data from within DDM*	nvarchar(50)	100	NULL allowed	

Indexes

Key	Name	Key Columns	Unique
PK C	PK_Demand_app_config	app_config_sk	True

Uses

[app]

Used By

[dbo].[app_config]

[app].[ddm_dimensions]

Description

Stores table/field information to populate Demand asset dimensions from a DDM.

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability
PK C	ddm_dimensions_sk *Surrogate key for ddm_dimensions*	smallint	2	NOT NULL
	table_name *Table name containing dimension field*	[sys].[sysname]	256	NOT NULL
	field_name *Field to use for dimension in Demand asset*	[sys].[sysname]	256	NOT NULL
	level_1_field_name *Level 1 field to use (optional)*	[sys].[sysname]	256	NULL allowed
	level_2_field_name *Level 2 field to use (optional)*	[sys].[sysname]	256	NULL allowed
	level_3_field_name *Level 3 field to use (optional)*	[sys].[sysname]	256	NULL allowed
	level_4_field_name *Level 4 field to use (optional)*	[sys].[sysname]	256	NULL allowed
	level_5_field_name *Level 5 field to use (optional)*	[sys].[sysname]	256	NULL allowed
	level_6_field_name *Level 6 field to use (optional)*	[sys].[sysname]	256	NULL allowed
	level_7_field_name *Level 7 field to use (optional)*	[sys].[sysname]	256	NULL allowed
	level_8_field_name *Level 8 field to use (optional)*	[sys].[sysname]	256	NULL allowed
	level_9_field_name *Level 9 field to use (optional)*	[sys].[sysname]	256	NULL allowed
	level_10_field_name *Level 10 field to use (optional)*	[sys].[sysname]	256	NULL allowed

Indexes

Key	Name	Key Columns	Unique
PK C	PK_Demand_ddm_dimensions	ddm_dimensions_sk	True

Uses

[app]

Used By

[dbo].[ddm_dimensions]

[app].[ddm_filter_values]

Description

Stores any filters that need to be applied to data during transfer from DDM to Demand asset.

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity
PK C	ddm_filter_values_sk *Surrogate key for ddm_filter_values*	bigint	8	NOT NULL	1 - 1
FK	ddm_filters_sk *Surrogate key for ddm_filters*	bigint	8	NOT NULL	
	value *Value to use for filtering*	nvarchar(255)	510	NULL allowed	

Indexes

Key	Name	Key Columns	Unique
PK C	PK_Demand_ddm_filter_values	ddm_filter_values_sk	True
	Uniq_Demand_ddm_filter_values	ddm_filters_sk, value	True

Foreign Keys

Name	Update	Delete	Columns
FK_Demand_ddm_filter_values__ddm_filters_sk	Cascade	Cascade	ddm_filters_sk->[app].[ddm_filters].[ddm_filters_sk]

Uses

[app].[ddm_filters]
[app]

Used By

[dbo].[ddm_filter_values]

[app].[ddm_filters]

Description

Defines a filter to use for DDM to Demand asset transfer.

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity
PK C	ddm_filters_sk *Surrogate key for ddm_filters*	bigint	8	NOT NULL	1 - 1
	table_name *Table name containing dimension field*	[sys].[sysname]	256	NOT NULL	
	field_name *Field to use for dimension in Demand asset*	[sys].[sysname]	256	NOT NULL	

Indexes

Key	Name	Key Columns	Unique
PK C	PK_Demand_ddm_filters	ddm_filters_sk	True

Uses

[app]

Used By

[app].[ddm_filter_values]
[dbo].[ddm_filters]

[config].[advanced_params]

Description

Parameters that can be configurable in the workflow apart from the ones in the application UI are present in this table. These are configured at the run configuration level.

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity	Default
PK C	advanced_params_sk *Surrogate key for advanced_params*	bigint	8	NOT NULL	1 - 1	
FK	run_config_id *Run configuration*	bigint	8	NOT NULL		((1))
	entity *High level workflow component*	nvarchar(50)	100	NOT NULL		
	entity_subtype *A specific module (only if applicable)*	nvarchar(50)	100	NOT NULL		
	param_name *Name of the parameter*	nvarchar(50)	100	NOT NULL		
	param_value *Value of the parameter*	nvarchar(255)	510	NULL allowed		
	is_hidden *Toggles whether advanced parameter should be hidden by default. The column's default value is FALSE.*	bit	1	NOT NULL		((0))

Indexes

Key	Name	Key Columns	Unique
PK C	PK_Demand_advanced_params	advanced_params_sk	True
	Uniq_Demand_advanced_params	run_config_id, entity, entity_subtype, param_name	True

Foreign Keys

Name	Update	Delete	Columns
FK_Demand_advanced_params__run_config_id	Cascade	Cascade	run_config_id->[config].[run_config].[run_config_id]

Uses

[config].[run_config]
[config]

Used By

[dbo].[advanced_params]

[config].[algorithm_overrides]

Description

Specifies algorithms to override for specified LOD groups from the time_series_groups table.

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity	Default
PK C	algorithm_overrides_sk *Surrogate key for algorithm_overrides*	bigint	8	NOT NULL	1 - 1	
FK	run_config_id *Run configuration*	bigint	8	NOT NULL		((1))
	group *Group corresponding to time_series_groups table*	nvarchar(500)	1000	NOT NULL		
	algorithm *Name of the algorithm*	nvarchar(50)	100	NOT NULL		

Indexes

Key	Name	Key Columns	Unique
PK C	PK_Demand_algorithm_overrides	algorithm_overrides_sk	True
	Uniq_Demand_algorithm_overrides	run_config_id, group, algorithm	True

Foreign Keys

Name	Update	Delete	Columns
FK_Demand_algorithm_overrides__run_config_id	Cascade	Cascade	run_config_id->[config].[run_config].[run_config_id]

Uses

[config].[run_config]
[config]

Used By

[dbo].[algorithm_overrides]
[procedures].[seed_m5_data]

[config].[feature_assignment]

Description

The feature assignment table works in tandem with the feature_groups table, allowing for granular assignment of feature groups to a specific LOD.

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity	Default
PK C	feature_assignment_sk *Surrogate key for feature_assignment*	bigint	8	NOT NULL	1 - 1	
FK	run_config_id *Run configuration*	bigint	8	NOT NULL		((1))
	dimension_1 *Specifies different dimensions among level of detail at which the feature corresponds to*	nvarchar(50)	100	NOT NULL		
	dimension_2 *Specifies different dimensions among level of detail at which the feature corresponds to*	nvarchar(50)	100	NOT NULL		
	dimension_3 *Specifies different dimensions among level of detail at which the feature corresponds to*	nvarchar(50)	100	NOT NULL		
	feature_group *Corresponding group name from the feature_groups table*	nvarchar(500)	1000	NOT NULL		
	assignment_type *Boolean column indicating where to use that feature for that particular time series or not*	bit	1	NOT NULL		

Indexes

Key	Name	Key Columns	Unique
PK C	PK_Demand_feature_assignment	feature_assignment_sk	True
	Uniq_Demand_feature_assignment	run_config_id, dimension_1, dimension_2, dimension_3, feature_group	True

Foreign Keys

Name	Update	Delete	Columns
FK_Demand_feature_assignment__run_config_id	Cascade	Cascade	run_config_id->[config].[run_config].[run_config_id]

Uses

[config].[run_config]
[config]

Used By

[dbo].[feature_assignment]
[procedures].[seed_m5_data]

[config].[feature_availability_prediction_time]

Description

Whether forward-looking features are available/to be used in model training or not, can be configured accordingly using these tables. If forward looking data is not present/ not intended to use, we consider only lags of the corresponding feature in the training process. We recommend using forward-looking features corresponding to the forecast horizon only when: (1) Features are available at prediction time (e.g. price); (2) We have high confidence in the accuracy of forecasted features and we are not executing extensive back-testing techniques (e.g no multi-fold evaluation); or, (3) If the focus is not to learn from the past but to perform scenario analysis. In this case, a what-if approach is required to make assumptions of the future

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity	Default
PK C	feature_availability_prediction_time_sk *Surrogate key for feature_availability_prediction_time*	bigint	8	NOT NULL	1 - 1	
FK	run_config_id *Run configuration*	bigint	8	NOT NULL		((1))
	feature_name *Name of the relevant feature*	nvarchar(500)	1000	NOT NULL		
	is_available_at_prediction *available/to be used in model training or not*	bit	1	NOT NULL		

Indexes

Key	Name	Key Columns	Unique
PK C	PK_Demand_feature_availability_prediction_time	feature_availability_prediction_time_sk	True
	Uniq_Demand_feature_availability_prediction_time	run_config_id, feature_name	True

Foreign Keys

Name	Update	Delete	Columns
FK_-Demand_feature_availability_prediction_time__run_config_id	Cascade	Cascade	run_config_id->[config].[run_config].[run_config_id]

Uses

[config].[run_config]
[config]

Used By

[dbo].[feature_availability_prediction_time]

[config].[feature_groups]

Description

The trend cloud features are treated as common features across time series. But in cases where this assumption does not apply then these tables can be used to assign a group of trend cloud features to a particular group of time series. It gives the flexibility to use different features for modelling different time series.

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity	Default
PK C	feature_groups_sk *Surrogate key for feature_groups*	bigint	8	NOT NULL	1 - 1	
FK	run_config_id *Run configuration*	bigint	8	NOT NULL		((1))
	feature_group *Grouping of similar features*	nvarchar(500)	1000	NOT NULL		
	feature_name *Corresponding feature name*	nvarchar(500)	1000	NOT NULL		
	feature_category *Can be used to categorize different types of features*	nvarchar(255)	510	NULL allowed		

Indexes

Key	Name	Key Columns	Unique
PK C	PK_Demand_feature_groups	feature_groups_sk	True
	Uniq_Demand_feature_groups	run_config_id, feature_group, feature_name	True

Foreign Keys

Name	Update	Delete	Columns
FK_Demand_feature_groups__run_config_id	Cascade	Cascade	run_config_id->[config].[run_config].[run_config_id]

Uses

[config].[run_config]
[config]

Used By

[dbo].[feature_groups]
[procedures].[seed_m5_data]

[config].[input_parameters]

Description

Parameters that are fed into the algorithm execution, based on a specified run_config_id for the particular algorithm execution. This table is provided in “wide format” for compatibility with the app studio UI.

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity	Default
PK C	input_parameters_sk *Surrogate key for input_parameters*	bigint	8	NOT NULL	1 - 1	
FK	run_config_id *Run configuration*	bigint	8	NOT NULL		((1))
	Time_Aggregation *Possible values: Daily, Weekly, Monthly, Quarterly, Yearly; Default value: Weekly; Description: Time bucket for forecast generation*	nvarchar(255)	510	NOT NULL		
	Level_of_Detail *Possible values: Location, Store, Item; Default value: Location,Store,Item; Description: Level of aggregation for forecast generation*	nvarchar(max)	max	NOT NULL		
	Auto_Detect_Time_Horizon *Default value: FALSE; Description: Enable this to auto-detect the start timestamp to generate the forecast. Entire history will be used for training time series models*	bit	1	NOT NULL		
	Custom_Start_Date *Description: Data before this timestamp will not be considered for training time series models. Specify only if the 'Auto Detect Time Horizon' parameter is disabled.*	date	3	NULL allowed		
	Custom_End_Date *Description: Data after this timestamp will not be considered for training time series models. Specify only if the 'Auto Detect Time Horizon' parameter is disabled.*	date	3	NULL allowed		
	Forecast_Strategy *Possible values: AutoTuning, Ensemble, Tournament; Default value: Tournament; Description: AutoTuning mode automatically tunes models and parameters based on Effort Level. With Ensemble and Tournament mode user should select the Algorithms*	nvarchar(255)	510	NOT NULL		
	Effort_Level *Possible values: Low, Medium, High; Default value: Medium; Description: For higher effort levels more models will be trained with extensive hyperparameter tuning. Considered only if 'Forecast Startegy' parameter is 'AutoTuning'*	nvarchar(100)	200	NOT NULL		
	Error_Metric *Possible values: RMSE, MAPE, WMAPE, MAE, ME, MPE; Default value: MAPE; Description: Metric used to evaluate forecasting models*	nvarchar(100)	200	NOT NULL		

	Forecast_Horizon *Default value: 12; Description: How far in the future would you like to forecast?*	int	4	NOT NULL		
	Backtest_Window_Size *Default value: 12; Description: Size of test fold. Recommended to be same as 'Forecast Horizon' parameter for short-term forecasting.*	int	4	NOT NULL		
	Algorithms *Possible values: ArimaX, Stochastic Gradient Boosting (Global), SVM Linear, Prophet, Auto Arima, Exponential Smoothing, Croston (Intermittent), Simple Moving Average, Naive, Seasonal Naive; Default value: ArimaX; Description: Algorithms to be used in time series modeling. Considered when 'Forecast Strategy' parameter is not 'AutoTuning'*	nvarchar(max)	max	NOT NULL		
	Lead_Time *Default value: 0; Description: Amount of missing time bins between the end of training set and start of the test set.*	int	4	NOT NULL		
	Causal_Elimination_Strategy *Possible values: None, Basic, Advanced; Default value: None; Description: Causal selection strategy to be used. Note that 'Advanced' could increase the run time significantly*	nvarchar(255)	510	NOT NULL		
	Include_Causal_Lags *Default value: TRUE; Description: Enable this to include lags for causal factors*	bit	1	NOT NULL		
	Demand_Correlation_Threshold *Default value: 0.15; Description: Minimum correlation required for the causal to be included in time series modeling*	float	8	NOT NULL		
	Multicollinearity_Threshold *Default value: 0.95; Description: Among causals that have a correlation higher than this threshold, only one of the causal will be considered for time series modeling.*	float	8	NOT NULL		

Indexes

Key	Name	Key Columns	Unique
PK C	PK_Demand_input_parameters	input_parameters_sk	True
	Uniq_Demand_input_parameters	run_config_id	True

Foreign Keys

Name	Update	Delete	Columns
FK_Demand_input_parameters__run_config_id	Cascade	Cascade	run_config_id->[config].[run_config].[run_config_id]

Uses

[config].[run_config]
[config]

Used By

[dbo].[input_parameters]

[config].[run_config]

Description

The run config table is the core table in the config schema. All other tables in this schema are foreign-keyed to the `run_config_id`. There are several stored procedures detailed below that rely on this table as well that can be used to manage run configurations.

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity	Default
PK C	run_config_id *PK for run configuration*	bigint	8	NOT NULL	1 - 1	
	run_config_name *Verbose name of run configuration; used for "Scenario" selection in app UI*	nvarchar(50)	100	NOT NULL		
	current_selection *Currently selected run configuration*	bit	1	NOT NULL		((0))
	modified_by *User that triggered modification of run configuration*	nvarchar(50)	100	NOT NULL		
	modified_ts *Timestamp that run modification was triggered*	datetime	8	NOT NULL		
	status *Status of run configuration (scenario*	nvarchar(255)	510	NULL allowed		

Indexes

Key	Name	Key Columns	Unique
PK C	PK_Demand_run_config	run_config_id	True
	Uniq_Demand_run_config	run_config_name	True

Triggers

Name	ANSI Nulls On	Quoted Identifier On	On
preserve_configs	True	True	Instead Of Delete

Check Constraints

Name	Constraint
Chk_Demand_run_config__current_selection	([config].[check_current_selection]()<=(1))

Uses

[config]
[config].[check_current_selection]

Used By

[config].[advanced_params]
[config].[algorithm_overrides]
[config].[feature_assignment]
[config].[feature_availability_prediction_time]
[config].[feature_groups]
[config].[input_parameters]
[config].[time_series_groups]
[tracking].[run_tracking]
[config].[check_current_selection]
[dbo].[run_config]
[procedures].[init_config]

[config].[time_series_groups]

Description

Algorithm_overrides can be used in tandem with time_series_groups to assign a particular algorithm to a particular group of time series. It gives the flexibility to override to execute a few specific algorithms for a few LODs. Maybe after executing the “Demand Modeler Workflow” and analyzing the outputs, based on execution learning, users can use the “Algorithm Override” table to override a few specific algorithms for a few LODs. Ideally, users should leverage all computational resources at once, analyze the strategy outputs and warnings and manually update the “Algorithm Override” table to improve future executions.

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity	Default
PK C	time_series_groups_sk *Surrogate key for time_series_groups*	bigint	8	NOT NULL	1 - 1	
FK	run_config_id *Run configuration*	bigint	8	NOT NULL		((1))
	dimension_1 *Defines the Level of Detail of time series (Time series identifiers)*	nvarchar(50)	100	NOT NULL		
	dimension_2 *Defines the Level of Detail of time series (Time series identifiers)*	nvarchar(50)	100	NOT NULL		
	dimension_3 *Defines the Level of Detail of time series (Time series identifiers)*	nvarchar(50)	100	NOT NULL		
	group *Group label of similar time series*	nvarchar(500)	1000	NOT NULL		

Indexes

Key	Name	Key Columns	Unique
PK C	PK_Demand_time_series_groups	time_series_groups_sk	True
	Uniq_Demand_time_series_groups	run_config_id, dimension_1, dimension_2, dimension_3, group	True

Foreign Keys

Name	Update	Delete	Columns
FK_Demand_time_series_groups__run_config_id	Cascade	Cascade	run_config_id->[config].[run_config].[run_config_id]

Uses

[config].[run_config]
[config]

Used By

[dbo].[time_series_groups]
[procedures].[seed_m5_data]

[input].[app_aliases]

Description

Supports aliasing on the application front end.

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity
PK C	app_aliases_sk *Surrogate key for app_aliases*	bigint	8	NOT NULL	1 - 1
	app_variable *Variable name within application front end. App studio convention is to prefix variables with @.*	nvarchar(255)	510	NOT NULL	
	db_definition *Database column where alias should be applied for display to the user.*	nvarchar(255)	510	NOT NULL	
	app_alias *Alias value that is substitued into the application front end.*	nvarchar(255)	510	NOT NULL	

Indexes

Key	Name	Key Columns	Unique
PK C	PK_Demand_app_aliases	app_aliases_sk	True
	Uniq_Demand_app_aliases__app_variable	app_variable	True
	Uniq_Demand_app_aliases__db_definition	db_definition	True

Uses

[input]

Used By

[dbo].[app_aliases]

[input].[app_ddm_transfer]

Description

Supports saving of the most recent DDM transfer configuration.

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity
PK C	app_ddm_transfer_sk *Surrogate key for app_ddm_transfer*	bigint	8	NOT NULL	1 - 1
	app_variable *Variable name within application front end. App studio convention is to prefix variables with @.*	nvarchar(255)	510	NOT NULL	
	description *DDM transfer description within database, or as macro configuration parameter.*	nvarchar(255)	510	NOT NULL	
	value *Value inputted on most recent DDM transfer macro execution.*	nvarchar(255)	510	NULL allowed	

Indexes

Key	Name	Key Columns	Unique
PK C	PK_Demand_app_ddm_transfer	app_ddm_transfer_sk	True
	Uniq_Demand_app_ddm_transfer__app_variable	app_variable	True
	Uniq_Demand_app_ddm_transfer__description	description	True

Uses

[input]

Used By

[dbo].[app_ddm_transfer]

[input].[event_info]

Description

The Event Info table helps us to store information regarding promotions, calendar events etc. that occur over a duration of time. They can be only timestamp specific (or) correspond to different dimensions in level of detail along with the timestamp.

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity
PK C	event_info_sk *Surrogate key for event_info table*	bigint	8	NOT NULL	1 - 1
	dimension_1 *Specifies at which level the event information corresponds to*	nvarchar(50)	100	NOT NULL	
	dimension_2 *Specifies at which level the event information corresponds to*	nvarchar(50)	100	NOT NULL	
	dimension_3 *Specifies at which level the event information corresponds to*	nvarchar(50)	100	NOT NULL	
	event_name *Corresponding event name*	nvarchar(50)	100	NOT NULL	
	start_date *Duration of the event (If there are any events that lasts only for a day, you can have start_date and end_date to be equal in such case)*	datetime	8	NOT NULL	
	end_date *Duration of the event (If there are any events that lasts only for a day, you can have start_date and end_date to be equal in such case)*	datetime	8	NOT NULL	
	feature_category *Can be used to differentiate between types of events*	nvarchar(255)	510	NULL allowed	

Indexes

Key	Name	Key Columns	Unique
PK C	PK_Demand_event_info	event_info_sk	True
	Uniq_Demand_event_info	dimension_1, dimension_2, dimension_3, event_name, start_date, end_date	True

Uses

[input]

Used By

[dbo].[event_info]
[procedures].[seed_m5_data]
[sync].[features_timeline]

[input].[mapped_features]

Description

Mapped features table helps us to include additional internal or external time series that can be used as features to enhance the learning process. These tables are also time-dependent, so a timestamp column is present. The features can correspond to different dimensions in level of detail. In the demand forecasting example, a mapped features table might have Location Item price or Location weather as a field, but not demand. Only multivariate methods that accept external features can take advantage of these features. We recommend using forward-looking features corresponding to the forecast horizon only when: (1) Features are available at prediction time (e.g., price). (2) We have high confidence in the accuracy of forecasted features and we are not executing extensive back-testing techniques (e.g., no multi-fold evaluation). (3) If the focus is not to learn from the past but to perform scenario analysis. In this case, a what-if approach is required to make assumptions of the future. Whether forward-looking features are available/to be used in model training or not, can be configured accordingly in the "Feature Availability at Prediction Time" table. If forward looking data is not present/ not intended to use, we consider only lags of the corresponding feature in the training process.

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity
PK C	mapped_features_sk *Surrogate key for mapped_features table*	bigint	8	NOT NULL	1 - 1
	dimension_1 *Specifies different dimensions among level of detail at which the feature corresponds to*	nvarchar(50)	100	NOT NULL	
	dimension_2 *Specifies different dimensions among level of detail at which the feature corresponds to*	nvarchar(50)	100	NOT NULL	
	dimension_3 *Specifies different dimensions among level of detail at which the feature corresponds to*	nvarchar(50)	100	NOT NULL	
	feature_name *Corresponding feature name*	nvarchar(500)	1000	NOT NULL	
	timestamp *Supported frequencies include daily, weekly, monthly, quarterly, or yearly*	datetime	8	NOT NULL	
	target_value *Value of the feature at that particular timestamp*	float	8	NOT NULL	
	feature_category *Can be used to differentiate group different types of features*	nvarchar(255)	510	NULL allowed	

Indexes

Key	Name	Key Columns	Unique
PK C	PK_Demand_mapped_features	mapped_features_sk	True
	Uniq_Demand_mapped_features	dimension_1, dimension_2, dimension_3, feature_name, timestamp	True

Uses

[input]

Used By

[dbo].[mapped_features]
[input].[mapped_features_distinct]
[input].[mapped_features_normalized]
[procedures].[seed_m5_data]
[sync].[features_timeline]

[input].[target_time_series]

Description

Stores all the time series we are trying to forecast. It is a transactional table that stores historical data on the target value. It is keyed by a number of dimensions (the Level of Detail or LOD), such as city or sku, used to link each record to corresponding data in other tables. It includes a timestamp column that lists the date of each historical data point and is used to link the record to corresponding data in other tables. Also, it contains a column containing the historical value, which should always be present for all rows to ensure more accurate forecasts.

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity
PK C	target_time_series_sk *Surrogate key for target_time_series table*	bigint	8	NOT NULL	1 - 1
	dimension_1 *Defines the Level of Detail of time series (Time series identifiers)*	nvarchar(50)	100	NOT NULL	
	dimension_2 *Defines the Level of Detail of time series (Time series identifiers)*	nvarchar(50)	100	NOT NULL	
	dimension_3 *Defines the Level of Detail of time series (Time series identifiers)*	nvarchar(50)	100	NOT NULL	
	timestamp *Supported frequencies include daily, weekly, monthly, quarterly, or yearly*	datetime	8	NOT NULL	
	target_value *Value to be predicted (e.g. demand, sales, shipments, purchase orders, etc.)*	float	8	NOT NULL	

Indexes

Key	Name	Key Columns	Unique
PK C	PK_Demand_target_time_series	target_time_series_sk	True
	Uniq_Demand_target_time_series	dimension_1, dimension_2, dimension_3, timestamp	True

Triggers

Name	ANSI Nulls On	Quoted Identifier On	On
target_time_series__insert	True	True	After Insert

Uses

[input]

Used By

[dbo].[target_time_series]
[procedures].[seed_m5_data]

[input].[target_time_series_agg]

Description

Stores values prepared by the forecasting process, at the aggregation level specified by the most recent Demand Modeler execution. Consider the scenario where data in the target_time_series table is stored at a Weekly aggregation and forecasting is configured at the Monthly level - this table will be stored at the Monthly level. Its purpose is to serve as a helper for reporting, since timestamps in the target_output table can join directly to this.

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity
PK C	target_time_series_agg_sk *Surrogate key for target_time_series table*	bigint	8	NOT NULL	1 - 1
	dimension_1 *Defines the Level of Detail of time series (Time series identifiers)*	nvarchar(50)	100	NOT NULL	
	dimension_2 *Defines the Level of Detail of time series (Time series identifiers)*	nvarchar(50)	100	NOT NULL	
	dimension_3 *Defines the Level of Detail of time series (Time series identifiers)*	nvarchar(50)	100	NOT NULL	
	timestamp *Supported frequencies include daily, weekly, monthly, quarterly, or yearly*	datetime	8	NOT NULL	
	target_value *Computed value to be predicted, at the aggregation level specified in the most recent Demand Modeler execution (e.g. demand, sales, shipments, purchase orders, etc.)*	float	8	NOT NULL	

Indexes

Key	Name	Key Columns	Unique
PK C	PK_Demand_target_time_series_agg	target_time_series_agg_sk	True
	Uniq_Demand_target_time_series_agg	dimension_1, dimension_2, dimension_3, timestamp	True

Uses

[input]

Used By

[dbo].[target_time_series_agg]
[sync].[best_model_timeline]
[sync].[error_metrics_report]
[sync].[features_timeline]

[input].[trend_cloud_feature_selection]

Description

High-level list of all available data in trend cloud. Data is cleaned a presented for easier feature selection relative to the raw representation found in the `trend_cloud_metadata` table. Setting the `is_selected` Boolean variable to True a user can choose which features to be used in model training. This is a core table used in the `pull_trend_cloud_data` action, defining trend cloud time series data that needs to be fetched.

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity
PK C	trend_cloud_feature_selection_sk *Surrogate key for trend_cloud_feature_selection table*	bigint	8	NOT NULL	1 - 1
	feature_name *Corresponding feature name*	nvarchar(500)	1000	NOT NULL	
	country *Country the trend cloud data describes*	nvarchar(255)	510	NOT NULL	
	data_classification *Trend cloud data classification: (Economics, Weather, World Development Indicators)*	nvarchar(255)	510	NOT NULL	
	data_set *Trend cloud data set*	nvarchar(255)	510	NOT NULL	
	data_source *Trend cloud data source: (OpenWeatherMaps, Trading-Economics)*	nvarchar(255)	510	NOT NULL	
	data_level *Trend cloud data level: (Country, State)*	nvarchar(100)	200	NOT NULL	
	unit *Unit of measurement for trend cloud data*	nvarchar(255)	510	NOT NULL	
	is_selected *Whether the data is selected for trend cloud pull action*	bit	1	NULL allowed	

Indexes

Key	Name	Key Columns	Unique
PK C	PK_Demand_trend_cloud_feature_selection	trend_cloud_feature_selection_sk	True
	Uniq_-Demand_trend_cloud_feature_selection_	feature_name, country, data_classification, data_set, data_source, data_level, unit	True

Check Constraints

Name	On Column	Constraint
Chk_Demand_trend_cloud_feature_selection__data_level	data_level	([data_level]='Country' OR [data_level]='State')

Uses

[input]

Used By

[dbo].[trend_cloud_feature_selection]

[input].[trend_cloud_features]

Description

Trend cloud features are time-dependent. These are the economic index related features, weather related features etc. available in the Data Cube. The main difference of the Trend cloud features table is that it is independent of level of detail dimensions. It is populated from the trend_cloud_feature_selection table where used = TRUE.

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity
PK C	trend_cloud_features_sk *Surrogate key for trend_cloud_features table*	bigint	8	NOT NULL	1 - 1
	feature_name *Corresponding feature name*	nvarchar(500)	1000	NOT NULL	
	timestamp *Supported frequencies include daily, weekly, monthly, quarterly, or yearly*	datetime	8	NOT NULL	
	target_value *Value of the feature at that timestamp*	float	8	NOT NULL	
	country *Country the trend cloud data describes*	nvarchar(255)	510	NULL allowed	
	state *State (US-only) the trend cloud data describes*	nvarchar(255)	510	NULL allowed	

Indexes

Key	Name	Key Columns	Unique
PK C	PK_Demand_trend_cloud_features	trend_cloud_features_sk	True
	Uniq_Demand_trend_cloud_features	feature_name, timestamp, country, state	True

Uses

[input]

Used By

[dbo].[trend_cloud_features]
[input].[trend_cloud_features_distinct]
[input].[trend_cloud_features_normalized]
[procedures].[seed_m5_data]
[sync].[features_timeline]

[input].[trend_cloud_metadata]

Description

Most granular representation of trend cloud data, containing mapping to time series ids that allow for trend cloud data to be fetched from the trend cloud itself. It is meant to be joined on the `trend_cloud_feature_selection` table to obtain the full set of trend cloud data targeted as input for the use case.

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability
PK C	time_series_id *ID corresponding to the ID used in the trend cloud system for data fetching*	bigint	8	NOT NULL
	time_series_name *Verbose name of trend cloud feature*	nvarchar(500)	1000	NOT NULL
	feature_name *Cleaned name of trend cloud feature, matches `trend_cloud_feature_selection.feature_name`*	nvarchar(500)	1000	NOT NULL
	country *Country the trend cloud data describes*	nvarchar(255)	510	NOT NULL
	state *State (US-only) the trend cloud data describes*	nvarchar(255)	510	NULL allowed
	city *City (US-only) the trend cloud data describes (not used)*	nvarchar(255)	510	NULL allowed
	data_classification *Trend cloud data classification: (Economics, Weather, World Development Indicators)*	nvarchar(255)	510	NOT NULL
	data_set *Trend cloud data set*	nvarchar(255)	510	NOT NULL
	data_source *Trend cloud data source: (OpenWeatherMaps, TradingEconomics)*	nvarchar(255)	510	NOT NULL
	data_level *Trend cloud data level: (Country, State)*	nvarchar(100)	200	NOT NULL
	frequency *Frequency interval the data is available at*	nvarchar(255)	510	NULL allowed
	measurement *Trend cloud data measurement (closely aligned to the `time_series_name`)*	nvarchar(255)	510	NULL allowed
	measurement_category *Trend cloud measurement category*	nvarchar(255)	510	NULL allowed
	unit *Unit of measurement for trend cloud data*	nvarchar(255)	510	NOT NULL

Indexes

Key	Name	Key Columns	Unique
PK C	PK_Demand_trend_cloud_metadata	time_series_id	True

Check Constraints

Name	On Column	Constraint
Chk_Demand_trend_cloud_metadata__data_level	data_level	([data_level]='Country' OR [data_level]='State')

Uses

[input]

Used By

[dbo].[trend_cloud_metadata]

[master].[dim_1_dim_2_dim_3_master]

Description

Combined master data tables include attributes or hierarchies or categorical variables associated with dimensional combinations in the level of detail. These attributes can provide a valuable context in time series modeling in global context. In the current version we support a maximum of 10 attributes for each dimension.

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity
PK C	dim_1_dim_2_dim_3_master_sk *Surrogate key for dim_1_dim_2_dim_3_master*	bigint	8	NOT NULL	1 - 1
	dimension_1 *Dimension 1 value*	nvarchar(50)	100	NOT NULL	
	dimension_2 *Dimension 2 value*	nvarchar(50)	100	NOT NULL	
	dimension_3 *Dimension 3 value*	nvarchar(50)	100	NOT NULL	
	level_1 *Level 1 attribute, hierarchy or category dimensional combination belongs to*	nvarchar(255)	510	NULL allowed	
	level_2 *Level 2 attribute, hierarchy or category dimensional combination belongs to*	nvarchar(255)	510	NULL allowed	
	level_3 *Level 3 attribute, hierarchy or category dimensional combination belongs to*	nvarchar(255)	510	NULL allowed	
	level_4 *Level 4 attribute, hierarchy or category dimensional combination belongs to*	nvarchar(255)	510	NULL allowed	
	level_5 *Level 5 attribute, hierarchy or category dimensional combination belongs to*	nvarchar(255)	510	NULL allowed	
	level_6 *Level 6 attribute, hierarchy or category dimensional combination belongs to*	nvarchar(255)	510	NULL allowed	
	level_7 *Level 7 attribute, hierarchy or category dimensional combination belongs to*	nvarchar(255)	510	NULL allowed	
	level_8 *Level 8 attribute, hierarchy or category dimensional combination belongs to*	nvarchar(255)	510	NULL allowed	
	level_9 *Level 9 attribute, hierarchy or category dimensional combination belongs to*	nvarchar(255)	510	NULL allowed	
	level_10 *Level 10 attribute, hierarchy or category dimensional combination belongs to*	nvarchar(255)	510	NULL allowed	

Indexes

Key	Name	Key Columns	Unique
PK C	PK_Demand_dim_1_dim_2_dim_3_master	dim_1_dim_2_dim_3_master_sk	True
	Uniq_Demand_dim_1_dim_2_dim_3_master	dimension_1, dimension_2, dimension_3	True

Uses

[master]

Used By

[dbo].[dim_1_dim_2_dim_3_master]
[procedures].[seed_m5_data]

[master].[dim_1_dim_2_master]

Description

Combined master data tables include attributes or hierarchies or categorical variables associated with dimensional combinations in the level of detail. These attributes can provide a valuable context in time series modeling in global context. In the current version we support a maximum of 10 attributes for each dimension.

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity
PK C	dim_1_dim_2_master_sk *Surrogate key for dim_1_dim_2_master*	bigint	8	NOT NULL	1 - 1
	dimension_1 *Dimension 1 value*	nvarchar(50)	100	NOT NULL	
	dimension_2 *Dimension 2 value*	nvarchar(50)	100	NOT NULL	
	level_1 *Level 1 attribute, hierarchy or category dimensional combination belongs to*	nvarchar(255)	510	NULL allowed	
	level_2 *Level 2 attribute, hierarchy or category dimensional combination belongs to*	nvarchar(255)	510	NULL allowed	
	level_3 *Level 3 attribute, hierarchy or category dimensional combination belongs to*	nvarchar(255)	510	NULL allowed	
	level_4 *Level 4 attribute, hierarchy or category dimensional combination belongs to*	nvarchar(255)	510	NULL allowed	
	level_5 *Level 5 attribute, hierarchy or category dimensional combination belongs to*	nvarchar(255)	510	NULL allowed	
	level_6 *Level 6 attribute, hierarchy or category dimensional combination belongs to*	nvarchar(255)	510	NULL allowed	
	level_7 *Level 7 attribute, hierarchy or category dimensional combination belongs to*	nvarchar(255)	510	NULL allowed	
	level_8 *Level 8 attribute, hierarchy or category dimensional combination belongs to*	nvarchar(255)	510	NULL allowed	
	level_9 *Level 9 attribute, hierarchy or category dimensional combination belongs to*	nvarchar(255)	510	NULL allowed	
	level_10 *Level 10 attribute, hierarchy or category dimensional combination belongs to*	nvarchar(255)	510	NULL allowed	

Indexes

Key	Name	Key Columns	Unique
PK C	PK_Demand_dim_1_dim_2_master	dim_1_dim_2_master_sk	True
	Uniq_Demand_dim_1_dim_2_master	dimension_1, dimension_2	True

Uses

[master]

Used By

[dbo].[dim_1_dim_2_master]
[procedures].[seed_m5_data]

[master].[dim_1_dim_3_master]

Description

Combined master data tables include attributes or hierarchies or categorical variables associated with dimensional combinations in the level of detail. These attributes can provide a valuable context in time series modeling in global context. In the current version we support a maximum of 10 attributes for each dimension.

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity
PK C	dim_1_dim_3_master_sk *Surrogate key for dim_1_dim_3_master*	bigint	8	NOT NULL	1 - 1
	dimension_1 *Dimension 1 value*	nvarchar(50)	100	NOT NULL	
	dimension_3 *Dimension 3 value*	nvarchar(50)	100	NOT NULL	
	level_1 *Level 1 attribute, hierarchy or category dimensional combination belongs to*	nvarchar(255)	510	NULL allowed	
	level_2 *Level 2 attribute, hierarchy or category dimensional combination belongs to*	nvarchar(255)	510	NULL allowed	
	level_3 *Level 3 attribute, hierarchy or category dimensional combination belongs to*	nvarchar(255)	510	NULL allowed	
	level_4 *Level 4 attribute, hierarchy or category dimensional combination belongs to*	nvarchar(255)	510	NULL allowed	
	level_5 *Level 5 attribute, hierarchy or category dimensional combination belongs to*	nvarchar(255)	510	NULL allowed	
	level_6 *Level 6 attribute, hierarchy or category dimensional combination belongs to*	nvarchar(255)	510	NULL allowed	
	level_7 *Level 7 attribute, hierarchy or category dimensional combination belongs to*	nvarchar(255)	510	NULL allowed	
	level_8 *Level 8 attribute, hierarchy or category dimensional combination belongs to*	nvarchar(255)	510	NULL allowed	
	level_9 *Level 9 attribute, hierarchy or category dimensional combination belongs to*	nvarchar(255)	510	NULL allowed	
	level_10 *Level 10 attribute, hierarchy or category dimensional combination belongs to*	nvarchar(255)	510	NULL allowed	

Indexes

Key	Name	Key Columns	Unique
	PK_Demand_dim_1_dim_3_master	dim_1_dim_3_master_sk	True
	Uniq_Demand_dim_1_dim_3_master	dimension_1, dimension_3	True

Uses

[master]

Used By

[dbo].[dim_1_dim_3_master]
[procedures].[seed_m5_data]

[master].[dim_1_master]

Description

Master data tables include attributes or hierarchies or categorical variables associated with dimensions in the level of detail. These attributes can provide a valuable context in time series modeling in global context. In the current version we support a maximum of 10 attributes for each dimension.

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity
PK C	dim_1_master_sk *Surrogate key for dim_1_master*	bigint	8	NOT NULL	1 - 1
	dimension_1 *Dimensional value*	nvarchar(50)	100	NOT NULL	
	level_1 *Level 1 attribute, hierarchy or category dimensional value belongs to*	nvarchar(255)	510	NULL allowed	
	level_2 *Level 2 attribute, hierarchy or category dimensional value belongs to*	nvarchar(255)	510	NULL allowed	
	level_3 *Level 3 attribute, hierarchy or category dimensional value belongs to*	nvarchar(255)	510	NULL allowed	
	level_4 *Level 4 attribute, hierarchy or category dimensional value belongs to*	nvarchar(255)	510	NULL allowed	
	level_5 *Level 5 attribute, hierarchy or category dimensional value belongs to*	nvarchar(255)	510	NULL allowed	
	level_6 *Level 6 attribute, hierarchy or category dimensional value belongs to*	nvarchar(255)	510	NULL allowed	
	level_7 *Level 7 attribute, hierarchy or category dimensional value belongs to*	nvarchar(255)	510	NULL allowed	
	level_8 *Level 8 attribute, hierarchy or category dimensional value belongs to*	nvarchar(255)	510	NULL allowed	
	level_9 *Level 9 attribute, hierarchy or category dimensional value belongs to*	nvarchar(255)	510	NULL allowed	
	level_10 *Level 10 attribute, hierarchy or category dimensional value belongs to*	nvarchar(255)	510	NULL allowed	

Indexes

Key	Name	Key Columns	Unique

PK C	PK_Demand_dim_1_master	dim_1_master_sk	True
	Uniq_Demand_dim_1_master	dimension_1	True

Check Constraints

Name	On Column	Constraint
Chk_Demand_dim_1_master__dimension_1	dimension_1	(len([dimension_1])>(0))

Uses

[master]

Used By

[master].[main_master]
[dbo].[dim_1_master]
[dbo].[main_master]
[procedures].[seed_m5_data]

[master].[dim_2_dim_3_master]

Description

Combined master data tables include attributes or hierarchies or categorical variables associated with dimensional combinations in the level of detail. These attributes can provide a valuable context in time series modeling in global context. In the current version we support a maximum of 10 attributes for each dimension.

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity
PK C	dim_2_dim_3_master_sk *Surrogate key for dim_2_dim_3_master*	bigint	8	NOT NULL	1 - 1
	dimension_2 *Dimension 2 value*	nvarchar(50)	100	NOT NULL	
	dimension_3 *Dimension 3 value*	nvarchar(50)	100	NOT NULL	
	level_1 *Level 1 attribute, hierarchy or category dimensional combination belongs to*	nvarchar(255)	510	NULL allowed	
	level_2 *Level 2 attribute, hierarchy or category dimensional combination belongs to*	nvarchar(255)	510	NULL allowed	
	level_3 *Level 3 attribute, hierarchy or category dimensional combination belongs to*	nvarchar(255)	510	NULL allowed	
	level_4 *Level 4 attribute, hierarchy or category dimensional combination belongs to*	nvarchar(255)	510	NULL allowed	
	level_5 *Level 5 attribute, hierarchy or category dimensional combination belongs to*	nvarchar(255)	510	NULL allowed	
	level_6 *Level 6 attribute, hierarchy or category dimensional combination belongs to*	nvarchar(255)	510	NULL allowed	
	level_7 *Level 7 attribute, hierarchy or category dimensional combination belongs to*	nvarchar(255)	510	NULL allowed	
	level_8 *Level 8 attribute, hierarchy or category dimensional combination belongs to*	nvarchar(255)	510	NULL allowed	
	level_9 *Level 9 attribute, hierarchy or category dimensional combination belongs to*	nvarchar(255)	510	NULL allowed	
	level_10 *Level 10 attribute, hierarchy or category dimensional combination belongs to*	nvarchar(255)	510	NULL allowed	

Indexes

Key	Name	Key Columns	Unique
PK C	PK_Demand_dim_2_dim_3_master	dim_2_dim_3_master_sk	True
	Uniq_Demand_dim_2_dim_3_master	dimension_2, dimension_3	True

Uses

[master]

Used By

[dbo].[dim_2_dim_3_master]
[procedures].[seed_m5_data]

[master].[dim_2_master]

Description

Master data tables include attributes or hierarchies or categorical variables associated with dimensions in the level of detail. These attributes can provide a valuable context in time series modeling in global context. In the current version we support a maximum of 10 attributes for each dimension.

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity
PK C	dim_2_master_sk *Surrogate key for dim_2_master*	bigint	8	NOT NULL	1 - 1
	dimension_2 *Dimensional value*	nvarchar(50)	100	NOT NULL	
	level_1 *Level 1 attribute, hierarchy or category dimensional value belongs to*	nvarchar(255)	510	NULL allowed	
	level_2 *Level 2 attribute, hierarchy or category dimensional value belongs to*	nvarchar(255)	510	NULL allowed	
	level_3 *Level 3 attribute, hierarchy or category dimensional value belongs to*	nvarchar(255)	510	NULL allowed	
	level_4 *Level 4 attribute, hierarchy or category dimensional value belongs to*	nvarchar(255)	510	NULL allowed	
	level_5 *Level 5 attribute, hierarchy or category dimensional value belongs to*	nvarchar(255)	510	NULL allowed	
	level_6 *Level 6 attribute, hierarchy or category dimensional value belongs to*	nvarchar(255)	510	NULL allowed	
	level_7 *Level 7 attribute, hierarchy or category dimensional value belongs to*	nvarchar(255)	510	NULL allowed	
	level_8 *Level 8 attribute, hierarchy or category dimensional value belongs to*	nvarchar(255)	510	NULL allowed	
	level_9 *Level 9 attribute, hierarchy or category dimensional value belongs to*	nvarchar(255)	510	NULL allowed	
	level_10 *Level 10 attribute, hierarchy or category dimensional value belongs to*	nvarchar(255)	510	NULL allowed	

Indexes

Key	Name	Key Columns	Unique

PK C	PK_Demand_dim_2_master	dim_2_master_sk	True
	Uniq_Demand_dim_2_master	dimension_2	True

Check Constraints

Name	On Column	Constraint
Chk_Demand_dim_2_master__dimension_2	dimension_2	(len([dimension_2])>(0))

Uses

[master]

Used By

[master].[main_master]
[dbo].[dim_2_master]
[dbo].[main_master]
[procedures].[seed_m5_data]

[master].[dim_3_master]

Description

Master data tables include attributes or hierarchies or categorical variables associated with dimensions in the level of detail. These attributes can provide a valuable context in time series modeling in global context. In the current version we support a maximum of 10 attributes for each dimension.

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity
PK C	dim_3_master_sk *Surrogate key for dim_3_master*	bigint	8	NOT NULL	1 - 1
	dimension_3 *Dimensional value*	nvarchar(50)	100	NOT NULL	
	level_1 *Level 1 attribute, hierarchy or category dimensional value belongs to*	nvarchar(255)	510	NULL allowed	
	level_2 *Level 2 attribute, hierarchy or category dimensional value belongs to*	nvarchar(255)	510	NULL allowed	
	level_3 *Level 3 attribute, hierarchy or category dimensional value belongs to*	nvarchar(255)	510	NULL allowed	
	level_4 *Level 4 attribute, hierarchy or category dimensional value belongs to*	nvarchar(255)	510	NULL allowed	
	level_5 *Level 5 attribute, hierarchy or category dimensional value belongs to*	nvarchar(255)	510	NULL allowed	
	level_6 *Level 6 attribute, hierarchy or category dimensional value belongs to*	nvarchar(255)	510	NULL allowed	
	level_7 *Level 7 attribute, hierarchy or category dimensional value belongs to*	nvarchar(255)	510	NULL allowed	
	level_8 *Level 8 attribute, hierarchy or category dimensional value belongs to*	nvarchar(255)	510	NULL allowed	
	level_9 *Level 9 attribute, hierarchy or category dimensional value belongs to*	nvarchar(255)	510	NULL allowed	
	level_10 *Level 10 attribute, hierarchy or category dimensional value belongs to*	nvarchar(255)	510	NULL allowed	

Indexes

Key	Name	Key Columns	Unique

PK C	PK_Demand_dim_3_master	dim_3_master_sk	True
	Uniq_Demand_dim_3_master	dimension_3	True

Check Constraints

Name	On Column	Constraint
Chk_Demand_dim_3_master__dimension_3	dimension_3	(len([dimension_3])>(0))

Uses

[master]

Used By

[master].[main_master]
[dbo].[dim_3_master]
[dbo].[main_master]
[procedures].[seed_m5_data]

[master].[main_master]

Description

Stores valid dimension 1, 2, 3 combinations. A trigger AFTER INSERT to the target_time_series table will ensure consistency with combinations in target_time_series as rows are added. This table is referenced in dbo views to recreate prevous table structure with verbose dimension listings.

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity
PK C	main_master_sk *Surrogate key for main_master*	bigint	8	NOT NULL	1 - 1
FK	dim_1_master_sk *Surrogate key for dim_1_master (foreign keyed to this table)*	bigint	8	NOT NULL	
FK	dim_2_master_sk *Surrogate key for dim_2_master (foreign keyed to this table)*	bigint	8	NOT NULL	
FK	dim_3_master_sk *Surrogate key for dim_3_master (foreign keyed to this table)*	bigint	8	NOT NULL	

Indexes

Key	Name	Key Columns	Unique
PK C	PK_Demand_main_master	main_master_sk	True
	Uniq_Demand_main_master	dim_1_master_sk, dim_2_master_sk, dim_3_master_sk	True

Foreign Keys

Name	Update	Delete	Columns
FK_-Demand_main_master__dim_1_master_sk	Cascade	Cascade	dim_1_master_sk->[master].[dim_1_master].[dim_1_master_sk]
FK_-Demand_main_master__dim_2_master_sk	Cascade	Cascade	dim_2_master_sk->[master].[dim_2_master].[dim_2_master_sk]
FK_-Demand_main_master__dim_3_master_sk	Cascade	Cascade	dim_3_master_sk->[master].[dim_3_master].[dim_3_master_sk]

Uses

[master].[dim_1_master]
[master].[dim_2_master]
[master].[dim_3_master]
[master]

Used By

[reporting].[best_model_timeline]
[reporting].[error_metrics_curated]
[reporting].[error_metrics_report]
[reporting].[error_wMAPE_bucketing]
[reporting].[features_distinct]
[reporting].[features_timeline]
[dbo].[main_master]

[output].[correlation_table]

Description

This table contains correlation of target value per level of detail with raw/ derived features.

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity
(2) FK	run_id *Run tracking id*	bigint	8	NOT NULL	
	dimension_1 *Defines the Level of Detail of time series (Time series identifiers)*	nvarchar(50)	100	NOT NULL	
	dimension_2 *Defines the Level of Detail of time series (Time series identifiers)*	nvarchar(50)	100	NOT NULL	
	dimension_3 *Defines the Level of Detail of time series (Time series identifiers)*	nvarchar(50)	100	NOT NULL	
	feature *Name of the Feature*	nvarchar(255)	510	NOT NULL	
	correlation *Correlation with target value*	float	8	NULL allowed	
PK C	correlation_table_sk	bigint	8	NOT NULL	1 - 1

Indexes

Key	Name	Key Columns	Unique
PK C	PK_Demand_correlation_table	correlation_table_sk	True
	Uniq_Demand_correlation_table	run_id, dimension_1, dimension_2, dimension_3, feature	True
	Idx_Demand_correlation_table__run_id	run_id	

Foreign Keys

Name	Update	Delete	Columns
FK_Demand_correlation_table__run_id	Cascade	Cascade	run_id->[tracking].[run_tracking].[run_id]

Uses

[tracking].[run_tracking]
[output]

Used By

[dbo].[correlation_table]

[output].[error_metrics]

Description

This table contains the user selected error metrics at LOD - Model - Fold level on the validation folds. It should help users identify LODs that have great/poor forecasts and the best models identified for each of the LODs.

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity
(2) FK	run_id *Run tracking id*	bigint	8	NOT NULL	
	dimension_1 *Defines the Level of Detail of time series (Time series identifiers)*	nvarchar(50)	100	NOT NULL	
	dimension_2 *Defines the Level of Detail of time series (Time series identifiers)*	nvarchar(50)	100	NOT NULL	
	dimension_3 *Defines the Level of Detail of time series (Time series identifiers)*	nvarchar(50)	100	NOT NULL	
	model_name *Model used to generate predictions and forecasts*	nvarchar(50)	100	NOT NULL	
	metric_name *Metric used for calculation*	nvarchar(50)	100	NOT NULL	
	metric_value *numerical value corresponding to the metric name*	float	8	NOT NULL	
	fold_num *Indicates fold number within the fold_type*	bigint	8	NOT NULL	
	fold_type *Indicates backtesting phase (like estimator_selection, unbiased_test, ensembling etc.) to which the data point corresponds to*	nvarchar(50)	100	NOT NULL	
	is_best_model *Boolean variable, it indicates the best model in the estimator selection phase for each of the LODs based on chosen error metric. The best model will be used to generate forecasts for that LOD. In case of a tie, a random model is picked*	bit	1	NULL allowed	
PK C	error_metrics_sk	bigint	8	NOT NULL	1 - 1

Indexes

Key	Name	Key Columns	Unique
PK C	PK_Demand_error_metrics	error_metrics_sk	True
	Uniq_Demand_error_metrics	run_id, dimension_1, dimension_2, dimension_3, model_name, metric_name, fold_num, fold_type	True
	Idx_-Demand_error_metrics__run_id	run_id	

Foreign Keys

Name	Update	Delete	Columns
FK_Demand_error_metrics__run_id	Cascade	Cascade	run_id->[tracking].[run_tracking].[run_id]

Uses

[tracking].[run_tracking]
[output]

Used By

[dbo].[error_metrics]
[sync].[error_metrics_curated]

[output].[estimator_configuration]

Description

Optional table to show estimator-specific information.

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity
(2)	run_id *Run tracking id*	bigint	8	NOT NULL	
	estimator_name *Name of the estimator chosen for a given LOD.*	nvarchar(255)	510	NOT NULL	
	estimator_configuration *Flexible string field meant to capture configuration related to the specified estimator.*	nvarchar(4000)	8000	NOT NULL	
	estimator_configuration_sk	bigint	8	NOT NULL	1 - 1

Indexes

Key	Name	Key Columns	Unique
	PK_Demand_estimator_configuration	estimator_configuration_sk	True
	Uniq_Demand_estimator_configuration	run_id, estimator_name	True
	Idx_Demand_estimator_configuration__run_id	run_id	

Foreign Keys

Name	Update	Delete	Columns
FK_Demand_estimator_configuration__run_id	Cascade	Cascade	run_id->[tracking].[run_tracking].[run_id]

Uses

[tracking].[run_tracking]
[output]

Used By

[dbo].[estimator_configuration]

[output].[estimator_lod_mapping]

Description

Optional table that shows which estimators were selected for a given LOD for a given algorithm run id.

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity
(2) FK	run_id *Run tracking id*	bigint	8	NOT NULL	
	dimension_1 *Defines the Level of Detail of time series (Time series identifiers)*	nvarchar(50)	100	NOT NULL	
	dimension_2 *Defines the Level of Detail of time series (Time series identifiers)*	nvarchar(50)	100	NOT NULL	
	dimension_3 *Defines the Level of Detail of time series (Time series identifiers)*	nvarchar(50)	100	NOT NULL	
	estimator_name *Name of the estimator assessed for a given LOD.*	nvarchar(255)	510	NOT NULL	
	is_selected *Flag for whether the estimator was chosen or not for this particular LOD.*	bit	1	NOT NULL	
PK C	estimator_lod_mapping_sk	bigint	8	NOT NULL	1 - 1

Indexes

Key	Name	Key Columns	Unique
PK C	PK_Demand_estimator_lod_mapping	estimator_lod_mapping_sk	True
	Uniq_Demand_estimator_lod_mapping	run_id, dimension_1, dimension_2, dimension_3, estimator_name	True
	Idx_-Demand_estimator_lod_mapping__run_id	run_id	

Foreign Keys

Name	Update	Delete	Columns
FK_Demand_estimator_lod_mapping__run_id	Cascade	Cascade	run_id->[tracking].[run_tracking].[run_id]

Uses

[tracking].[run_tracking]
[output]

Used By

[dbo].[estimator_lod_mapping]

[output].[feature_report]

Description

This table summarizes the output of feature selection step. It included both raw as well as derived features and 'selected' boolean variable indicating the feature is selected after the feature selection process.

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity
(2) FK	run_id *Run tracking id*	bigint	8	NOT NULL	
	dimension_1 *Defines the Level of Detail of time series (Time series identifiers)*	nvarchar(50)	100	NOT NULL	
	dimension_2 *Defines the Level of Detail of time series (Time series identifiers)*	nvarchar(50)	100	NOT NULL	
	dimension_3 *Defines the Level of Detail of time series (Time series identifiers)*	nvarchar(50)	100	NOT NULL	
	feature_name *Model used to generate predictions and forecasts*	nvarchar(500)	1000	NOT NULL	
	lag_number *If it is a lag feature, this gives the corresponding lag number*	bigint	8	NULL allowed	
	feature_type *Indicates whether it is a raw feature or derived feature*	nvarchar(255)	510	NULL allowed	
	feature_importance *It is the feature importance value of the corresponding feature on a scale of 100. It is only generated for advanced feature selection process*	float	8	NULL allowed	
	importance_description *Describes the significance of feature_importance value. Only relevant when the feature_importance value is not null*	nvarchar(255)	510	NULL allowed	
	correlation_with_demand *Correlation value of the feature with the target_value. On a scale of -1 to 1.*	float	8	NULL allowed	
	correlation_description *Describes the significance of correlation_with_demand value. Only relevant when the correlation_with_demand value is not null*	nvarchar(255)	510	NULL allowed	
	selected *Boolean variable, indicating whether the feature is selected after the feature selection process or not*	bit	1	NOT NULL	
	exclusion_reason *If the feature is not selected, the relevant reason for that*	nvarchar(255)	510	NULL allowed	
	feature_breakdown *Flexible breakdown in string form, describing feature configuration*	nvarchar(2000)	4000	NULL allowed	

PK FC	feature_report_sk	bigint	8	NOT NULL	1 - 1

Indexes

Key	Name	Key Columns	Unique
PK FC	PK_Demand_feature_report	feature_report_sk	True
	Uniq_Demand_feature_report	run_id, dimension_1, dimension_2, dimension_3, feature_name	True
	Idx_-Demand_feature_report__correlation_with_demand	correlation_with_demand	
	Idx_Demand_feature_report__feature_importance	feature_importance	
	Idx_Demand_feature_report__feature_type	feature_type	
	Idx_Demand_feature_report__lag_number	lag_number	
	Idx_Demand_feature_report__run_id	run_id	
	Idx_Demand_feature_report__selected	selected	

Foreign Keys

Name	Update	Delete	Columns
FK_Demand_feature_report__run_id	Cascade	Cascade	run_id->[tracking].[run_tracking].[run_id]

Uses

[tracking].[run_tracking]
[output]

Used By

[dbo].[feature_report]
[sync].[features_distinct]

[output].[target_output]

Description

This table contains predictions and forecasts values at LOD – Model - Fold level. It also contains actuals corresponding to the validation window.

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity
(2) FK	run_id *Run tracking id*	bigint	8	NOT NULL	
	dimension_1 *Defines the Level of Detail of time series (Time series identifiers)*	nvarchar(50)	100	NOT NULL	
	dimension_2 *Defines the Level of Detail of time series (Time series identifiers)*	nvarchar(50)	100	NOT NULL	
	dimension_3 *Defines the Level of Detail of time series (Time series identifiers)*	nvarchar(50)	100	NOT NULL	
	timestamp *Supported frequencies include daily, weekly, monthly, quarterly, or yearly*	datetime	8	NOT NULL	
	series_type *"actual": historical values corresponding to the validation folds; "prediction": predicted values on the validation folds; "forecast": forecasts into future*	nvarchar(50)	100	NOT NULL	
	model_name *Model used to generate predictions and forecasts*	nvarchar(50)	100	NOT NULL	
	fold_type *Indicates backtesting phase (like estimator_selection, unbiased_test, ensembling etc.) to which the data point corresponds to*	nvarchar(50)	100	NOT NULL	
	fold_num *Indicates fold number within the fold_type*	bigint	8	NOT NULL	
	value *Numerical value against the series type*	float	8	NOT NULL	
	is_best_model *Boolean variable, it indicates the best model in the estimator selection phase for each of the LODs based on chosen error metric. The best model will be used to generate forecasts for that LOD. In case of a tie, a random model is picked*	bit	1	NULL allowed	
PK C	target_output_sk	bigint	8	NOT NULL	1 - 1

Indexes

Key	Name	Key Columns	Unique

PK C	PK_Demand_target_output	target_output_sk	True
	Uniq_Demand_target_output	run_id, dimension_1, dimension_2, dimension_3, timestamp, series_type, model_name, fold_type, fold_num	True
	Idx_-Demand_target_output__run_id	run_id	

Foreign Keys

Name	Update	Delete	Columns
FK_Demand_target_output__run_id	Cascade	Cascade	run_id->[tracking].[run_tracking].[run_id]

Uses

[tracking].[run_tracking]
[output]

Used By

[dbo].[target_output]
[sync].[best_model_timeline]
[sync].[error_metrics_report]
[sync].[features_timeline]

[output].[time_series_attributes]

Description

Time series attributes table contains the values of a few a important attributes like num_observations, target_mean, target_variance, etc. for each time series. It is in long format to make it independent of the number of attributes generated.

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity
(2) FK	run_id *Run tracking id*	bigint	8	NOT NULL	
	dimension_1 *Defines the Level of Detail of time series (Time series identifiers)*	nvarchar(50)	100	NOT NULL	
	dimension_2 *Defines the Level of Detail of time series (Time series identifiers)*	nvarchar(50)	100	NOT NULL	
	dimension_3 *Defines the Level of Detail of time series (Time series identifiers)*	nvarchar(50)	100	NOT NULL	
	attribute *Name of the attribute*	nvarchar(255)	510	NOT NULL	
	value *Value of the attribute*	nvarchar(255)	510	NOT NULL	
PK C	time_series_attributes_sk	bigint	8	NOT NULL	1 - 1

Indexes

Key	Name	Key Columns	Unique
PK C	PK_Demand_time_series_attributes	time_series_attributes_sk	True
	Uniq_Demand_time_series_attributes	run_id, dimension_1, dimension_2, dimension_3, attribute	True
	Idx_Demand_time_series_attributes__run_id	run_id	

Foreign Keys

Name	Update	Delete	Columns
FK_Demand_time_series_attributes__run_id	Cascade	Cascade	run_id->[tracking].[run_tracking].[run_id]

Uses

[tracking].[run_tracking]
[output]

Used By

[dbo].[time_series_attributes]

[output].[time_series_excluded]

Description

This table contains information of all the time series for which the forecasts are not generated along with corresponding reason.

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity
(2) FK	run_id *Run tracking id*	bigint	8	NOT NULL	
	dimension_1 *Defines the Level of Detail of time series (Time series identifiers)*	nvarchar(50)	100	NOT NULL	
	dimension_2 *Defines the Level of Detail of time series (Time series identifiers)*	nvarchar(50)	100	NOT NULL	
	dimension_3 *Defines the Level of Detail of time series (Time series identifiers)*	nvarchar(50)	100	NOT NULL	
	reason *Reason why forecast is not generated for the time series*	nvarchar(50)	100	NOT NULL	
PK C	time_series_excluded_sk	bigint	8	NOT NULL	1 - 1

Indexes

Key	Name	Key Columns	Unique
PK C	PK_Demand_time_series_excluded	time_series_excluded_sk	True
	Uniq_Demand_time_series_excluded	run_id, dimension_1, dimension_2, dimension_3, reason	True
	Idx_Demand_time_series_excluded__run_id	run_id	

Foreign Keys

Name	Update	Delete	Columns
FK_Demand_time_series_excluded__run_id	Cascade	Cascade	run_id->[tracking].[run_tracking].[run_id]

Uses

[tracking].[run_tracking]
[output]

Used By

[dbo].[time_series_excluded]

[output].[trend_seasonality]

Description

This table contains trend and seasonality components of the time series target value obtained from the stl decomposition.

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity
(2) FK	run_id *Run tracking id*	bigint	8	NOT NULL	
	dimension_1 *Defines the Level of Detail of time series (Time series identifiers)*	nvarchar(50)	100	NOT NULL	
	dimension_2 *Defines the Level of Detail of time series (Time series identifiers)*	nvarchar(50)	100	NOT NULL	
	dimension_3 *Defines the Level of Detail of time series (Time series identifiers)*	nvarchar(50)	100	NOT NULL	
	timestamp *Supported frequencies include daily, weekly, monthly, quarterly, or yearly*	datetime	8	NOT NULL	
	series_type *Indicates whether it is seasonality or trend component*	nvarchar(50)	100	NOT NULL	
	value *Component value*	float	8	NOT NULL	
PK C	trend_seasonality_sk	bigint	8	NOT NULL	1 - 1

Indexes

Key	Name	Key Columns	Unique
PK C	PK_Demand_trend_seasonality	trend_seasonality_sk	True
	Uniq_Demand_trend_seasonality	run_id, dimension_1, dimension_2, dimension_3, timestamp, series_type	True
	Idx_-Demand_trend_seasonality__run_id	run_id	

Foreign Keys

Name	Update	Delete	Columns
FK_Demand_trend_seasonality__run_id	Cascade	Cascade	run_id->[tracking].[run_tracking].[run_id]

Uses

[tracking].[run_tracking]
[output]

Used By

[dbo].[trend_seasonality]

[reporting].[best_model_timeline]

Description

This table contains summed values for demand, forecast and prediction, aggregated by quarter and filtered by best model for the LOD/timestamp.

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity
PK C	best_model_timeline_sk *Surrogate key for best_model_timeline*	bigint	8	NOT NULL	1 - 1
FK	run_id *Run tracking id*	bigint	8	NOT NULL	
	timestamp *Reporting timestamp*	datetime	8	NOT NULL	
	demand *Demand value at specified timestamp*	float	8	NULL allowed	
	prediction *Prediction value at specified timestamp*	int	4	NULL allowed	
	forecast *Forecast value at specified timestamp*	float	8	NULL allowed	
FK	main_master_sk *Key to 3 dimension combination*	bigint	8	NULL allowed	

Indexes

Key	Name	Key Columns	Unique
PK C	PK_Demand_best_model_timeline	best_model_timeline_sk	True
	Uniq_Demand_best_model_timeline	main_master_sk, run_id, timestamp	True

Foreign Keys

Name	Update	Delete	Columns
FK_-Demand_best_model_timeline__main_master_sk	Cascade	Cascade	main_master_sk->[master].[main_master].[main_master_sk]
FK_Demand_best_model_timeline__run_id_	Cascade	Cascade	run_id->[tracking].[run_tracking].[run_id]

Uses

[master].[main_master]
[tracking].[run_tracking]
[reporting]

Used By

[dbo].[best_model_timeline]

[reporting].[error_metrics_curated]

Description

Represents best practices in error reporting from the feature_report table. Filtered to only include the models selected as the best model and error is found only for unbiased tests. Averaged over all computed folds.

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity
PK C	error_metrics_curated_sk *Surrogate key for error_metrics_curated*	bigint	8	NOT NULL	1 - 1
FK	run_id *Run tracking id*	bigint	8	NOT NULL	
	model_name *Model used to generate predictions and forecasts*	nvarchar(50)	100	NOT NULL	
	error_metric *Possible values: RMSE, MAPE, WMAPE, MAE, ME, MPE; Default value: MAPE; Description: Metric used to evaluate forecasting models*	nvarchar(50)	100	NULL allowed	
	error_avg *Average error value over all folds*	float	8	NULL allowed	
FK	main_master_sk *Key to 3 dimension combination*	bigint	8	NULL allowed	

Indexes

Key	Name	Key Columns	Unique
PK C	PK_Demand_error_metrics_curated	error_metrics_curated_sk	True
	Uniq_Demand_error_metrics_curated	main_master_sk, run_id, model_name, error_metric	True

Foreign Keys

Name	Update	Delete	Columns
FK_-Demand_error_metrics_curated__main_master_sk	Cascade	Cascade	main_master_sk->[master].[main_master].[main_master_sk]
FK_Demand_error_metrics_curated__run_id_	Cascade	Cascade	run_id->[tracking].[run_tracking].[run_id]

Uses

[master].[main_master]
[tracking].[run_tracking]
[reporting]

Used By

[dbo].[error_metrics_curated]

[reporting].[error_metrics_report]

Description

Reporting on error metric values from a specific algorithm run_id. Currently defaulted to show the best model in this table only.

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity
PK C	error_metrics_report_sk *Surrogate key for error_metrics_report*	bigint	8	NOT NULL	1 - 1
(2) FK	run_id *Run tracking id*	bigint	8	NOT NULL	
	timestamp *Supported frequencies include daily, weekly, monthly, quarterly, or yearly*	datetime	8	NOT NULL	
	model_name *Model used to generate predictions and forecasts*	nvarchar(50)	100	NOT NULL	
	actual *Target value used for error comparison*	float	8	NOT NULL	
	error_avg *Average difference between actual and predicted value*	float	8	NULL allowed	
	absolute_error_avg *Average absolute value of difference between actual and predicted value*	float	8	NULL allowed	
	squared_error_avg *Average squared value of difference between actual and predicted value*	float	8	NULL allowed	
FK	main_master_sk *Key to 3 dimension combination*	bigint	8	NULL allowed	

Indexes

Key	Name	Key Columns	Unique
PK C	PK_Demand_error_metrics_report	error_metrics_report_sk	True
	Uniq_Demand_error_metrics_report	main_master_sk, run_id, timestamp, model_name	True
	Idx_Demand_error_metrics_report__run_id	run_id	

Foreign Keys

Name	Update	Delete	Columns
FK_-Demand_error_metrics_report__main_master_sk	Cascade	Cascade	main_master_sk->[master].[main_master].[main_master_sk]
FK_Demand_error_metrics_report__run_id	Cascade	Cascade	run_id->[tracking].[run_tracking].[run_id]

Uses

[master].[main_master]
[tracking].[run_tracking]
[reporting]

Used By

[dbo].[error_metrics_report]

[reporting].[error_wMAPE_bucketing]

Description

wMAPE calculations at an aggregate level for a given LOD.

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity
PK C	error_wMAPE_bucketing_sk *Surrogate key for error_wMAPE_bucketing*	bigint	8	NOT NULL	1 - 1
(2) FK	run_id *Run tracking id*	bigint	8	NOT NULL	
	wMAPE *wMAPE calculation across an entire LOD*	float	8	NULL allowed	
FK	main_master_sk *Key to 3 dimension combination*	bigint	8	NULL allowed	

Indexes

Key	Name	Key Columns	Unique
PK C	PK_Demand_error_wMAPE_bucketing	error_wMAPE_bucketing_sk	True
	Uniq_Demand_error_wMAPE_bucketing	main_master_sk, run_id	True
	Idx_Demand_error_wMAPE_bucketing__run_id	run_id	

Foreign Keys

Name	Update	Delete	Columns
FK_Demand_error_w-MAPE_bucketing__main_master_sk	Cascade	Cascade	main_master_sk->[master].[main_master].[main_master_sk]
FK_Demand_error_wMAPE_bucketing__run_id	Cascade	Cascade	run_id->[tracking].[run_tracking].[run_id]

Uses

[master].[main_master]
[tracking].[run_tracking]
[reporting]

Used By

[dbo].[error_wMAPE_bucketing]

[reporting].[features_distinct]

Description

A distinct list of features for a given run_id, for use with filtering dropdowns within the app UI.

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity
PK C	features_distinct_sk *Surrogate key for features_distinct*	bigint	8	NOT NULL	1 - 1
(2) FK	run_id *Run tracking id*	bigint	8	NOT NULL	
	feature_name *Name of the feature to be used with filtering*	nvarchar(500)	1000	NOT NULL	
	feature_type *One of the following feature types: “Derived Feature,” “Trend Cloud Feature,” or “User Defined Feature”*	nvarchar(255)	510	NULL allowed	
FK	main_master_sk *Key to 3 dimension combination*	bigint	8	NULL allowed	

Indexes

Key	Name	Key Columns	Unique
PK C	PK_Demand_features_distinct	features_distinct_sk	True
	Uniq_Demand_features_distinct	main_master_sk, run_id, feature_name, feature_type	True
	Idx_Demand_features_distinct__run_id	run_id	

Foreign Keys

Name	Update	Delete	Columns
FK_-Demand_features_distinct__main_master_sk	Cascade	Cascade	main_master_sk->[master].[main_master].[main_master_sk]
FK_Demand_features_distinct__run_id	Cascade	Cascade	run_id->[tracking].[run_tracking].[run_id]

Uses

[master].[main_master]
[tracking].[run_tracking]
[reporting]

Used By

[dbo].[features_distinct]

[reporting].[features_timeline]

Description

Feature values for a run_id at execution time, aggregated at a quarterly granularity.

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity
PK C	features_timeline_sk *Surrogate key for features_timeline*	bigint	8	NOT NULL	1 - 1
(2) FK	run_id *Run tracking id*	bigint	8	NOT NULL	
	timestamp *Reporting timestamp*	datetime	8	NOT NULL	
	feature_name *Name of the feature to be used with filtering*	nvarchar(500)	1000	NOT NULL	
	feature_type *Feature types can be either "Trend Cloud Feature" or "User Defined Feature." User defined features are sourced exclusively from the mapped_features table.*	varchar(20)	20	NOT NULL	
	normalized_value_avg *The average normalized value for the specified feature for the reported timestamp*	float	8	NULL allowed	
FK	main_master_sk *Key to 3 dimension combination*	bigint	8	NULL allowed	

Indexes

Key	Name	Key Columns	Unique
PK C	PK_Demand_features_timeline	features_timeline_sk	True
	Uniq_Demand_features_timeline	main_master_sk, run_id, timestamp, feature_name, feature_type	True
	Idx_Demand_features_timeline__run_id	run_id	

Foreign Keys

Name	Update	Delete	Columns
FK_-Demand_features_timeline__main_master_sk	Cascade	Cascade	main_master_sk->[master].[main_master].[main_master_sk]
FK_Demand_features_timeline__run_id	Cascade	Cascade	run_id->[tracking].[run_tracking].[run_id]

Uses

[master].[main_master]
[tracking].[run_tracking]
[reporting]

Used By

[dbo].[features_timeline]

[tracking].[advanced_params_tracking]

Description

Run tracking copy of data from config.advanced_params table - see documentation for config.advanced_params table for further details.

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity
(2) FK	run_id	bigint	8	NOT NULL	
	entity	nvarchar(50)	100	NOT NULL	
	entity_subtype	nvarchar(50)	100	NOT NULL	
	param_name	nvarchar(50)	100	NOT NULL	
	param_value	nvarchar(255)	510	NULL allowed	
	desc	nvarchar(255)	510	NULL allowed	
	is_hidden	bit	1	NOT NULL	
PK C	advanced_params_tracking_sk	bigint	8	NOT NULL	1 - 1

Indexes

Key	Name	Key Columns	Unique
PK C	PK_Demand_advanced_params_tracking	advanced_params_tracking_sk	True
	Uniq_Demand_advanced_params_tracking	run_id, entity, entity_subtype, param_name	True
	Idx_Demand_advanced_params_tracking__run_id	run_id	

Foreign Keys

Name	Update	Delete	Columns
FK_Demand_advanced_params_tracking__run_id	Cascade	Cascade	run_id->[tracking].[run_tracking].[run_id]

Uses

[tracking].[run_tracking]
[tracking]

Used By

[dbo].[advanced_params_tracking]

[tracking].[algorithm_overrides_tracking]

Description

Run tracking copy of data from config.algorithm_overrides table - see documentation for config.algorithm_overrides table for further details.

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity
(2) FK	run_id	bigint	8	NOT NULL	
	group	nvarchar(500)	1000	NOT NULL	
	algorithm	nvarchar(50)	100	NOT NULL	
PK C	algorithm_overrides_tracking_sk	bigint	8	NOT NULL	1 - 1

Indexes

Key	Name	Key Columns	Unique
PK C	PK_Demand_algorithm_overrides_tracking	algorithm_overrides_tracking_sk	True
	Uniq_Demand_algorithm_overrides_tracking	run_id, group, algorithm	True
	Idx_Demand_algorithm_overrides_tracking__run_id	run_id	

Foreign Keys

Name	Update	Delete	Columns
FK_Demand_algorithm_overrides_tracking__run_id	Cascade	Cascade	run_id->[tracking].[run_tracking].[run_id]

Uses

[tracking].[run_tracking]
[tracking]

Used By

[dbo].[algorithm_overrides_tracking]

[tracking].[asset_version]

Description

Provides tracking around the version of the database, based on upgrades that have been run on the data asset.

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity	Default
	version_id *String representation of the asset version, e.g. "1.1.0"*	nvarchar(50)	100	NOT NULL		
	current_version *Boolean flag indicating the row with the current version. Only a single row can be flagged TRUE in this table*	bit	1	NOT NULL		((0))
	create_ts *Initial creation timestamp for the data asset*	datetime	8	NULL allowed		
	update_ts *Update timestamp for when the upgrade to the version on the row was finalized*	datetime	8	NOT NULL		
PK C	asset_version_sk	bigint	8	NOT NULL	1 - 1	

Indexes

Key	Name	Key Columns	Unique
PK C	PK_Demand_asset_version	asset_version_sk	True
	Uniq_Demand_asset_version	version_id	True

Check Constraints

Name	Constraint
Chk_Demand_asset_version__current_version	([tracking].[check_current_version]()<=(1))

Uses

[tracking]
[tracking].[check_current_version]

Used By

[dbo].[asset_version]
[tracking].[check_current_version]

[tracking].[execution_log_tracking]

Description

Table to store logs outputted by the algorithm execution in freeform text.

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity
FK	run_id *Run ID to associate with the log*	bigint	8	NOT NULL	
	timestamp *Timestamp to associate with the log*	datetime	8	NULL allowed	
	severity *Severity level the log is tagged with*	nvarchar(255)	510	NULL allowed	
	message *Verbose log message*	nvarchar(4000)	8000	NULL allowed	
PK	execution_log_tracking_sk	bigint	8	NOT NULL	1 - 1

Indexes

Key	Name	Key Columns	Unique
PK	PK_Demand_execution_log_tracking	execution_log_tracking_sk	True
	Idx_Demand_execution_log_tracking__run_id	run_id	

Foreign Keys

Name	Update	Delete	Columns
FK_Demand_execution_log_tracking__run_id	Cascade	Cascade	run_id->[tracking].[run_tracking].[run_id]

Uses

[tracking].[run_tracking]
[tracking]

Used By

[dbo].[execution_log_tracking]

[tracking].[execution_time_tracking]

Description

Table which stores granular timing for aspects of an algorithm execution.

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity
(2) FK	run_id *Run ID to associate with the log*	bigint	8	NOT NULL	
	origin *Highest level "origin" of the logged process*	nvarchar(255)	510	NOT NULL	
	component *Second level identifier for the logged process*	nvarchar(255)	510	NOT NULL	
	sub_component *Third level identifier for the logged process*	nvarchar(255)	510	NULL allowed	
	execution_time *Duration (secs) of the logged process*	float	8	NOT NULL	
PK C	execution_time_tracking_sk	bigint	8	NOT NULL	1 - 1

Indexes

Key	Name	Key Columns	Unique
PK C	PK_Demand_execution_time_tracking	execution_time_tracking_sk	True
	Uniq_Demand_execution_time_tracking	run_id, origin, component, sub_component	True
	Idx_Demand_execution_time_tracking__run_id	run_id	

Foreign Keys

Name	Update	Delete	Columns
FK_Demand_execution_time_tracking__run_id	Cascade	Cascade	run_id->[tracking].[run_tracking].[run_id]

Uses

[tracking].[run_tracking]
[tracking]

Used By

[dbo].[execution_time_tracking]
[procedures].[add_new_config]
[procedures].[init_config]
[procedures].[preserve_run_ids]

[procedures].[sync_reporting_tables]

[tracking].[feature_assignment_tracking]

Description

Run tracking copy of data from config.feature_assignment table - see documentation for config.feature_assignment table for further details.

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity
(2) FK	run_id	bigint	8	NOT NULL	
	dimension_1	nvarchar(50)	100	NOT NULL	
	dimension_2	nvarchar(50)	100	NOT NULL	
	dimension_3	nvarchar(50)	100	NOT NULL	
	feature_group	nvarchar(500)	1000	NOT NULL	
	assignment_type	bit	1	NOT NULL	
PK C	feature_assignment_tracking_sk	bigint	8	NOT NULL	1 - 1

Indexes

Key	Name	Key Columns	Unique
PK C	PK_Demand_feature_assignment_tracking	feature_assignment_tracking_sk	True
	Uniq_Demand_feature_assignment_tracking	run_id, dimension_1, dimension_2, dimension_3, feature_group	True
	Idx_-Demand_feature_assignment_tracking__run_id	run_id	

Foreign Keys

Name	Update	Delete	Columns
FK_Demand_feature_assignment_tracking__run_id	Cascade	Cascade	run_id->[tracking].[run_tracking].[run_id]

Uses

[tracking].[run_tracking]
[tracking]

Used By

[dbo].[feature_assignment_tracking]

[tracking].[feature_availability_prediction_time_tracking]

Description

Run tracking copy of data from config.feature_availability_prediction_time table - see documentation for config.feature_availability_prediction_time table for further details.

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity
(2) FK	run_id	bigint	8	NOT NULL	
	feature_name	nvarchar(500)	1000	NOT NULL	
	is_available_at_prediction	bit	1	NOT NULL	
PK C	feature_availability_prediction_time_tracking_sk	bigint	8	NOT NULL	1 - 1

Indexes

Key	Name	Key Columns	Unique
PK C	PK_Demand_feature_availability_prediction_time_tracking	feature_availability_prediction_time_tracking_sk	True
	Uniq_Demand_feature_availability_prediction_time_tracking	run_id, feature_name	True
	Idx_-Demand_feature_availability_prediction_time_tracking__run_id	run_id	

Foreign Keys

Name	Update	Delete	Columns
FK_-Demand_feature_availability_prediction_time_tracking__run_id	Cascade	Cascade	run_id->[tracking].[run_tracking].[run_id]

Uses

[tracking].[run_tracking]

[tracking]

Used By

[dbo].[feature_availability_prediction_time_tracking]

[tracking].[feature_groups_tracking]

Description

Run tracking copy of data from config.feature_groups table - see documentation for config.feature_groups table for further details.

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity
(2) FK	run_id	bigint	8	NOT NULL	
	feature_group	nvarchar(500)	1000	NOT NULL	
	feature_name	nvarchar(500)	1000	NOT NULL	
	feature_category	nvarchar(255)	510	NULL allowed	
PK C	feature_groups_tracking_sk	bigint	8	NOT NULL	1 - 1

Indexes

Key	Name	Key Columns	Unique
PK C	PK_Demand_feature_groups_tracking	feature_groups_tracking_sk	True
	Uniq_Demand_feature_groups_tracking	run_id, feature_group, feature_name	True
	Idx_Demand_feature_groups_tracking__run_id	run_id	

Foreign Keys

Name	Update	Delete	Columns
FK_Demand_feature_groups_tracking__run_id	Cascade	Cascade	run_id->[tracking].[run_tracking].[run_id]

Uses

[tracking].[run_tracking]
[tracking]

Used By

[dbo].[feature_groups_tracking]

[tracking].[input_parameters_tracking]

Description

Run tracking copy of data from config.input_parameters table - see documentation for config.input_parameters table for further details.

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity
(2) FK	run_id	bigint	8	NOT NULL	
	Time_Aggregation	nvarchar(255)	510	NOT NULL	
	Level_of_Detail	nvarchar(max)	max	NOT NULL	
	Auto_Detect_Time_Horizon	bit	1	NOT NULL	
	Custom_Start_Date	date	3	NULL allowed	
	Custom_End_Date	date	3	NULL allowed	
	Forecast_Strategy	nvarchar(255)	510	NOT NULL	
	Effort_Level	nvarchar(100)	200	NOT NULL	
	Error_Metric	nvarchar(100)	200	NOT NULL	
	Forecast_Horizon	int	4	NOT NULL	
	Backtest_Window_Size	int	4	NOT NULL	
	Algorithms	nvarchar(max)	max	NOT NULL	
	Lead_Time	int	4	NOT NULL	
	Causal_Elimination_Strategy	nvarchar(255)	510	NOT NULL	
	Include_Causal_Lags	bit	1	NOT NULL	
	Demand_Correlation_Threshold	float	8	NOT NULL	
	Multicollinearity_Threshold	float	8	NOT NULL	
PK C	input_parameters_tracking_sk	bigint	8	NOT NULL	1 - 1

Indexes

Key	Name	Key Columns	Unique
PK C	PK_Demand_input_parameters_tracking	input_parameters_tracking_sk	True
	Uniq_Demand_input_parameters_tracking	run_id	True
	Idx_Demand_input_parameters_tracking__run_id	run_id	

Foreign Keys

Name	Update	Delete	Columns
FK_Demand_input_parameters_tracking__run_id	Cascade	Cascade	run_id->[tracking].[run_tracking].[run_id]

Uses

[tracking].[run_tracking]
[tracking]

Used By

[dbo].[input_parameters_tracking]

[tracking].[run_tracking]

Description

The run_tracking table is core to referencing the algorithm execution in history and for reporting purposes. It stores some basic metadata about the algorithm execution, the type of action that was triggered and also links back the run_config table, providing insight into the run configuration that was used for the algorithm execution.

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Default
PK C	run_id *Run identifier that comes from the Joule task execution*	bigint	8	NOT NULL	(NEXT VALUE FOR [tracking].[run_tracking_seq])
FK	run_config_id *Run configuration*	bigint	8	NOT NULL	
	run_name *Name of run execution - defaults to {app_action}_{run_id}_{start_time}, with the expectation that critical runs would be renamed*	nvarchar(max)	max	NULL allowed	
	app_name *Name of application that triggered run execution*	nvarchar(255)	510	NULL allowed	
	app_action *Action that was triggered via joule*	nvarchar(255)	510	NOT NULL	
	start_time *Run start timestamp*	datetime	8	NULL allowed	
	end_time *Run end timestamp*	datetime	8	NULL allowed	
	user_id *User that triggered run*	nvarchar(50)	100	NULL allowed	
	run_status	nvarchar(255)	510	NOT NULL	('In Progress')

Indexes

Key	Name	Key Columns	Unique
PK C	PK_Demand_run_tracking	run_id	True

Check Constraints

Name	On Column	Constraint
Chk_-Demand_run_tracking__run_status	run_status	([run_status]='Purged' OR [run_status]='Failed' OR [run_status]='Success' OR [run_status]='In Progress')

Foreign Keys

Name	Update	Delete	Columns
FK_Demand_run_tracking__run_config_id	Cascade	Cascade	run_config_id->[config].[run_config].[run_config_id]

Uses

[config].[run_config]
[tracking]

Used By

[output].[correlation_table]
[output].[error_metrics]
[output].[estimator_configuration]
[output].[estimator_lod_mapping]
[output].[feature_report]
[output].[target_output]
[output].[time_series_attributes]
[output].[time_series_excluded]
[output].[trend_seasonality]
[reporting].[best_model_timeline]
[reporting].[error_metrics_curated]
[reporting].[error_metrics_report]
[reporting].[error_wMAPE_bucketing]
[reporting].[features_distinct]
[reporting].[features_timeline]
[tracking].[advanced_params_tracking]
[tracking].[algorithm_overrides_tracking]
[tracking].[execution_log_tracking]
[tracking].[execution_time_tracking]
[tracking].[feature_assignment_tracking]
[tracking].[feature_availability_prediction_time_tracking]
[tracking].[feature_groups_tracking]
[tracking].[input_parameters_tracking]
[tracking].[time_series_groups_tracking]
[dbo].[run_tracking]
[procedures].[add_new_config]
[procedures].[init_config]
[procedures].[preserve_run_ids]
[procedures].[purge_execution_history]
[procedures].[seed_m5_data]
[procedures].[sync_reporting_tables]
[sync].[best_model_timeline]
[sync].[error_metrics_report]
[sync].[features_timeline]

[tracking].[time_series_groups_tracking]

Description

Run tracking copy of data from config.time_series_groups table - see documentation for config.time_series_groups table for further details.

Columns

Key	Name	Data Type	Max Length (Bytes)	Nullability	Identity
(2) FK	run_id	bigint	8	NOT NULL	
	dimension_1	nvarchar(50)	100	NOT NULL	
	dimension_2	nvarchar(50)	100	NOT NULL	
	dimension_3	nvarchar(50)	100	NOT NULL	
	group	nvarchar(500)	1000	NOT NULL	
PK C	time_series_groups_tracking_sk	bigint	8	NOT NULL	1 - 1

Indexes

Key	Name	Key Columns	Unique
PK C	PK_Demand_time_series_groups_tracking	time_series_groups_tracking_sk	True
	Uniq_Demand_time_series_groups_tracking	run_id, dimension_1, dimension_2, dimension_3, group	True
	Idx_Demand_time_series_groups_tracking__run_id	run_id	

Foreign Keys

Name	Update	Delete	Columns
FK_Demand_time_series_groups_tracking__run_id	Cascade	Cascade	run_id->[tracking].[run_tracking].[run_id]

Uses

[tracking].[run_tracking]
[tracking]

Used By

[dbo].[time_series_groups_tracking]